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In 1994, a paradigm shift occurred within the defense community with the introduction of “Defense Acquisition Reform,” which had the objective to expand the consideration of commercial-off-the-shelf (COTS) components for defense equipment. In the years that followed both the avionics and defense industries were looking for viable approaches to procure COTS components while still ensuring that these components meet the critical performance, reliability and safety requirements their industries demanded. Texas Instrument’s enhanced product (-EP) plastic-encapsulated microcircuits (PEMs) portfolio is the solution. Beyond just meeting the reliability expectations for the PEMs semiconductors, we also complement this with extended device availability to match the expectation of the industry while enabling a low-cost portfolio for extensive use across these industries.

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- Using only gold (Au) bond wires to ensure the highest quality die to leadframe connection.
- Performing extended 250 hours highly accelerated temperature and humidity stress testing (HAST) to demonstrate improved moisture resistance, extending both operational life and dormant storage capabilities.
- Extending temperature ranges from -55°C to 125°C to enable the broadest possible use cases.
- Ensuring a single controlled manufacturing baseline flow with a single wafer fab, assembly site and test site to ensure the applicability of customer’s qualification even over multi-decade programs.
- Ensuring orderable (V62/xxxx) DLA vendor items drawings part numbers that eliminate the need specification source controlled drawings.

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 **TEXAS INSTRUMENTS**

**Table 0-1. Enhanced Products New Device Qualification Matrix**

| Enhanced Products New Device Qualification Matrix  |  |                                  |               |   |
|--|--|----------------------------------|---------------|---|
| (Note that qualification by similarity ("qualification family") per JEDEC JESD47 is allowed) |  |                                  |               |   |
| Description  | Condition                                      | Sample Size<br>(Allowed Rejects) | Lots Required | Test Method                                     |
| Electromigration   | Maximum Recommended Operating Conditions       | N/A                              | N/A           | Per TI Design Rules                             |
| Wire Bond Life   | Maximum Recommended Operating Conditions       | N/A                              | N/A           | Per TI Design Rules                             |
| Electrical Characterization  | TI Data Sheet                                  | 15                               | 3             | N/A   |
| Electrostatic Discharge Sensitivity  | HBM  | 3 units/voltage                  | N/A           | EIA/JESD22-A114<br>or<br>ANSI/ESDA/JEDEC JS-001 |
|  | CDM  |                                  |               | EIA/JESD22-C101<br>or<br>ANSI/ESDA/JEDEC JS-002 |
| Latch-up   | Per Technology                                 | 3(0)                             | 1             | EIA/JESD78                                      |
| Physical Dimensions  | TI Data Sheet                                  | 5(0)                             | 1             | EIA/JESD22- B100                                |
| Thermal Impedance  | Theta-JA on board                              | Per Pin-Package                  | N/A           | EIA/JESD51                                      |
| Bias Life Test   | 125°C/1000 hours or equivalent                 | 45(0)                            | 3             | JESD22-A108*                                    |
| Biased Humidity**<br>or<br>Biased HAST**   | 85°C/85%/1000 hours                            | 77(0)                            | 3             | JESD22-A101*                                    |
|  | 130°C/85%/96 hours or<br>110°C/85%/264 hours   |                                  |               | JESD22-A110*                                    |
| Extended Biased Humidity**<br>or<br>Extended Biased HAST**                                   | 85°C/85%/2600 hours                            | 77(-)                            | 1             | JESD22-A101*                                    |
|  | 130°C/85% /250 hours or<br>110°C/85%/687 hours |                                  |               | JESD22-A110*                                    |
| Unbiased HAST  | 130°C/85% /96 hours or<br>110°C/85%/264 hours  | 77(0)                            | 3             | JESD22-A.118*                                   |
| Temperature Cycle  | -65°C to +150°C non-biased for 500 cycles      | 77(0)                            | 3             | JESD22-A104*                                    |
| Solder Heat  | 260°C for 10 seconds                           | 22(0)                            | 1             | JESD22-B106                                     |
| Resistance to Solvents   | Ink symbol only                                | 12(0)                            | 1             | JESD22-B107                                     |
| Solderability  | Bake Preconditioning                           | 22(0)                            | 1             | ANSI/J-STD-002                                  |
| Flammability   | Method A / Method B                            | 5(0)                             | 1             | UL94  |
| Bond Shear   | Per wire size                                  | 5 units x 30(0) bonds            | 3             | JESD22-B116                                     |
| Bond Pull Strength   | Per wire size                                  | 5 units x 30(0) bonds            | 3             | ASTM F-459 or TM2011                            |
| Die Shear  | Per die size                                   | 5(0)                             | 3             | TM 2019   |
| High Temp Storage  | 150°C / 1,000 hours                            | 15(0)                            | 3             | JESD22-A103*                                    |
| Moisture Sensitivity   | Surface Mount Only                             | 12                               | 1             | J-STD-020*                                      |

\*Precondition performed per JEDEC Std. 22, Method A112/A113  
 \*\*For information only

# Amplifiers

## 1.1 Op Amps

**Table 1-1. Precision Op Amps**

| Part Number | Description   | Number of Channels (#) | GBW (Typ) (MHz) | Total Supply Voltage (Max) (+5 V=5, ±5 V=10) | Total Supply Voltage (Min) (+5 V=5, ±5 V=10) | Vos (Offset Voltage at 25°C) (Max) (mV) | Operating Temperature Range (°C) | Package Group     | DLA - VID                      |
|-------------|---|------------------------|-----------------|--|--|---|----------------------------------|-------------------|--------------------------------|
| LT1014D-EP  | Enhanced Product Quad Precision Operational Amplifier                           | 4                      | 0.7             | 44   | 5  | 0.45                                    | -55 to 125                       | SOIC 16           | V62/09614-01XE                 |
| OPA211-EP   | Enhanced Product 1.1 nV/√Hz Noise, Low Power, Precision Operational Amplifier   | 1                      | 45              | 36   | 4.5  | 0.1                                     | -55 to 125                       | VSSOP 8           | V62/12619-01XE                 |
| OPA2211-EP  | 1.1 nV/√Hz Noise, Low Power, Precision Operational Amplifier                    | 2                      | 45              | 36   | 4.5  | 0.175                                   | -55 to 125                       | SON 8             | V62/15606-01XE                 |
| OPA2227-EP  | Enhanced Product High Precision, Low Noise Operational Amplifier                | 2                      | 8               | 36   | 5  | 0.1                                     | -55 to 125                       | SOIC 8            | V62/12610-01XE                 |
| OPA2234M    | Low Power, Precision Single-Supply Operational Amplifier                        | 2                      | 1               | 36   | 4  | 0.065                                   | -55 to 125                       | SOIC 8            | SMD#                           |
| OPA2227-EP  | Enhanced Product High Precision Operational Amplifier                           | 2                      | 1               | 36   | 4  | 0.065                                   | -55 to 125                       | SOIC 8            | V62/14614-01XE                 |
| OPA2333A-EP | Enhanced Product 1.8 V, Micropower CMOS Operational Amplifier Zero-Drift Series | 2                      | 0.35            | 5.5  | 1.8  | 0.01                                    | -55 to 125                       | SOIC 8            | V62/07633-02ZE                 |
| OPA333A-EP  | Enhanced Product 1.8 V, Micropower CMOS Operational Amplifier Zero-Drift Series | 1                      | 0.35            | 5.5  | 1.8  | 0.01                                    | -55 to 125                       | SC70 5, SOT-23 5  | V62/07633-01XE, V62/07633-01YE |
| OPA336-EP   | Enhanced Product Single-Supply, Micropower Cmos Operational Amplifier           | 1                      | 0.1             | 5.5  | 2.3  | 0.95                                    | -55 to 125                       | SOT-23 5          | V62/06641-01XE                 |
| OPA340-EP   | Enhanced Product Single-Supply, Rail-to-Rail Operational Amplifier              | 1                      | 5.5             | 5.5  | 2.7  | 0.5                                     | -55 to 125                       | SOT-23 5          | V62/08618-01XE                 |
| OPA4277-EP  | Enhanced Products High Precision Operational Amplifier                          | 4                      | 1               | 36   | 4  | 0.065                                   | -55 to 125                       | SOIC 14           | V62/14625-01XE                 |
| TLC2252A-EP | Enhanced Product Rail-To-Rail Very Low Power Operational Amplifier              | 2                      | 0.2             | 16   | 4.4  | 0.85                                    | -40 to 125                       | SOIC 8            | V62/04682-02XE                 |
| TLC2254A-EP | Enhanced Product Rail-To-Rail Very Low-Power Quad Operational Amplifier         | 4                      | 0.2             | 16   | 4.4  | 0.85                                    | -40 to 125                       | SOIC 14           | V62/04682-04YE                 |
| TLC2272A-EP | Enhanced Product Rail-To-Rail Dual Operational Amplifier                        | 2                      | 2.18            | 16   | 4.4  | 0.95                                    | -55 to 125                       | SOIC 8            | V62/03618-01XE                 |
| TLC2274A-EP | Enhanced Product Rail-To-Rail Quad Operational Amplifier                        | 4                      | 2.18            | 16   | 4.4  | 0.95                                    | -55 to 125                       | SOIC 14, TSSOP 14 | V62/03618-02UE, V62/03618-02YE |
| TLE2021A-EP | Enhanced Product Excalibur High-Speed Low-Power Precision Operational Amplifier | 1                      | 1.7             | 40   | 4  | 0.4                                     | -40 to 125                       | SOIC 8            | V62/04755-01XE                 |

**Table 1-1. Precision Op Amps (continued)**

| Part Number                 | Description  | Number of Channels (#) | GBW (Typ) (MHz) | Total Supply Voltage (Max) (+5 V=5, ±5 V=10) | Total Supply Voltage (Min) (+5 V=5, ±5 V=10) | Vos (Offset Voltage at 25°C) (Max) (mV) | Operating Temperature Range (°C) | Package Group | DLA - VID                      |
|-----------------------------|--|------------------------|-----------------|--|--|---|----------------------------------|---------------|--------------------------------|
| <a href="#">TLE2022A-EP</a> | Enhanced Product Excalibur High-Speed Low-Power Precision Dual Operational Amplifier | 2                      | 1.7             | 40   | 4  | 0.4                                     | -40 to 125                       | SOIC 8        | V62/04755-03XE                 |
| <a href="#">TLE2024A-EP</a> | Enhanced Product Excalibur High-Speed Low-Power Precision Quad Operational Amplifier | 4                      | 1.7             | 40   | 4  | 0.85                                    | -40 to 125                       | SOIC 16       | V62/04755-05YE                 |
| <a href="#">TLE2027-EP</a>  | Enhanced Product Excalibur Low-Noise High-Speed Precision Op Amp                     | 1                      | 13              | 38   | 8  | 0.1                                     | -55 to 125                       | SOIC 8        | V62/06674-01XE                 |
| <a href="#">TLE2141-EP</a>  | Enhanced Product Excalibur Low-Noise High-Speed Precision Op Amp                     | 1                      | 6               | 44   | 4  | 0.9                                     | -55 to 125                       | SOIC 8        | V62/08620-01XE                 |
| <a href="#">TLV2252A-EP</a> | Enhanced Product Rail-To-Rail Very Low-Power Dual Operational Amplifier              | 2                      | 0.2             | 16   | 2.7  | 0.85                                    | -40 to 125                       | SOIC 8        | V62/04651-02UE, V62/04651-02YE |
| <a href="#">TLV2254A-EP</a> | Enhanced Product Rail-To-Rail Very Low-Power Quad Operational Amplifier              | 4                      | 0.2             | 16   | 2.7  | 0.85                                    | -40 to 125                       | SOIC 14       | V62/04651-04XE, V62/04651-04ZE |

**Table 1-2. High-speed Op Amps (>=50 MHz)**

| Part Number                | Description   | Number of Channels (#) | GBW (Typ) (MHz) | Total Supply Voltage (Max) (+5 V=5, ±5 V=10) | Total Supply Voltage (Min) (+5 V=5, ±5 V=10) | BW at Acl (MHz) | Operating Temperature Range (°C) | Package Group   | DLA - VID      |
|----------------------------|---|------------------------|-----------------|--|--|-----------------|----------------------------------|-----------------|----------------|
| <a href="#">OPA2356-EP</a> | Enhanced Product 2.5V, 200MHz GBW, CMOS Dual Operational Amplifier                        | 2                      | 200             | 2.5  | 5.5  | 450             | -55 to 125                       | VSSOP 8         | V62/18809-01XE |
| <a href="#">OPA365-EP</a>  | Enhanced Product 2.2V, 50MHz, Low-Noise, Single-Supply Rail-to-Rail Operational Amplifier | 1                      | 50              | 2.2  | 5.5  | 50              | -55 to 125                       | SOT-23 5        | V62/11610-01XE |
| <a href="#">OPA830-EP</a>  | Enhanced Product Low-Power, Single-Supply, Wideband Operational Amplifier                 | 1                      | 310             | 2.8  | 11   | 310             | -40 to 105                       | SOT-23 5        | V62/14610-01XE |
| <a href="#">THS4032-EP</a> | Enhanced Product 100-MHz Low-Noise High-Speed Operational Amplifier                       | 2                      | 200             | 10   | 30   | 200             | -55 to 125                       | MSOP-PowerPAD 8 | V62/09612-01XE |
| <a href="#">THS4271-EP</a> | Enhanced Product Low Noise High Slew Rate Unity Gain Stable Voltage Feedback Amplifier    | 1                      | 1400            | 5  | 10   | 1400            | -55 to 125                       | MSOP-PowerPAD 8 | V62/05610-01YE |
| <a href="#">THS4500-EP</a> | Enhanced Product Wideband, Low-Distortion, Fully Differential Amplifier                   | 1                      | 300             | 4.5  | 15   | 370             | -55 to 125                       | MSOP-PowerPAD 8 | V62/13610-01XE |
| <a href="#">THS4503-EP</a> | Enhanced Product Wideband Low-Distortion Fully Differential Amplifier                     | 1                      | 300             | 4.5  | 15   | 370             | -55 to 125                       | MSOP-PowerPAD 8 | V62/05608-03YE |
| <a href="#">THS4524-EP</a> | Enhanced Product Quad Ch rail-to-rail output Fully Differential Amplifier                 | 4                      | 95              | 2.5  | 5.5  | 145             | -55 to 125                       | TSSOP 38        | V62/12612-01XE |

**Table 1-3. General-Purpose Op Amps**

| Part Number | Description  | Number of Channels (#) | GBW (Typ) (MHz) | Total Supply Voltage (Max) (+5 V=5, $\pm 5$ V=10) | Total Supply Voltage (Min) (+5 V=5, $\pm 5$ V=10) | Vos (Offset Voltage at 25°C) (Max) (mV) | Operating Temperature Range (°C) | Package Group     | DLA - VID                      |
|-------------|--|------------------------|-----------------|---|---|---|----------------------------------|-------------------|--------------------------------|
| LM258A-EP   | Enhanced Product Dual Operational Amplifier  | 2                      | 0.7             | 32  | 3   | 3                                       | -55 to 125                       | SOIC 8            | V62/07605-01XE                 |
| LM2902-EP   | Enhanced Product Quadruple Operational Amplifier   | 4                      | 1.2             | 26  | 3   | 7                                       | -55 to 125                       | TSSOP 14          | V62/06622-01XE, V62/06622-04XE |
| OPA170-EP   | Enhanced Product 36-V Single Supply, Low Power Operational Amplifier                     | 1                      | 1.2             | 36  | 2.7   | 1.8                                     | -40 to 150                       | SOT-5X3 5         | V62/12627-01XE                 |
| OPA2171-EP  | 36-V, Single-Supply, SOT553, General-Purpose Operational Amplifier                       | 2                      | 3               | 36  | 2.7   | 1.8                                     | -55 to 125                       | VSSOP 8           | V62/15605-01XE                 |
| OPA2314-EP  | Enhanced Product Low-Power Low-Noise RRIO 1.8V CMOS Operational Amplifier                | 2                      | 3               | 5.5   | 1.8   | 2.5                                     | -40 to 150                       | SON 8             | V62/12626-01XE                 |
| TL072-EP    | Enhanced Product Dual Low-Noise JFET-Input General-Purpose Operational Amplifier         | 2                      | 3               | 36  | 30  | 6                                       | -40 to 125                       | SOIC 8            | V62/12604-01XE                 |
| TL074-EP    | Enhanced Product Quad Low-Noise JFET-Input, General Purpose Operational Amplifier        | 4                      | 3               | 36  | 30  | 6                                       | -55 to 125                       | SOIC 14           | V62/11621-01XE                 |
| TLC2274-EP  | Enhanced Product Advanced Lincmos(Tm) Rail-To-Rail Operational Amplifier                 | 4                      | 2.18            | 16  | 4.4   | 2.5                                     | -55 to 125                       | SOIC 14           | V62/03618-02UE, V62/03618-02YE |
| TLE2024-EP  | Enhanced Product Excalibur High-Speed Low-Power Precision Operational Amplifier          | 4                      | 1.7             | 40  | 4   | 1.1                                     | -40 to 125                       | SOIC 16           | V62/04755-05YE, V62/04755-06YE |
| TLE2144-EP  | Enhanced Product Excalibur Low-Noise High-Speed Precision Quad Operational Amplifier     | 4                      | 6               | 44  | 4   | 2.4                                     | -55 to 125                       | SOIC 16           | V62/08620-03YE                 |
| TLV2371-EP  | Enhanced Product 550-Ua/Ch 3-Mhz Rail-To-Rail Input/Output Operational Amplifier         | 1                      | 3               | 16  | 2.7   | 4.5                                     | -55 to 125                       | SOT-23 5          | V62/05611-03TE                 |
| TLV2374-EP  | Enhanced Product 550-Ua/Ch 3-Mhz Rail-To-Rail Input/Output Operational Amplifier         | 4                      | 3               | 16  | 2.7   | 4.5                                     | -55 to 125                       | SOIC 14           | V62/05611-01YE                 |
| TLV2462A-EP | Enhanced Product Low-Power Rail-To-Rail Input/Output Operational Amplifier With Shutdown | 2                      | 6.4             | 6   | 2.7   | 1.5                                     | -55 to 125                       | SOIC 8            | V62/03619-03XE, V62/03619-06XE |
| TLV2464A-EP | Enhanced Product Low-Power Rail-To-Rail Input/Output Operational Amplifier               | 4                      | 6.4             | 6   | 2.7   | 1.5                                     | -55 to 125                       | SOIC 14, TSSOP 14 | V62/03619-07YE, V62/03619-07ZE |
| TLV2772A-EP | Enhanced Product 2.7-V High-Slew-Rate Rail-To-Rail Output Operational Amplifier          | 2                      | 5.1             | 5.5   | 2.5   | 1.6                                     | -55 to 125                       | SOIC 8            | V62/06607                      |
| TLV2774A-EP | Enhanced Product 2.7-V High-Slew-Rate Rail-To-Rail Output Operational Amplifier          | 4                      | 5.1             | 5.5   | 2.5   | 2.1                                     | -55 to 125                       | SOIC 14           | V62/06607-04YE                 |
| TLV2774-EP  | Enhanced Product 2.7-V High-Slew-Rate Rail-To-Rail Output Operational Amplifier          | 4                      | 5.1             | 5.5   | 2.5   | 2.5                                     | -55 to 125                       | SOIC 14           | V62/06607-03YE                 |



**Table 1-4. Power Op Amps**

| Part Number | Description   | Number of Channels (#) | GBW (Typ) (MHz) | Total Supply Voltage (Min) (+5 V=5, ±5V=10) | Total Supply Voltage (Max) (+5 V=5, ±5 V=10) | Vos (Offset Voltage at 25°C) (Max) (mV) | Operating Temperature Range (°C) | Package Group    | DLA - VID      |
|-------------|---|------------------------|-----------------|---|--|---|----------------------------------|------------------|----------------|
| TLV4113-EP  | Enhanced Product Dual High Output Drive Operational Amplifier With Shutdown | 2                      | 2.7             | 2.5   | 6  | 3.5                                     | -55 to 125                       | MSOP-PowerPAD 10 | V62/06646-04ZE |

**Table 1-5. Fully Differential Op Amps**

| Part Number | Description   | Number of Channels (#) | GBW (Typ) (MHz) | Total Supply Voltage (Min) (+5 V=5, ±5 V=10) | Total Supply Voltage (Max) (+5 V=5, ±5 V=10) | Vos (Offset Voltage at 25°C) (Max) (mV) | Operating Temperature Range (°C) | Package Group   | DLA - VID      |
|-------------|---|------------------------|-----------------|--|--|---|----------------------------------|-----------------|----------------|
| THS4500-EP  | Enhanced Product Wideband, Low-Distortion, Fully Differential Amplifier                       | 1                      | 300             | 4.5  | 15   | 7                                       | -55 to 125                       | MSOP-PowerPAD 8 | V62/13610-01XE |
| THS4503-EP  | Enhanced Product very low power quad channel rail-to-rail output fully Differential Amplifier | 4                      | 95              | 2.5  | 5.5  | 8                                       | -55 to 125                       | TSSOP 38        | V62/05608-03YE |
| THS4524-EP  | Enhanced Product Wideband Low-Distortion Fully Differential Amplifier                         | 1                      | 300             | 4.5  | 15   | 6                                       | -55 to 125                       | MSOP-PowerPAD 8 | V62/12612-01XE |

## 1.2 Instrumentation Amplifiers

**Table 1-6. Instrumentation Amplifiers**

| Part Number | Description  | Gain (V/V) | Number of Channels (#) | Vs (Max) (V) | Vs (Min) (V) | Bandwidth at Min Gain (Typ) (MHz) | Operating Temperature Range (°C) | Package Group | DLA - VID      |
|-------------|--|------------|------------------------|--------------|--------------|-----------------------------------|----------------------------------|---------------|----------------|
| INA129-EP   | Enhanced Product Precision, Low Power Instrumentation Amplifiers | 1          | 1                      | 36           | 4.5          | 1.3                               | -55 to 125                       | SOIC 8        | V62/10605-01XE |

## 1.3 Difference Amplifiers

**Table 1-7. Difference Amplifiers**

| Part Number | Description  | Gain (V/V) | Vs (Min) (V) | Vs (Max) (V) | Common Mode Input Low (Min) (V) | Input Offset (±) (Max) (µV) | Operating Temperature Range (°C) | Package Group | DLA - VID      |
|-------------|--|------------|--------------|--------------|---------------------------------|-----------------------------|----------------------------------|---------------|----------------|
| INA149-EP   | Enhanced Product High Common Mode Voltage Difference Amplifier                 | 1          | 2            | 18           | 275                             | 3500                        | -55 to 125                       | SOIC 8        | V62/12614-01XE |
| INA159-EP   | Enhanced Product Precision, Gain of 0.2 Level Translation Difference Amplifier | 0.2        | 1.8          | 5.5          | -12.5                           | 500                         | -55 to 125                       | VSSOP 8       | V62/09613-01XE |

## 1.4 Current Sense Amplifiers

**Table 1-8. Current Sense Amplifiers**

| Part Number | Description  | Gain (V/V) | Common Mode Voltage (Max) (V) | Supply Voltage (Max) (V) | Supply Voltage (Min) (V) | Input Offset (±) (Max) (µV) | Operating Temperature Range (°C) | Package Group | DLA - VID      |
|-------------|--|------------|-------------------------------|--------------------------|--------------------------|-----------------------------|----------------------------------|---------------|----------------|
| INA193A-EP  | Enhanced Product, -16V to +80V, Low-/High-side, High-Speed, Voltage Output Current Shunt Amplifier | 20         | 80                            | 18                       | 2.7                      | 2000                        | -55 to 125                       | SOT-23 5      | V62/07638-01XE |

## 1.5 Comparators

**Table 1-9. Comparators**

| Part Number                 | Description  | Number of Channels (#) | Vs (Max) (V) | Vs (Min) (V) | Vos (Offset Voltage at 25°C) (Max) (mV) | Propagation Delay Time (μS) | Operating Temperature Range (°C) | Package Group     | DLA - VID                                      |
|-----------------------------|--|------------------------|--------------|--------------|---|-----------------------------|----------------------------------|-------------------|--|
| <a href="#">LM211-EP</a>    | Enhanced Product Differential Comparator With Strobes          | 1                      | 30           | 3.5          | 3                                       | 0.115                       | -55 to 125                       | SOIC 8            | V62/03638-01XE, V62/03638-02XE                 |
| <a href="#">LM239A-EP</a>   | Enhanced Product Dual Differential Comparator                  | 2                      | 36           | 2            | 5                                       | 1.3                         | -55 to 125                       | SOIC 8            | V62/03672-01XE, V62/03672-02XE, V62/03672-02YE |
| <a href="#">LM293-EP</a>    | Enhanced Product Quad Differential Comparator                  | 4                      | 36           | 2            | 2.5                                     | 1.3                         | -55 to 125                       | SOIC 14, TSSOP 14 | V62/07646-01XE                                 |
| <a href="#">TL331-EP</a>    | Enhanced Product Single Differential Comparator                | 1                      | 36           | 2            | 5                                       | 0.3                         | -55 to 125                       | SOT-23 5          | V62/13611-01XE                                 |
| <a href="#">TLC3702-EP</a>  | Enhanced Product Dual Micropower Voltage Comparator            | 2                      | 16           | 4            | 5                                       | 1.1                         | -55 to 125                       | SOIC 8            | V62/03643-01XE                                 |
| <a href="#">TLC372-EP</a>   | Enhanced Product Dual Differential Comparator                  | 2                      | 16           | 4            | 5                                       | 0.2                         | -55 to 125                       | SOIC 8            | V62/06675-01XE                                 |
| <a href="#">TLV3492A-EP</a> | Enhanced Product 1.8 V, Nanopower, Push-Pull Output Comparator | 2                      | 5.5          | 1.8          | 15                                      | 6                           | -55 to 125                       | SOIC 8            | V62/07635-02XE                                 |
| <a href="#">TLV3701-EP</a>  | Enhanced Product Nanopower Push-Pull Output Comparator         | 1                      | 16           | 2.7          | 5                                       | 36                          | -40 to 125                       | SOT-23 5          | V62/04726-01XE                                 |

## 1.6 Special Function Amplifiers

**Table 1-10. Special Function Amplifiers**

| Part Number              | Description                            | Scale Factor (V/Decade) | Offset Voltage (Max) (mV) | Full-scale Output Voltage (Min) (±V) | Full-scale Output Voltage (Max) (±V) | Specified Voltage (±V) | Operating Temperature Range (°C) | Package Group | DLA - VID      |
|--------------------------|--|-------------------------|---------------------------|--------------------------------------|--------------------------------------|------------------------|----------------------------------|---------------|----------------|
| <a href="#">TL441-EP</a> | Enhanced Product Logarithmic Amplifier | 0.008                   | ±70                       | 5.45                                 | 5.85                                 | 6                      | -55 to 125                       | SO (NS)  16   | V62/05603-01XE |

## Audio

### 2.1 Audio Op Amps

**Table 2-1. Audio Op Amps**

| Part Number                | Description                                       | Number of Channels (#) | GBW (Typ) (MHz) | Total Supply Voltage (Min) (+5 V=5, ±5 V=10) | Total Supply Voltage (Max) (+5 V=5, ±5 V=10) | Vos (Offset Voltage at 25°C) (Max) (mV) | Operating Temperature Range (°C) | Package Group | DLA - VID      |
|----------------------------|---|------------------------|-----------------|--|--|---|----------------------------------|---------------|----------------|
| <a href="#">MC33078-EP</a> | Enhanced Product Dual High-Speed Low-Noise OpAmp  | 2                      | 16              | 10   | 36   | 2                                       | -55 to 125                       | SOIC 8        | V62/07606-01XE |
| <a href="#">INA2134-EP</a> | Enhanced Product Audio Differential Line Receiver | 2                      | -               | 8  | 36   | -                                       | -55 to 125                       | SOIC 14       | V62/12613-01XE |

## Clock and Timing

### 3.1 Clock Jitter Cleaners

**Table 3-1. Clock Jitter Cleaners**

| Part Number                 | Description  | Output Level               | Number of Outputs | Output Frequency (Max) (MHz) | VCO Frequency (Min) (MHz) | VCO Frequency (Max) (MHz) | Operating Temperature Range (°C) | Package Group | DLA - VID      |
|-----------------------------|--|----------------------------|-------------------|------------------------------|---------------------------|---------------------------|----------------------------------|---------------|----------------|
| <a href="#">LMK04828-EP</a> | Enhanced Product Ultra Low-Noise JESD204B Compliant Clock Jitter Cleaner | HSDS, LCPECL, LVDS, LVPECL | 14                | 3200                         | 2450                      | 3200                      | -55 to 105                       | WQFN 64       | V62/18602-01XE |

### 3.2 Clock Buffers

**Table 3-2. Clock Buffers**

| Part Number                  | Mixed Signal Microcontroller, MSP430F5328-EP                  | SubFamily    | Output Frequency (Max) (MHz) | Number of Outputs | Output Level | VCC (V)  | Operating Temperature Range (°C) | Package Group | DLA - VID      |
|------------------------------|---|--------------|------------------------------|-------------------|--------------|----------|----------------------------------|---------------|----------------|
| <a href="#">CDC2351-EP</a>   | Enhanced Product 1-Line To 10-Line Clock Driver               | Single-ended | 100                          | 10                | LVTTTL       | 3.3      | -55 to 125                       | SSOP 24       | V62/04757-01XE |
| <a href="#">CDCLVP111-EP</a> | Enhanced Product, 1:10 LVPECL Buffer with Selectable Input    | Differential | 3500                         | 10                | LVPECL       | 2.5, 3.3 | -55 to 125                       | LQFP 32       | V62/12624-01XE |
| <a href="#">CDCV304-EP</a>   | Enhanced Product General Purpose and PCI-X 1:4 Clock Buffer   | Single-ended | 200                          | 4                 | LVTTTL       | 2.5, 3.3 | -40 to 105                       | TSSOP 8       | V62/12618-01XE |
| <a href="#">CDCVF2310-EP</a> | Enhanced Product 2.5-V to 3.3-V High Performance Clock Buffer | Single-ended | 200                          | 10                | LVTTTL       | 2.5, 3.3 | -55 to 125                       | TSSOP 24      | V62/13603-01XE |

## Data Converters

### 4.1 ADCs

**Table 4-1. ADCs**

| Part Number                | Description   | SubFamily                 | Resolution (Bits) | Sample Rate (Max) (MSPS) | Number of Input Channels | Interface               | Operating Temperature Range (°C) | Package Group     | DLA - VID                                      |
|----------------------------|---|---------------------------|-------------------|--------------------------|--------------------------|-------------------------|----------------------------------|-------------------|--|
| <a href="#">ADS1258-EP</a> | Enhanced Product 16-channel 24-bit Analog-to-Digital Converter  | Precision ADCs (<=10MSPS) | 24                | 0.125                    | 16                       | SPI                     | -55 to 125                       | HTQFPJ48, VQFNJ48 | V62/09626-02YE, V62/09626-01YE, V62/09626-01XE |
| <a href="#">ADS1278-EP</a> | Enhanced Product Octal, 144kHz, Simultaneous Sampling 24-Bit Delta Sigma Analog-to-Digital Converter      | Precision ADCs (<=10MSPS) | 24                | 0.144                    | 8                        | SPI                     | -55 to 125                       | HTQFPJ64          | V62/12611-01XE                                 |
| <a href="#">ADS4245-EP</a> | Enhanced Product, Dual-Channel, 14-Bit, 125-MSPS Analog-to-Digital Converter                              | High-speed ADCs (>10MSPS) | 14                | 125                      | 2                        | DDR LVDS, Parallel CMOS | -55 to 125                       | VQFNJ64           | V62/14609-01XE                                 |
| <a href="#">ADS5440-EP</a> | Enhanced Product 13-Bit, 210-MSPS Analog-to-Digital Converter   | High-speed ADCs (>10MSPS) | 13                | 210                      | 1                        | Parallel LVDS           | -55 to 125                       | HTQFPJ80          | V62/06669-01XE                                 |
| <a href="#">ADS5444-EP</a> | Enhanced Product 13-Bit, 250-MSPS Analog-to-Digital Converter   | High-speed ADCs (>10MSPS) | 13                | 250                      | 1                        | Parallel LVDS           | -55 to 125                       | HTQFPJ80          | V62/06668-01XE                                 |
| <a href="#">ADS5463-EP</a> | Enhanced Product 12-Bit, 500-MSPS Analog-to-Digital Converter   | High-speed ADCs (>10MSPS) | 12                | 500                      | 1                        | Parallel LVDS           | -55 to 125                       | HTQFPJ80          | V62/07607-01XE                                 |
| <a href="#">ADS5500-EP</a> | Enhanced Product 14-Bit, 125-MSPS Analog-to-Digital Converter   | High-speed ADCs (>10MSPS) | 14                | 125                      | 1                        | Parallel CMOS           | -55 to 125                       | HTQFPJ64          | V62/05613-01XE, V62/05613-02XE                 |
| <a href="#">ADS6444-EP</a> | Enhanced Product Quad-Channel, 14-Bit, 105-MSPS Analog-to-Digital Converter                               | High-speed ADCs (>10MSPS) | 14                | 105                      | 4                        | Serial LVDS             | -55 to 125                       | VQFNJ64           | V62/08628-02XE                                 |
| <a href="#">ADS6445-EP</a> | Enhanced Product Quad-Channel, 14-Bit, 125-MSPS Analog-to-Digital Converter                               | High-speed ADCs (>10MSPS) | 14                | 125                      | 4                        | Serial LVDS             | -55 to 125                       | VQFNJ64           | V62/08628-01XE                                 |
| <a href="#">THS1206-EP</a> | Enhanced Product 12-Bit, 6 Msps Analog-to-Digital Converter Quad  | Precision ADCs (<=10MSPS) | 12                | 6                        | 4                        | Parallel                | -55 to 125                       | TSSOPJ32          | V62/03609-01XE                                 |
| <a href="#">THS1408-EP</a> | Enhanced Product 14-Bit, 8 Msps Analog-to-Digital Converter with Differential Input, Pgmable Gain Amp     | High-speed ADCs (>10MSPS) | 14                | 8                        | 1                        | Parallel CMOS           | -55 to 125                       | HTQFPJ48          | V62/03608-03XE                                 |
| <a href="#">TLC1543-EP</a> | Enhanced Product 10-Bit Analog-To-Digital Converters with Serial Control and 11 Analog Inputs             | Precision ADCs (<=10MSPS) | 10                | 0.038                    | 11                       | SPI                     | -40 to 125                       | SOICJ20           | V62/04647-01XE                                 |
| <a href="#">TLC2543-EP</a> | Enhanced Product 12-Bit ADC with Serial Control and 11 Analog Inputs                                      | Precision ADCs (<=10MSPS) | 12                | 0.066                    | 11                       | SPI                     | -55 to 125                       | SOICJ20, SSOPJ20  | V62/03614-01XE, V62/03614-02YE                 |
| <a href="#">TLV1548-EP</a> | Enhanced Product Low-Voltage 10-Bit Analog-to-Digital Converter with Serial Control and 8 Analog Input    | Precision ADCs (<=10MSPS) | 10                | 0.091                    | 8                        | SPI                     | -40 to 125                       | SSOPJ20           | V62/04618-01XE                                 |
| <a href="#">TLV2548-EP</a> | Enhanced Product 2-Bit 200 kSPS Analog-to-Digital Converter Serial Out                                    | Precision ADCs (<=10MSPS) | 12                | 0.2                      | 8                        | SPI                     | -55 to 125                       | TSSOPJ20          | V62/10603-01XE                                 |
| <a href="#">TLV2556-EP</a> | Enhanced Product 12-Bit, 200 KSPS, 11 Channel, Low Power, Serial Analog-to-Digital Converter w/ Reference | Precision ADCs (<=10MSPS) | 12                | 0.2                      | 11                       | SPI                     | -55 to 125                       | TSSOPJ20          | V62/08622-01XE                                 |

## 4.2 DACs

**Table 4-2. DACs**

| Part Number                 | Description  | SubFamily                 | DAC Channels | Resolution (Bits) | Sample/Update Rate (MSPS) | Interface     | Operating Temperature Range (°C) | Package Group | DLA - VID                      |
|-----------------------------|--|---------------------------|--------------|-------------------|---------------------------|---------------|----------------------------------|---------------|--------------------------------|
| <a href="#">DAC5652-EP</a>  | Enhanced Product Dual-Channel, 10-Bit, 275-MSPS Digital-to-Analog Converter        | High-speed DACs (>10MSPS) | 2            | 10                | 275                       | Parallel CMOS | -55 to 125                       | TQFP 48       | 01XE, V62/06638-02XE           |
| <a href="#">DAC5662-EP</a>  | Enhanced Product 12-bit 200-Msp Dual Digital-to-Analog Converter                   | High-speed DACs (>10MSPS) | 2            | 12                | 200                       | Parallel CMOS | -55 to 125                       | TQFP 48       | V62/06651-01XE, V62/06651-02XE |
| <a href="#">DAC5672-EP</a>  | Enhanced Product Dual 14-Bit 200-Msp Digital-To-Analog Converter                   | High-speed DACs (>10MSPS) | 2            | 14                | 275                       | Parallel CMOS | -55 to 125                       | TQFP 48       | V62/06639-01XE, V62/06639-02XE |
| <a href="#">DAC5675-EP</a>  | Enhanced Product 14-Bit 400-Msp Digital-to-Analog Converter                        | High-speed DACs (>10MSPS) | 1            | 14                | 400                       | Parallel LVDS | -55 to 125                       | HTQFP 48      | V62/05619-01XE, V62/05619-02XE |
| <a href="#">DAC5687-EP</a>  | Enhanced Product, Dual-Channel, 16-Bit, 500-MSPS Digital-to-Analog Converter       | High-speed DACs (>10MSPS) | 2            | 16                | 500                       | Parallel CMOS | -55 to 125                       | HTQFP 100     | V62/06650-01XE                 |
| <a href="#">DAC8830-EP</a>  | Enhanced Product 16-Bit Ultra-Low Power Voltage-Output Digital-To-Analog Converter | Precision DACs (<=10MSPS) | 1            | 16                | 1                         | SPI           | -55 to 125                       | SOIC 8        | V62/06671-01XE, V62/06671-02XE |
| <a href="#">DAC8831-EP</a>  | Enhanced Product 16-Bit Ultra-Low Power Voltage-Output Digital-To-Analog Converter | Precision DACs (<=10MSPS) | 1            | 16                | 2                         | SPI           | -55 to 125                       | SOIC 14       | V62/06671-03YE, V62/06671-04YE |
| <a href="#">TLV5614-EP</a>  | Enhanced Product Quad Digital-to-Analog Converter with Powerdown                   | Precision DACs (<=10MSPS) | 4            | 12                | 0.102                     | SPI           | -55 to 125                       | TSSOP 16      | V62/06602-01XE                 |
| <a href="#">TLV5618A-EP</a> | Enhanced Product Digital-to-Analog Converter w/Power Down                          | Precision DACs (<=10MSPS) | 2            | 12                | 0.093                     | SPI           | -55 to 125                       | SOIC 8        | V62/04646-01XE                 |
| <a href="#">TLV5619-EP</a>  | Enhanced Product 12-Bit, Digital-to-Analog Converter, Voltage Out                  | Precision DACs (<=10MSPS) | 1            | 12                | 1                         | Parallel      | -40 to 125                       | SOIC 20       | V62/03615-01XE                 |
| <a href="#">TLV5638-EP</a>  | Enhanced Product 12-Bit, 1 Us Serial Input Dual Digital-to-Analog Converter        | Precision DACs (<=10MSPS) | 2            | 12                | 0.233                     | SPI           | -55 to 125                       | SOIC 8        | V62/03628-01XE, V62/03628-02XE |

## 4.3 Digital Potentiometers (DigiPots)

**Table 4-3. Digital Potentiometers (DigiPots)**

| Part Number                | Description  | Number of Steps | Number of Channels (#) | End to End Resistance (Typ) (kΩ) | Interface | Temp Coeff (Typ) (ppm/°C) | Operating Temperature Range (°C) | Package Group | DLA - VID      |
|----------------------------|--|-----------------|------------------------|----------------------------------|-----------|---------------------------|----------------------------------|---------------|----------------|
| <a href="#">TPL0102-EP</a> | Enhanced Product 256-Taps Dual-Channel Digital Potentiometer with Nonvolatile Memory | 256             | 2                      | 100                              | I2C       | 130                       | -40 to 125                       | TSSOP 14      | V62/14613-01XE |

## Interface

### 5.1 CAN/LIN

**Table 5-1. CAN/LIN**

| Part Number    | Description                            | Protocols | Supply Voltage(s) (V) | Bus Fault Voltage (V) | Common Mode Voltage (V) | HBM ESD (kV) | Operating Temperature Range (°C) | Package Group | DLA - VID      |
|----------------|--|-----------|-----------------------|-----------------------|-------------------------|--------------|----------------------------------|---------------|----------------|
| SN65HVD1050-EP | Enhanced Product 5V CAN Transceiver    | CAN       | 4.75 to 5.25          | -27 to 40             | -12 to 12               | 4            | -55 to 125                       | SOIC 8        | V62/07608-01XE |
| SN65HVD230M-EP | Enhanced Product 3.3-V CAN Transceiver | CAN       | 3.0 to 3.6            | -4 to 16              | -2 to 7                 | 16           | -55 to 125                       | SOIC 8        | V62/06629-01XE |
| SN65HVD233-EP  | Enhanced Product 3.3-V CAN Transceiver | CAN       | 3.0 to 3.6            | -36 to 36             | -7 to 12                | 16           | -55 to 125                       | SOIC 8        | V62/09611-01XE |

### 5.2 Ethernet

**Table 5-2. Ethernet**

| Part Number                     | Description                                    | # of Channels | Standard   | Supply Voltage (Min) (V) | Supply Voltage (Max) (V) | Interface    | Operating Temperature Range (°C) | Package Group | DLA - VID      |
|---------------------------------|--|---------------|------------|--------------------------|--------------------------|--------------|----------------------------------|---------------|----------------|
| DP83848-EP                      | Enhanced Product 10/100 Mb/s Ethernet PHY      | 1             | IEEE 802.3 | 3.0                      | 3.6                      | MII/RMII/SNI | -55 to 125                       | HTQFP 48      | V62/12615-01XE |
| DP83867-EP<br>PREVIEW<br>DEVICE | Enhanced Product 10/100/1000 Mb/s Ethernet PHY | 1             | IEEE 802.3 | 1.7                      | 3.45                     | RGMII/SGMII  | -55 to 105                       | VQFN 48       | WIP            |
| Expect availability early 2020  |  |               |            |                          |                          |              |                                  |               |                |

### 5.3 HDMI/DVI/DP/MIPI (CSI/DSI)

**Table 5-3. HDMI/DVI/DP/MIPI (CSI/DSI)**

| Part Number   | Description   | Device Type              | Video Standard | Supply Voltage (V) | Operating Temperature Range (°C) | Package Group | DLA - VID      |
|---------------|---|--------------------------|----------------|--------------------|----------------------------------|---------------|----------------|
| TFP401A-EP    | Enhanced Product Panel bus DVI Receiver 165MHz                              | Transceiver              | DVI            | 3.3                | -55 to 125                       | HTQFP 100     | V62/09627-01XE |
| TFP410-EP     | Enhanced Product Panel bus(Tm) Digital Transmitter                          | Bridges and transceivers | Panel Bus      | 3.3                | -55 to 125                       | HTQFP 64      | V62/06653-01XE |
| THS8200-EP    | Enhanced Product Triple 11-Bit All Format Video Digital-to-Analog Converter | Bridges and transceivers | -              | 3.3                | -40 to 85                        | HTQFP 80      | V62/10604-01XE |
| TVP5150AM1-EP | Enhanced Product NTSC/PAL Video Decoder                                     | Decoder                  | -              | 3.3                | -55 to 125                       | TQFP 32       | V62/08626-01XE |

## 5.4 LVDS/M-LVDS/PECL

**Table 5-4. LVDS/M-LVDS/PECL**

| Part Number                    | Description   | Function        | Signaling Speed (Mbps) | Supply Voltage (Max) (V) | Supply Voltage (Min) (V) | Operating Temperature Range (°C) | Package Group | DLA - VID      |
|--------------------------------|---|-----------------|------------------------|--------------------------|--------------------------|----------------------------------|---------------|----------------|
| DP15EA101-EP<br>PREVIEW DEVICE | Enhanced Product 1.5-Gbps differential buffer                 | Buffer          | 1500                   | 3.0                      | 3.6                      | -55 to 125                       | WSON 8        | WIP            |
| Expect availability mid 2020   |   |                 |                        |                          |                          |                                  |               |                |
| DP15EA101-EP<br>PREVIEW DEVICE | Enhanced Product 0.15 to 1.5 Gbps Adaptive Cable Equalizer    | Cable equalizer | 1500                   | 3.0                      | 3.6                      | -55 to 125                       | WQFN 16       | WIP            |
| Expect availability mid 2020   |   |                 |                        |                          |                          |                                  |               |                |
| SN65LV1023A-EP                 | Enhanced Product, 10:1 LVDS Serdes Transmitter                | Driver          | 100-660                | 3.6                      | 3.0                      | -55 to 125                       | SSOP 28       | V62/06677-01XE |
| SN65LV1224B-EP                 | Enhanced Product, 1:10 LVDS Serdes Receiver                   | Receiver        | 100-660                | 3.6                      | 3.0                      | -55 to 125                       | SSOP 28       | V62/06677-02XE |
| SN65LVDS179-EP                 | Enhanced Product, Differential Line Transceiver               | Transceiver     | 400                    | 3.6                      | 3.0                      | -55 to 125                       | VSSOP 8       | V62/07612-03NE |
| SN65LVDS31-EP                  | Enhanced Product, Quad Differential LVDS Transmitter          | Driver          | 400                    | 3.6                      | 3.0                      | -55 to 125                       | SOIC 16       | V62/07627/01XE |
| SN65LVDS33-EP                  | Enhanced Product, Quad Differential LVDS Receivers            | Receiver        | 400                    | 3.6                      | 3.0                      | -55 to 125                       | SOIC 16       | V62/05614-01XE |
| SN65LVDS95-EP                  | Enhanced Product 21 ch LVDS Serdes Transmitter                | Driver          | 400                    | 3.6                      | 3.0                      | -40 to 85                        | TSSOP 48      | V62/04643-01XE |
| SN65LVDT14-EP                  | Enhanced Product LVDS 4 Channel Receiver and 1 Ch Transmitter | Receiver        | 125                    | 3.6                      | 3.0                      | -40 to 125                       | TSSOP 20      | V62/05615-01XE |
| SN65LVDT41-EP                  | Enhanced Product LVDS 4 Channel Transmitter and 1 Ch Receiver | Driver          | 125                    | 3.6                      | 3.0                      | -40 to 125                       | TSSOP 20      | V62/05615-02XE |

## 5.5 RS-232

**Table 5-5. RS-232**

| Part Number | Description   | Drivers per Package | Receivers per Package | Logic Voltage (Min) (V) | Data Rate (Max) (kbps) | Main Supply Voltage (Nom) (V) | Operating Temperature Range (°C) | Package Group     | DLA - VID                      |
|-------------|---|---------------------|-----------------------|-------------------------|------------------------|-------------------------------|----------------------------------|-------------------|--------------------------------|
| MAX3221-EP  | Enhanced Product RS-232 Line Driver/Receiver              | 1                   | 1                     | 3.3                     | 250                    | 3.3, 5                        | -55 to 125                       | SSOP 16           | V62/06642-01XE                 |
| MAX3223-EP  | Enhanced Product Multichannel RS-232 Line Driver/Receiver | 2                   | 2                     | 3.3                     | 500                    | 3.3, 5                        | -55 to 125                       | SSOP 20           | V62/06635-01XE                 |
| MAX3232-EP  | Enhanced Product Multichannel RS-232 Line Driver/Receiver | 2                   | 2                     | 3.3                     | 250                    | 3.3, 5                        | -55 to 125                       | SSOP 16, TSSOP 16 | V62/06623-01XE, V62/06623-01YE |
| MAX3243-EP  | Enhanced Product Multichannel RS-232 Line Driver/Receiver | 3                   | 5                     | 3.3                     | 250                    | 3.3, 5                        | -55 to 125                       | SSOP 28, TSSOP 28 | V62/06624-01XE, V62/06624-01YE |
| TRS3253E-EP | Enhanced Product RS-232 Transceiver                       | 3                   | 5                     | 1.8                     | 1000                   | 3.3, 5                        | -55 to 125                       | VQFN 32           | V62/13621-01XE                 |

## 5.6 RS-485/RS-422

**Table 5-6. RS-485/RS-422**

| Part Number | Description   | Number of TX | Number of RX | Duplex | Number of Nodes | Common Mode Range | Operating Temperature Range (°C) | Package Group | DLA - VID      |
|-------------|---|--------------|--------------|--------|-----------------|-------------------|----------------------------------|---------------|----------------|
| AM26C31-EP  | Enhanced Product Quadruple Differential Line Driver   | 4            | 0            | Half   | 32              | -7 to 7           | -55 to 125                       | SOIC 16       | V62/07647-01XE |
| AM26C32-EP  | Enhanced Product Quadruple Differential Line Receiver | 0            | 4            | Half   | 32              | -7 to 7           | -55 to 125                       | SOIC 16       | V62/07648-01XE |



**Table 5-6. RS-485/RS-422 (continued)**

| Part Number   | Description   | Number of TX | Number of RX | Duplex | Number of Nodes | Common Mode Range | Operating Temperature Range (°C) | Package Group    | DLA - VID      |
|---|---|--------------|--------------|--------|-----------------|-------------------|----------------------------------|------------------|----------------|
| AM26LV31E-EP  | Enhanced Product Low-Voltage High-Speed Quad Differential Line Driver   | 4            | 0            | Half   | 32              | -7 to 7           | -55 to 105                       | SOIC 16          | V62/09602-01XE |
| AM26LV32E-EP  | Enhanced Product Low-Voltage High-Speed Quad Differential Line Receiver | 0            | 4            | Half   | 32              | -7 to 7           | -55 to 125                       | SOIC 16          | V62/09603-01XE |
| SN55HVD75-EP  | Enhanced Product 3.3-V Supply RS-485                                    | 1            | 1            | Half   | 256             | -7 to 12          | -55 to 125                       | SON 8            | V62/15608-01XE |
| SN65HVD01-EP<br>PREVIEW DEVICE<br>Expect availability late 2019 | Enhanced Product 3.3-V Supply with 1.65V I/Os RS-485 Transceiver        | 1            | 1            | Half   | 256             | -7 to 12          | -55 to 125                       | VSON 10          | WIP            |
| SN65HVD10-EP  | Enhanced Product 3.3-V Rs-485 Transceiver                               | 1            | 1            | Half   | 64              | -7 to 12          | -55 to 125                       | SOIC 8           | V62/05604-01XE |
| SN65HVD12-EP  | Enhanced Product 3.3-V Rs-485 Transceiver                               | 1            | 1            | Half   | 256             | -7 to 12          | -40 to 85                        | SOIC 8           | V62/05604-03XE |
| SN65HVD1792-EP  | Enhanced Product RS-485 Transceiver With Extended Common-Mode Range     | 1            | 1            | Full   | 256             | -20 to 25         | -40 to 105                       | SOIC 14          | V62/13620-01XE |
| SN65HVD21M-EP   | Enhanced Product Extended Common-Mode Rs-485 Transceivers               | 1            | 1            | Half   | 256             | -20 to 25         | -55 to 125                       | SOIC 8           | V62/06615-01XE |
| SN65HVD30-EP  | Enhanced Product 3.3-V Full-Duplex Rs-485 Driver/Receiver               | 1            | 1            | Full   | 256             | -7 to 12          | -55 to 125                       | SOIC 8           | V62/06634-01XE |
| SN65HVD33-EP  | Enhanced Product 3.3-V Full-Duplex Rs-485 Drivers/Receivers             | 1            | 1            | Full   | 64              | -7 to 12          | -55 to 125                       | SOIC 14          | V62/06634-04YE |
| SN65LBC173A-EP  | Enhanced Product Quadruple RS-485 Differential Line Receiver            | 0            | 4            | -      | 32              | -7 to 12          | -55 to 125                       | SOIC 16          | V62/13623-02XE |
| SN65LBC174A-EP  | Enhanced Product Quadruple Rs-485 Differential Line Drivers             | 4            | 0            | -      | 32              | -7 to 12          | -55 to 125                       | SOIC 20, SOIC 16 | V62/07611-01XE |
| SN65LBC175A-EP  | Enhanced Product Quadruple RS-485 Differential Line Receivers           | 0            | 4            | -      | 32              | -7 to 12          | -55 to 125                       | SOIC 16          | V62/17603-01XE |
| SN65LBC176A-EP  | Enhanced Product Differential Bus Transceivers                          | 1            | 1            | Half   | 32              | -7 to 12          | -55 to 125                       | SOIC 8           | V62/03671-01XE |
| SN75976A-EP   | Enhanced Product 9 Channel Differential Transceiver                     | 9            | 9            | Half   | 32              | -7 to 12          | -55 to 125                       | TSSOP 56         | V62/08614-01XE |
| UA9638C-EP  | Enhanced Product Dual High-Speed Differential Line Driver               | 2            | 0            | -      | 32              | -7 to 7           | -40 to 85                        | SOIC 8           | V62/12606-01XE |

## 5.7 UART

**Table 5-7. UART**

| Part Number  | Description                      | Number of Channels (#) | FIFOs (Bytes) | Rx FIFO Trigger Levels (#) | Tx FIFO Trigger Levels (#) | Operating Temperature Range (°C) | Package Group | DLA - VID      |
|--------------|----------------------------------|------------------------|---------------|----------------------------|----------------------------|----------------------------------|---------------|----------------|
| TL16C752B-EP | Enhanced Product 3.3 V Dual UART | 2                      | 64            | 16                         | 16                         | -55 to 110                       | LQFP 48       | V62/03626-01XE |

## 5.8 1394

**Table 5-8. 1394**

| Part Number  | Description  | Die Revision | Version of 1394       | Speed (Mb/s)  | Operating Temperature Range (°C) | Package Group | DLA - VID      |
|--------------|--|--------------|-----------------------|---------------|----------------------------------|---------------|----------------|
| TSB12LV26-EP | Enhanced Product IEEE 1394 PCI Link-Layer Controller     | -            | 1394-1995             | 100, 200, 400 | -40 to 105                       | LQFP 100      | V62/03627-01XE |
| TSB12LV32-EP | Enhanced Product IEEE 1394 Generic Link-Layer Controller | -            | 1394-1995, 1394a-2000 | 100, 200, 400 | -40 to 105                       | LQFP 100      | V62/03622-01XE |

**Table 5-8. 1394 (continued)**

| Part Number   | Description   | Die Revision | Version of 1394                   | Speed (Mb/s)  | Operating Temperature Range (°C) | Package Group | DLA - VID      |
|---|---|--------------|-----------------------------------|---------------|----------------------------------|---------------|----------------|
| TSB41BA3A-EP  | Enhanced Product IEEE 1394 Three-Port Cable Transceiver/Arbiter (Phy) | A            | 1394-1995, 1394a-2000, 1394b-2002 | 100, 200, 400 | -40 to 105                       | HTQFPJ80      | V62/03670-02XE |
| TSB41BA3B-EP  | Enhanced Product IEEE 1394 Three-Port Cable Transceiver/Arbiter (Phy) | B            | 1394-1995, 1394a-2000, 1394b-2002 | 100, 200, 400 | -40 to 105                       | HTQFPJ80      | V62/03670-03XE |
| TSB41BA3F-EP<br>PREVIEW PRODUCT<br>Expect availability early 2020 | Enhanced Product IEEE 1394 Three-Port Cable Transceiver/Arbiter (Phy) | F            | 1394-1995, 1394a-2000, 1394b-2002 | 100, 200, 400 | -40 to 125                       | HTQFPJ80      | WIP            |
| TSB82AF15-EP<br>PREVIEW PRODUCT<br>Expect availability early 2020 | Enhanced Product IEEE 1394 PCI Express Link-Layer Controller          | -            | 1394-1995, 1394a-2000, 1394b-2002 | 100, 200, 400 | -40 to 125                       | QFPJ144       | WIP            |

## Isolation

### 6.1 Digital Isolators

**Table 6-1. Digital Isolators**

| Part Number                 | Description  | Number of Channels (#) | Forward/Reverse Channels | Isolation Rating (Vrms) | Surge Voltage Capability (Vpk) | Data Rate (Max) (Mbps) | Operating Temperature Range (°C) | Package Group | DLA - VID      |
|-----------------------------|--|------------------------|--------------------------|-------------------------|--------------------------------|------------------------|----------------------------------|---------------|----------------|
| <a href="#">ISO721M-EP</a>  | Enhanced Product Single 150Mbps 1/0 Digital Isolator         | 1                      | 1/0                      | 2500                    | 4000                           | 150                    | -55 to 125                       | SOIC 8        | V62/08627-01XE |
| <a href="#">ISO7241A-EP</a> | Enhanced Product, Quad Channel, 3/1, 1Mbps, Digital Isolator | 4                      | 3/1                      | 2500                    | 4000                           | 1                      | -55 to 125                       | SOIC 16       | V62/10606-01XE |
| <a href="#">ISO7421-EP</a>  | Enhanced Product, Low-Power Dual 1/1 Digital Isolator        | 2                      | 1/1                      | 2500                    | 4000                           | 1                      | -55 to 125                       | SOIC 8        | V62/16605-01XE |

### 6.2 Isolated Gate Drivers

**Table 6-2. Isolated Gate Drivers**

| Part Number                 | Description  | Number of Channels (#) | Peak Output Current (A) | Input VCC (Min) (V) | Input VCC (Max) (V) | Input Threshold | Operating Temperature Range (°C) | Package Group | DLA - VID      |
|-----------------------------|--|------------------------|-------------------------|---------------------|---------------------|-----------------|----------------------------------|---------------|----------------|
| <a href="#">ISO5852S-EP</a> | Enhanced Product High-CMTI 2.5-A / 5-A Isolated IGBT, MOSFET Gate Driver | 1                      | 5                       | 2.25                | 5.5                 | CMOS            | -55 to 125                       | SOIC 16       | V62/16623-01XE |

## 7.1 Voltage Level Translation

**Table 7-1. Voltage Level Translation**

| Part Number       | Description   | SubFamily                                | Technology Family | Bits (#) | VCC (Min) (V) | VCC (Max) (V) | Operating Temperature Range (°C) | Package Group              | DLA - VID                                      |
|-------------------|---|--|-------------------|----------|---------------|---------------|----------------------------------|----------------------------|--|
| CD4504B-EP        | CMOS Hex Voltage-Level Shifter for TTL-to-CMOS or CMOS-to-CMOS Operation                            | Unidirectional voltage translation       | CD4000            | 6        | 3             | 18            | -55 to 125                       | TSSOP 16                   | V62/09606-01XE                                 |
| SN74ALVC164245-EP | Enhanced Product 16-Bit 2.5-V To 3.3-V/3.3-V To 5-V Level Shifting Transceiver, 3-State             | Direction controlled voltage translation | ALVC              | 16       | 2.3           | 5.5           | -55 to 125                       | SSOP 48, TSSOP 48          | V62/05612-01XE                                 |
| SN74AVCB164245-EP | Enhanced Product 16-Bit Dual-Supply Bus Transceiver w/ configurable translation and 3-state outputs | Direction controlled voltage translation | AVC               | 16       | 1.4           | 3.6           | -55 to 125                       | TSSOP 48                   | V62/13602-01XE                                 |
| SN74AVCH4T245-EP  | Enhanced Product 4-Bit Dual-Supply Bus Transc. w/ Configurable Voltage Transc. and 3-State Outputs  | Direction controlled voltage translation | AVC               | 4        | 1.2           | 3.6           | -55 to 125                       | UQFN 16                    | V62/09618-01XE                                 |
| SN74LVC16T245-EP  | Enhanced Product 16-Bit Dual-Supply Bus Transceiver   | Direction controlled voltage translation | LVC               | 16       | 1.65          | 5.5           | -55 to 125                       | TSSOP 48                   | V62/12667-01XE                                 |
| SN74LVC1T45-EP    | Enhanced Product Single-Bit Dual-Supply Bus Transc., Configurable Voltage Transl., 3-State Outputs  | Direction controlled voltage translation | LVC               | 1        | 1.65          | 5.5           | -55 to 125                       | SC70 6                     | V62/09608-01XE                                 |
| SN74LVC2T45-EP    | Enhanced Product Dual-Bit Dual Supply Transceiver w/ Configurable Voltage Transl., 3-State Outputs  | Direction controlled voltage translation | LVC               | 2        | 1.65          | 5.5           | -55 to 125                       | SM8 8                      | V62/09604-01XE                                 |
| SN74LVC4245A-EP   | Enhanced Product Octal Bus Transceiver And 3.3-V To 5-V Shifter With 3-State Outputs                | Direction controlled voltage translation | LVC               | 8        | 2.7           | 5.5           | -40 to 85                        | TSSOP 24                   | V62/04664-01XE                                 |
| SN74LVC8T245-EP   | Enhanced Product 8-Bit Dual-Supply Bus Transc. w/ Configurable Voltage Transl., and 3-State Outputs | Direction controlled voltage translation | LVC               | 8        | 1.65          | 5.5           | -55 to 125                       | SOIC 24, TSSOP 24, VQFN 24 | V62/09615-01XE, V62/09615-01YE                 |
| SN74LVCC3245A-EP  | Enhanced Product Octal Bus Transceiver With Adjustable Output Voltage And 3-State Outputs           | Direction controlled voltage translation | LVC               | 8        | 2.3           | 5.5           | -40 to 85                        | SOIC 24, SSOP 24, TSSOP 24 | V62/05602-01XE, V62/05602-01YE, V62/05602-01ZE |
| SN74LVCC4245A-EP  | Enhanced Product Octal Dual-Supply Bus Transceiver W/Configurable Output Voltage And 3S Out         | Direction controlled voltage translation | LVC               | 8        | 2.7           | 5.5           | -40 to 85                        | TSSOP 24                   | V62/06658-01XE                                 |
| SN74LVCH16T245-EP | Enhanced Product 16-Bit Dual-Supply Bus Transc., Configurable Voltage Translation, 3-State Outputs  | Direction controlled voltage translation | LVC               | 16       | 1.65          | 5.5           | -55 to 125                       | TSSOP 48, TVSOP 48         | V62/09605-01XE, V62/09605-01YE                 |

## 7.2 Buffer/Driver

**Table 7-2. Buffer/Driver**

| Part Number     | Description  | SubFamily                   | Bits (#) | VCC (Min) (V) | VCC (Max) (V) | ICC at Nom Voltage (Max) (mA) | Operating Temperature Range (°C) | Package Group     | DLA - VID                      |
|-----------------|--|-----------------------------|----------|---------------|---------------|-------------------------------|----------------------------------|-------------------|--------------------------------|
| SN74ABT244A-EP  | Enhanced Product Octal Buffers/Drivers With 3-State Outputs                  | Non-Inverting buffer/driver | 8        | 4.5           | 5.5           | 0.25                          | -55 to 125                       | SSOP 20           | V62/06667-01XE                 |
| SN74ABT541B-EP  | Enhanced Product Octal Buffers/Drivers                                       | Non-Inverting buffer/driver | 8        | 4.5           | 5.5           | 0.25                          | -40 to 85                        | TSSOP 20          | V62/04700-01XE                 |
| SN74AC04-EP     | Enhanced Product Hex Inverters   | Inverting buffer/driver     | 6        | 2             | 6             | 0.02                          | -55 to 125                       | SOIC 14           | V62/04614-01XE                 |
| SN74AC244-EP    | Enhanced Product Octal Buffers/Drivers                                       | Non-Inverting buffer/driver | 8        | 2             | 6             | 0.08                          | -55 to 125                       | SOIC 20, SO 20    | V62/04622-01XE                 |
| SN74ACT04-EP    | Enhanced Product Hex Inverters   | Inverting buffer/driver     | 6        | 4.5           | 5.5           | 0.02                          | -40 to 85                        | SOIC 14           | V62/04758-01XE                 |
| SN74ACT16245-EP | Enhanced Product 16-Bit Bus Transceiver With 3-State Outputs                 | Inverting buffer/driver     | 16       | 4.5           | 5.5           |                               | -40 to 125                       | SSOP 48           | V62/03601-01XE                 |
| SN74ACT16373-EP | Enhanced Product 16-Bit D-Type Transparent Latch                             | Inverting buffer/driver     | 16       | 4.5           | 5.5           | 0.16                          | -40 to 125                       | SSOP 48           | V62/03602-01XE                 |
| SN74ACT16374-EP | Enhanced Product 16-Bit D-Type Edge-Triggered Flip-Flop With 3-State Outputs | Inverting buffer/driver     | 16       | 4.5           | 5.5           | 0.16                          | -40 to 125                       | SSOP 48           | V62/03603-01XE                 |
| SN74ACT244-EP   | Enhanced Product Octal Buffers/Drivers                                       | Non-Inverting buffer/driver | 8        | 4.5           | 5.5           | 0.04                          | -55 to 125                       | SOIC 20, SO 20    | V62/04620-01XE                 |
| SN74AHC04-EP    | Enhanced Product Hex Inverters   | Inverting buffer/driver     | 6        | 2             | 5.5           | 0.02                          | -55 to 125                       | SOIC 14, TSSOP 14 | V62/03646-01YE, V62/03646-01XE |
| SN74AHC125-EP   | Enhanced Product Quadruple Bus Buffer Gates With 3-State Outputs             | Non-Inverting buffer/driver | 4        | 2             | 5.5           | 0.04                          | -55 to 125                       | SOIC 14, TSSOP 14 | V62/03648-01YE, V62/03648-01XE |
| SN74AHC14-EP    | Enhanced Product Hex Schmitt-Trigger Inverters                               | Inverting buffer/driver     | 6        | 2             | 5.5           | 0.02                          | -55 to 125                       | SOIC 14, TSSOP 14 | V62/03605-01XE, V62/03605-01YE |
| SN74AHC1G126-EP | Enhanced Product Single Bus Buffer Gate With 3-State Output                  | Non-Inverting buffer/driver | 1        | 2             | 5.5           | 0.01                          | -55 to 125                       | SC70 5            | V62/14605-01XE                 |
| SN74AHC244-EP   | Enhanced Product Octal Buffers/Drivers With 3-State Outputs                  | Non-Inverting buffer/driver | 8        | 2             | 5.5           | 0.04                          | -55 to 125                       | SOIC 20, TSSOP 20 | V62/03649-01YE, V62/03649-01XE |
| SN74AHCT125-EP  | Enhanced Product Quadruple Bus Buffer Gates With 3-State Outputs             | Non-Inverting buffer/driver | 4        | 4.5           | 5.5           | 0.02                          | -40 to 125                       | SOIC 14, TSSOP 14 | V62/04683-01XE, V62/04683-01YE |
| SN74AHCT126-EP  | Enhanced Product Quadruple Bus Buffer Gates With 3-State Outputs             | Non-Inverting buffer/driver | 4        | 4.5           | 5.5           | 0.02                          | -40 to 125                       | SOIC 14, TSSOP 14 | V62/04684-01XE, V62/04684-01YE |
| SN74AHCT14-EP   | Enhanced Product Hex Schmitt-Trigger Inverters                               | Inverting buffer/driver     | 6        | 4.5           | 5.5           | 0.02                          | -55 to 125                       | SOIC 14, TSSOP 14 | V62/03605-01XE, V62/03605-01YE |
| SN74AHCT244-EP  | Enhanced Product Octal Buffers/Drivers With 3-State Outputs                  | Non-Inverting buffer/driver | 8        | 4.5           | 5.5           | 0.04                          | -55 to 125                       | SOIC 20, TSSOP 20 | V62/03657-01XE, V62/03657-01YE |
| SN74AHCT541-EP  | Enhanced Product Octal Buffers/Drivers With 3-State Outputs                  | Non-Inverting buffer/driver | 8        | 4.5           | 5.5           | 0.02                          | -40 to 85                        | SOIC 20           | V62/04761-01XE                 |
| SN74AHCU04-EP   | Enhanced Product Hex Inverter  | Inverting buffer/driver     | 6        | 2             | 5.5           | 0.02                          | -55 to 125                       | TSSOP 14          | V62/07619-01XE                 |
| SN74ALVC244-EP  | Enhanced Product Octal Buffer/Driver With 3-State Outputs                    | Non-Inverting buffer/driver | 8        | 1.65          | 3.6           | 0.024                         | -40 to 85                        | TSSOP 20          | V62/04762-01XE                 |
| SN74AUC1G125-EP | Enhanced Product Single Bus Buffer Gate With 3-State Output                  | Non-Inverting buffer/driver | 1        | 0.8           | 2.7           | 0.01                          | -55 to 125                       | SC70 5            | V62/06656-01XE                 |
| SN74AUC1G14-EP  | Enhanced Product Single Schmitt-Trigger Inverter                             | Non-Inverting buffer/driver | 1        | 0.8           | 2.7           | 0.01                          | -55 to 125                       | SOT-23 5          | V62/06678-01XE                 |

**Table 7-2. Buffer/Driver (continued)**

| Part Number      | Description   | SubFamily                   | Bits (#) | VCC (Min) (V) | VCC (Max) (V) | ICC at Nom Voltage (Max) (mA) | Operating Temperature Range (°C) | Package Group     | DLA - VID                                      |
|------------------|---|-----------------------------|----------|---------------|---------------|-------------------------------|----------------------------------|-------------------|--|
| SN74AUP1G17-EP   | Enhanced Product Low-Power Single Schmitt-Trigger Buffer              | Non-Inverting buffer/driver | 1        | 0.8           | 3.6           | 0.0009                        | -55 to 125                       | SC70 5            | V62/07623-01XE                                 |
| SN74BCT760-EP    | Enhanced Product Octal Buffer/Driver With Open-Collector Outputs      | Non-Inverting buffer/driver | 8        | -0.5          | 7             | 0.076                         | -55 to 125                       | SOIC 20           | V62/06672-01XE                                 |
| SN74HC244-EP     | Enhanced Product Octal Buffers And Line Drivers With 3-State Outputs  | Non-Inverting buffer/driver | 8        | 2             | 6             | 0.08                          | -55 to 125                       | SOIC 20, TSSOP 20 | V62/03607-01XE, V62/03607-02XE                 |
| SN74HCT04-EP     | Enhanced Product Hex Inverter   | Inverting buffer/driver     | 6        | 4.5           | 5.5           | 0.02                          | -40 to 85                        | SOIC 14           | V62/04697-01XE                                 |
| SN74HCT244-EP    | Enhanced Product Octal Buffers And Line Drivers With 3-State Outputs  | Non-Inverting buffer/driver | 8        | 4.5           | 5.5           | 0.08                          | -40 to 125                       | TSSOP 20          | V62/04698-01XE                                 |
| SN74LV04A-EP     | Enhanced Product Hex Inverters  | Inverting buffer/driver     | 6        | 2             | 5.5           | 0.02                          | -40 to 105                       | TSSOP 14          | V62/04691-01XE                                 |
| SN74LV14A-EP     | Enhanced Product Hex Schmitt-Trigger Inverters                        | Inverting buffer/driver     | 6        | 2             | 5.5           | 0.02                          | -55 to 125                       | SOIC 14, TSSOP 14 | V62/03662-01XE, V62/03662-02YE, V62/03662-02XE |
| SN74LV244A-EP    | Enhanced Product Octal Buffers/Drivers With 3-State Outputs           | Non-Inverting buffer/driver | 8        | 2             | 5.5           | 0.02                          | -55 to 125                       | SOIC 20           | V62/06604-01XE                                 |
| SN74LVC04A-EP    | Enhanced Product Hex Inverter   | Inverting buffer/driver     | 6        | 2             | 3.6           | 0.01                          | -40 to 125                       | SOIC 14, TSSOP 14 | V62/04653-01XE, V62/04653-01YE                 |
| SN74LVC06A-EP    | Enhanced Product Hex Inverter Buffers/Drivers With Open-Drain Outputs | Inverting buffer/driver     | 6        | 1.65          | 3.6           | 0.04                          | -55 to 125                       | SOIC 14           | V62/06661-01XA                                 |
| SN74LVC07A-EP    | Enhanced Product Hex Buffer/Driver With Open-Drain Outputs            | Non-Inverting buffer/driver | 10       | 1.65          | 5.5           | 0.01                          | -55 to 125                       | TSSOP 14          | V62/04654-01XE                                 |
| SN74LVC125A-EP   | Enhanced Product Quadruple Bus Buffer Gate With 3-State Outputs       | Non-Inverting buffer/driver | 4        | 1.65          | 3.6           | 0.01                          | -55 to 125                       | SOIC 14, TSSOP 14 | V62/04656-01XE                                 |
| SN74LVC14A-EP    | Enhanced Product Hex Schmitt-Trigger Inverter                         | Inverting buffer/driver     | 6        | 2             | 3.6           | 0.01                          | -40 to 125                       | SOIC 14, TSSOP 14 | V62/04658-01XE, V62/04658-01YE                 |
| SN74LVC16244A-EP | Enhanced Product 16-Bit Buffer/Driver With 3-State Outputs            | Non-Inverting buffer/driver | 16       | 1.65          | 3.6           | 0.02                          | -40 to 85                        | TSSOP 48          | V62/04724-01XE                                 |
| SN74LVC1G04-EP   | Enhanced Product Single Inverter Gate                                 | Non-Inverting buffer/driver | 1        | 1.65          | 5.5           | 0.01                          | -55 to 125                       | SOT-23 5          | V62/07625-01XE                                 |
| SN74LVC1G06-EP   | Enhanced Product Single Inverter Buffer/Driver With Open-Drain Output | Non-Inverting buffer/driver | 1        | 1.65          | 5.5           | 0.01                          | -55 to 125                       | SC70 5            | V62/06655-01XE                                 |
| SN74LVC1G07-EP   | Enhanced Product Single Buffer/Driver With Open-Drain Output          | Non-Inverting buffer/driver | 1        | 1.65          | 5.5           | 0.01                          | -55 to 125                       | SC70 5            | V62/07645-01XE                                 |
| SN74LVC1G125-EP  | Enhanced Product Single Bus Buffer Gate With 3-State Outputs          | Non-Inverting buffer/driver | 1        | 1.65          | 5.5           | 0.01                          | -55 to 125                       | SC70 5            | V62/04735-01XE                                 |
| SN74LVC1G126-EP  | Enhanced Product Single Bus Buffer Gate                               | Non-Inverting buffer/driver | 1        | 1.65          | 5.5           | 0.01                          | -40 to 85                        | SC70 5            | V62/04736-01XE                                 |
| SN74LVC1G14-EP   | Enhanced Product Single Schmitt-Trigger Inverter                      | Non-Inverting buffer/driver | 1        | 1.65          | 5.5           | 0.019                         | -55 to 125                       | SOT-23 5          | V62/07626-01XE                                 |
| SN74LVC1G17-EP   | Enhanced Product Single Schmitt-Trigger Buffer                        | Non-Inverting buffer/driver | 1        | 1.65          | 6.5           | 0.01                          | -55 to 125                       | SC70 5, SOT-23 5  | V62/06621-01XE                                 |
| SN74LVC1GX04-EP  | Enhanced Product Crystal Oscillator Driver                            | Non-Inverting buffer/driver | 1        | 1.65          | 5.5           | 0.01                          | -55 to 125                       | SOT-5X3 6         | V62/07632-01XE                                 |
| SN74LVC2G04-EP   | Enhanced Product Dual Inverter Gate                                   | Non-Inverting buffer/driver | 2        | 1.65          | 5.5           | 0.01                          | -55 to 125                       | SC70 6            | V62/06632-01XE                                 |
| SN74LVC2G06-EP   | Enhanced Product Dual Inverter Buffer/Driver With Open-Drain Output   | Non-Inverting buffer/driver | 2        | 1.65          | 5.5           | 0.01                          | -55 to 125                       | SC70 6            | V62/06640-01XE                                 |
| SN74LVC2G07-EP   | Enhanced Product Dual Buffer/Driver with Open-Drain Output            | Non-Inverting buffer/driver | 2        | 1.65          | 5.5           | 0.01                          | -55 to 125                       | SC70 6            | V62/08616-01XE                                 |

**Table 7-2. Buffer/Driver (continued)**

| Part Number                       | Description  | SubFamily                   | Bits (#) | VCC (Min) (V) | VCC (Max) (V) | ICC at Nom Voltage (Max) (mA) | Operating Temperature Range (°C) | Package Group               | DLA - VID                      |
|-----------------------------------|--|-----------------------------|----------|---------------|---------------|-------------------------------|----------------------------------|-----------------------------|--------------------------------|
| <a href="#">SN74LVC2G126-EP</a>   | Enhanced Product Dual Bus Buffer Gate w/3-State Outputs        | Non-Inverting buffer/driver | 2        | 1.65          | 5.5           | 0.01                          | -55 to 125                       | VSSOP 8                     | V62/14604-01XE                 |
| <a href="#">SN74LVC2G17-EP</a>    | Enhanced Product Dual Schmitt-Trigger Buffer                   | Non-Inverting buffer/driver | 2        | 1.65          | 5.5           | 0.01                          | -55 to 125                       | SC70 6                      | V62/07617-01XE                 |
| <a href="#">SN74LVC2G34-EP</a>    | Enhanced Product Dual Buffer Gate                              | Non-Inverting buffer/driver | 2        | 1.65          | 5.5           | 0.01                          | -55 to 125                       | SC70 6                      | V62/06659-01XE                 |
| <a href="#">SN74LVC3G07-EP</a>    | Enhanced Product Triple Buffer/Driver With Open-Drain Output   | Inverting buffer/driver     | 3        | 1.65          | 5.5           | 0.01                          | -55 to 125                       | VSSOP 8                     | V62/09610-01XE                 |
| <a href="#">SN74LVC540A-EP</a>    | Enhanced Product Octal Buffer/Driver With 3-State Outputs      | Inverting buffer/driver     | 8        | 2             | 3.6           | 0.01                          | -40 to 125                       | SOIC 20, TSSOP 20           | V62/04665-01XE, V62/04665-01YE |
| <a href="#">SN74LVC541A-EP</a>    | Enhanced Product Octal Buffer/Driver With 3-State Outputs      | Non-Inverting buffer/driver | 8        | 2             | 3.6           | 0.01                          | -40 to 125                       | SOIC 20, TSSOP 20           | V62/04666-01XE, V62/04666-01YE |
| <a href="#">SN74LVT125-EP</a>     | Enhanced Product 3.3-V Abt Quadruple Bus Buffers               | Non-Inverting buffer/driver | 4        | 2.7           | 3.6           | 0.007                         | -40 to 125                       | TSSOP 14                    | V62/04705-01XE                 |
| <a href="#">SN74LVTH125-EP</a>    | Enhanced Product 3.3-V Abt Quadruple Bus Buffers               | Non-Inverting buffer/driver | 4        | 2.7           | 3.6           | 0.007                         | -40 to 85                        | TSSOP 14                    | V62/04671-01XE                 |
| <a href="#">SN74LVTH162244-EP</a> | Enhanced Product 3.3-V Abt 16-Bit Buffers/Drivers With 3-State | Non-Inverting buffer/driver | 16       | 2.7           | 3.6           | 0.005                         | -40 to 85                        | TSSOP 48                    | V62/04708-01XE                 |
| <a href="#">SN74LVTH16244A-EP</a> | Enhanced Product 3.3-V Abt 16-Bit Buffer/Driver With 3-State   | Non-Inverting buffer/driver | 16       | 2.7           | 3.6           | 0.005                         | -55 to 125                       | SSOP 48, TSSOP 48, TVSOP 48 | V62/04601-01XE                 |
| <a href="#">SN74LVTH244A-EP</a>   | Enhanced Product 3.3-V Abt Octal Buffers/Drivers               | Non-Inverting buffer/driver | 8        | 2.7           | 3.6           | 0.005                         | -40 to 125                       | SSOP 20, TSSOP 20           | V62/03667-01XE                 |

## 7.3 Transceivers

**Table 7-3. Transceivers**

| Part Number                       | Description  | SubFamily              | Bits (#) | VCC (Min) (V) | VCC (Max) (V) | Operating Temperature Range (°C) | Package Group     | DLA - VID      |
|-----------------------------------|--|------------------------|----------|---------------|---------------|----------------------------------|-------------------|----------------|
| <a href="#">SN74ABT16245A-EP</a>  | Enhanced Product 16-Bit Bus Transceiver                          | Standard transceiver   | 16       | 4.5           | 5.5           | -55 to 125                       | SSOP 48           | V62/06609-01XE |
| <a href="#">SN74ABT245B-EP</a>    | Enhanced Product Octal Bus Transceivers                          | Standard transceiver   | 8        | 4.5           | 5.5           | -55 to 125                       | SSOP 20           | V62/04738-01XE |
| <a href="#">SN74AC245-EP</a>      | Enhanced Product Octal Bus Transceivers                          | Standard transceiver   | 8        | 2             | 6             | -40 to 85                        | SOIC 20           | V62/04760-01XE |
| <a href="#">SN74AHC245-EP</a>     | Enhanced Product Octal Bus Transceivers                          | Standard transceiver   | 8        | 2             | 5.5           | -55 to 125                       | SOIC 20, TSSOP 20 | V62/03650-01XE |
| <a href="#">SN74ALVCH16245-EP</a> | Enhanced Product 16-Bit Bus Transceiver                          | Standard transceiver   | 16       | 1.65          | 3.6           | -55 to 125                       | SSOP 48           | V62/04763-01XE |
| <a href="#">SN74LVC245A-EP</a>    | Enhanced Product Octal Bus Transceiver                           | Standard transceiver   | 8        | 1.65          | 3.6           | -40 to 85                        | TSSOP 20          | V62/04737-01XE |
| <a href="#">SN74LVTH162245-EP</a> | Enhanced Product 3.3-V Abt 16-Bit Bus Transceivers               | Standard transceiver   | 16       | 2.7           | 3.6           | -55 to 125                       | SSOP 48, TSSOP 48 | V62/04709-01XE |
| <a href="#">SN74LVTH16245A-EP</a> | Enhanced Product 3.3-V Abt 16-Bit Bus Transceivers               | Standard transceiver   | 16       | 2.7           | 3.6           | -55 to 125                       | SSOP 48, TSSOP 48 | V62/04602-01YE |
| <a href="#">SN74LVTH16543-EP</a>  | Enhanced Product 3.3-V Abt 16-Bit Registered Transceiver         | Registered transceiver | 16       | 2.7           | 3.6           | -55 to 125                       | SSOP 56, TSSOP 56 | V62/04715-01XE |
| <a href="#">SN74LVTH16652-EP</a>  | Enhanced Product 3.3 V Abt 16-Bit Bus Transceivers And Registers | Registered transceiver | 16       | 2.7           | 3.6           | -40 to 85                        | TSSOP 56          | V62/04717-01XE |
| <a href="#">SN74LVTH245A-EP</a>   | Enhanced Product 3.3-V Abt Octal Bus Transceiver                 | Standard transceiver   | 8        | 2.7           | 3.6           | -55 to 125                       | SSOP 20, TSSOP 20 | V62/04723-01XE |
| <a href="#">SN74LVTH543-EP</a>    | Enhanced Product 3.3-V Abt Octal Registered Transceivers         | Registered transceiver | 8        | 2.7           | 3.6           | -40 to 85                        | TSSOP 24          | V62/04677-01XE |

## 7.4 Gates

Table 7-4. Gates

| Part Number    | Description  | SubFamily               | Channels (#) | Inputs per Channel | VCC (Min) (V) | VCC (Max) (V) | Operating Temperature Range (°C) | Package Group     | DLA - VID                      |
|----------------|--|-------------------------|--------------|--------------------|---------------|---------------|----------------------------------|-------------------|--------------------------------|
| CD74ACT86-EP   | Enhanced Product Quad 2-Input Exclusive-Or Gate        | XOR (exclusive OR) gate | 4            | 2                  | 4.5           | 5.5           | -55 to 125                       | SOIC 14           | V62/06620-01XE                 |
| CD74HC08-EP    | Enhanced Product Quadruple 2-Input Positive-And Gates  | AND gate                | 4            | 2                  | 2             | 6             | -40 to 125                       | SOIC 14           | V62/04704-01XE                 |
| SN74AC08-EP    | Enhanced Product Quadruple 2-Input Positive-And Gates  | AND gate                | 4            | 2                  | 2             | 6             | -55 to 125                       | SOIC 14           | V62/04615-01XE                 |
| SN74AC11-EP    | Enhanced Product Triple 3-Input Positive-And Gates     | AND gate                | 3            | 3                  | 2             | 6             | -40 to 85                        | TSSOP 14          | V62/04701-01XE                 |
| SN74AC32-EP    | Enhanced Product Quadruple 2-Input Positive-Or Gates   | OR gate                 | 4            | 2                  | 2             | 6             | -55 to 125                       | SOIC 14           | V62/04616-01XE                 |
| SN74ACT08-EP   | Enhanced Product Quadruple 2-Input Positive-And Gates  | AND gate                | 4            | 2                  | 4.5           | 5.5           | -40 to 85                        | SOIC 14           | V62/04759-01XE                 |
| SN74AHC00-EP   | Enhanced Product Quadruple 2-Input Positive-Nand Gates | NAND gate               | 4            | 2                  | 2             | 5.5           | -55 to 125                       | SOIC 14, TSSOP 14 | V62/03604-01XE, V62/03604-01YE |
| SN74AHC02-EP   | Enhanced Product Quadruple 2-Input Positive-Nor Gates  | NOR gate                | 4            | 2                  | 2             | 5.5           | -55 to 125                       | TSSOP 14          | V62/03645-01XE                 |
| SN74AHC08-EP   | Enhanced Product Quadruple 2-Input Positive-And Gates  | AND gate                | 4            | 2                  | 2             | 5.5           | -55 to 125                       | SOIC 14, TSSOP 14 | V62/03647-01XE, V62/03647-01YE |
| SN74AHC1G02-EP | Enhanced Product Single 2-Input Positive Nor Gate      | NOR gate                | 1            | 2                  | 2             | 5.5           | -55 to 125                       | SC70 5            | V62/08611-01XE                 |
| SN74AHC1G86-EP | Enhanced Product Single 2-Input Exclusive Or Gate      | XOR (exclusive OR) gate | 1            | 2                  | 2             | 5.5           | -55 to 125                       | SC70 5            | V62/08612-01XE                 |
| SN74AHC32-EP   | Enhanced Product Quadruple 2-Input Positive-Or Gates   | OR gate                 | 4            | 2                  | 2             | 5.5           | -55 to 125                       | SOIC 14, TSSOP 14 | V62/03651-01XE, V62/03651-01YE |
| SN74AHCT00-EP  | Enhanced Product Quadruple 2-Input Positive-Nand Gates | NAND gate               | 4            | 2                  | 4.5           | 5.5           | -55 to 125                       | SOIC 14, TSSOP 14 | V62/03653-01YE, V62/03653-01XE |
| SN74AHCT08-EP  | Enhanced Product Quadruple 2-Input Positive-And Gates  | AND gate                | 4            | 2                  | 4.5           | 5.5           | -55 to 125                       | SOIC 14, TSSOP 14 | V62/03654-01YE, V62/03654-01XE |
| SN74AHCT32-EP  | Enhanced Product Quadruple 2-Input Positive-Or Gates   | OR gate                 | 4            | 2                  | 4.5           | 5.5           | -55 to 125                       | SOIC 14, TSSOP 14 | V62/03658-01YE, V62/03658-01XE |
| SN74ALVC00-EP  | Enhanced Product Quadruple 2-Input Positive-Nand Gate  | NAND gate               | 4            | 2                  | 1.65          | 3.6           | -40 to 85                        | SOIC 14           | V62/04685-01XE                 |
| SN74ALVC08-EP  | Enhanced Product Quadruple 2-Input Positive-And Gate   | AND gate                | 4            | 2                  | 1.65          | 3.6           | -40 to 85                        | SOIC 14           | V62/04686-01XE                 |
| SN74HC02-EP    | Enhanced Product Quadruple 2-Input Positive-Nor Gates  | NOR gate                | 4            | 2                  | 2             | 6             | -40 to 125                       | TSSOP 14          | V62/04687-02YE                 |
| SN74HC10-EP    | Enhanced Product Triple 3-Input Positive-Nand Gates    | NAND gate               | 3            | 3                  | 2             | 6             | -40 to 125                       | SOIC 14, TSSOP 14 | V62/04688-01XE, V62/04688-01YE |
| SN74LV08A-EP   | Enhanced Product Quadruple 2-Input Positive-And Gates  | AND gate                | 4            | 2                  | 2             | 5.5           | -55 to 125                       | TSSOP 14          | V62/03660-01XE                 |
| SN74LV11A-EP   | Enhanced Product Triple 3-Input Positive-And Gates     | AND gate                | 3            | 3                  | 2             | 5.5           | -40 to 105                       | TSSOP 14          | V62/04692-01XE                 |
| SN74LV32A-EP   | Enhanced Product Quadruple 2-Input Positive-Or Gates   | OR gate                 | 4            | 2                  | 2             | 5.5           | -55 to 125                       | TSSOP 14          | V62/04693-01XE                 |
| SN74LV86A-EP   | Enhanced Product Quadruple 2-Input Exclusive-Or Gates  | XOR (exclusive OR) gate | 4            | 2                  | 2             | 5.5           | -40 to 105                       | TSSOP 14          | V62/04694-01XE                 |
| SN74LVC00A-EP  | Enhanced Product Quadruple 2-Input Positive-Nand Gate  | NAND gate               | 4            | 2                  | 2             | 3.6           | -55 to 125                       | SOIC 14, TSSOP 14 | V62/04652-01XE                 |
| SN74LVC02A-EP  | Enhanced Product Quadruple 2-Input Positive-Nor Gate   | NOR gate                | 4            | 2                  | 2             | 3.6           | -55 to 125                       | TSSOP 14          | V62/06660-01XE                 |
| SN74LVC08A-EP  | Enhanced Product Quadruple 2-Input Positive-And Gate   | AND gate                | 4            | 2                  | 2             | 3.6           | -55 to 125                       | SOIC 14, TSSOP 14 | V62/04655-01XE                 |



**Table 7-4. Gates (continued)**

| Part Number      | Description  | SubFamily               | Channels (#) | Inputs per Channel | VCC (Min) (V) | VCC (Max) (V) | Operating Temperature Range (°C) | Package Group     | DLA - VID      |
|------------------|--|-------------------------|--------------|--------------------|---------------|---------------|----------------------------------|-------------------|----------------|
| SN74LVC1G00-EP   | Enhanced Product Single 2-Input Positive-Nand Gate   | NAND gate               | 1            | 1                  | 1.65          | 5.5           | -55 to 125                       | SC70 5, SOT-23 5  | V62/04732-01XE |
| SN74LVC1G02-EP   | Enhanced Product Single 2-Input Positive-Nor Gate    | NOR gate                | 1            | 2                  | 1.65          | 5.5           | -55 to 125                       | SC70 5            | V62/06631-01XE |
| SN74LVC1G08-EP   | Enhanced Product Single 2-Input Positive-And Gate    | AND gate                | 1            | 2                  | 1.65          | 5.5           | -55 to 125                       | SC70 5, SOT-23 5  | V62/04733-01XE |
| SN74LVC1G11-EP   | Enhanced Product Single 3-Input Positive AND Gate    | AND gate                | 1            | 3                  | 1.65          | 5.5           | -55 to 125                       | SC70 6            | V62/09621-01XE |
| SN74LVC1G3208-EP | Enhanced Product Single 3-Input Positive OR-AND Gate | Configurable gate       | 1            | 3                  | 1.65          | 5.5           | -55 to 125                       | SOT-23 6          | V62/13605-01XE |
| SN74LVC1G32-EP   | Enhanced Product Single 2-Input Positive-Or Gate     | OR gate                 | 1            | 2                  | 1.65          | 5.5           | -55 to 125                       | SC70 5, SOT-23 5  | V62/04734-01XE |
| SN74LVC1G86-EP   | Enhanced Product Single 2-Input Exclusive-Or Gate    | XOR (exclusive OR) gate | 1            | 2                  | 1.65          | 5.5           | -55 to 125                       | SC70 5            | V62/06666-01XE |
| SN74LVC1G97-EP   | Enhanced Product Configurable Multiple-Function Gate | Configurable gate       | 1            | 1                  | 1.65          | 5.5           | -40 to 85                        | SC70 6            | V62/03642-01XE |
| SN74LVC1G98-EP   | Enhanced Product Configurable Multiple-Function Gate | Configurable gate       | 1            | 1                  | 1.65          | 5.5           | -40 to 85                        | SC70 6            | V62/03641-01XE |
| SN74LVC2G00W-EP  | Enhanced Product Dual 2-Input Positive-Nand Gate     | NAND gate               | 2            | 2                  | 1.65          | 5.5           | -55 to 115                       | SM8 8             | V62/05623-01XE |
| SN74LVC2G02-EP   | Enhanced Product Dual 2-Input Positive-Nor Gate      | NOR gate                | 2            | 2                  | 1.65          | 5.5           | -55 to 125                       | VSSOP 8           | V62/07637-01XE |
| SN74LVC2G08-EP   | Enhanced Product Dual 2-Input Positive-And Gate      | AND gate                | 2            | 2                  | 1.65          | 5.5           | -55 to 125                       | VSSOP 8           | V62/07631-01XE |
| SN74LVC2G32-EP   | Enhanced Product Dual 2-Input Positive-Or Gate       | OR gate                 | 2            | 2                  | 1.65          | 5.5           | -55 to 125                       | VSSOP 8           | V62/06630-01XE |
| SN74LVC32A-EP    | Enhanced Product Quadruple 2-Input Positive-Or Gate  | OR gate                 | 4            | 2                  | 2             | 3.6           | -55 to 125                       | SOIC 14, TSSOP 14 | V62/04661-01XE |
| SN74LVC86A-EP    | Enhanced Product Quadruple 2-Input Exclusive-Or Gate | XOR (exclusive OR) gate | 4            | 2                  | 2             | 3.6           | -55 to 125                       | SOIC 14, TSSOP 14 | V62/04670-01XE |

## 7.5 Flip-Flop/Latch/Register

**Table 7-5. Flip-Flop/Latch/Register**

| Part Number      | Description   | SubFamily        | VCC (Min) (V) | VCC (Max) (V) | Bits (#) | 3-state Output | Operating Temperature Range (°C) | Package Group     | DLA - VID                      |
|------------------|---|------------------|---------------|---------------|----------|----------------|----------------------------------|-------------------|--------------------------------|
| CD74HCT574-EP    | Enhanced Product High Speed Cmos Logic Octal Positive-Edge-Triggered D-Type Flip-Flops With | D-type flip-flop | 4.5           | 5.5           | 8        | Yes            | -40 to 125                       | SOIC 20, TSSOP 20 | V62/04739-01XE, V62/04739-01YE |
| SN74ABT16373A-EP | Enhanced Product 16-Bit Transparent D-Type Latches With 3-State Outputs                     | D-type latch     | 4.5           | 5.5           | 16       | Yes            | -55 to 125                       | SSOP 48           | V62/06628-01XE                 |
| SN74AC373-EP     | Enhanced Product Octal D-Type Transparent Latches   | D-type latch     | 2             | 6             | 8        | Yes            | -55 to 125                       | SOIC 20           | V62/04621-01XE                 |
| SN74AC74-EP      | Enhanced Product Dual Positive-Edge-Triggered D-Type Flip-Flops With Clear And Preset       | D-type flip-flop | 2             | 6             | 2        | No             | -55 to 125                       | SOIC 14           | V62/04617-01XE                 |
| SN74ACT373-EP    | Enhanced Product Octal D-Type Transparent Latches   | D-type latch     | 4.5           | 5.5           | 8        | Yes            | -55 to 125                       | SOIC 20           | V62/04619-01XE                 |
| SN74ACT74-EP     | Enhanced Product Dual Positive-Edge-Triggered D-Type Flip-Flops With Clear And Preset       | D-type flip-flop | 4.5           | 5.5           | 2        | No             | -55 to 125                       | SOIC 14           | V62/04725-01XE                 |
| SN74AHC74-EP     | Enhanced Product Dual Positive-Edge-Triggered D-Type Flip-Flops With Clear And Preset       | D-type flip-flop | 2             | 5.5           | 2        | No             | -55 to 125                       | SOIC 14, TSSOP 14 | V62/03652-01YE                 |
| SN74AHCT74-EP    | Enhanced Product Dual Positive-Edge-Triggered D-Type Flip-Flop With Clear And Preset        | D-type flip-flop | 4.5           | 5.5           | 2        | No             | -55 to 125                       | SOIC 14, TSSOP 14 | V62/03659-01XE                 |

**Table 7-5. Flip-Flop/Latch/Register (continued)**

| Part Number       | Description   | SubFamily        | VCC (Min) (V) | VCC (Max) (V) | Bits (#) | 3-state Output | Operating Temperature Range (°C) | Package Group              | DLA - VID      |
|-------------------|---|------------------|---------------|---------------|----------|----------------|----------------------------------|----------------------------|----------------|
| SN74HC165-EP      | Enhanced Product 8-Bit Parallel-Load Shift Registers                                    | Shift register   | 2             | 6             | 8        | No             | -40 to 125                       | TSSOP 16                   | V62/04689-01YE |
| SN74HC166A-EP     | Enhanced Product 8-Bit Parallel-Load Shift Registers                                    | Shift register   | 2             | 6             | 8        | No             | -40 to 85                        | SOIC 16                    | V62/04690-01XE |
| SN74HC595-EP      | Enhanced Product 8-Bit Shift Registers With 3-State                                     | Shift register   | 2             | 6             | 8        | Yes            | -55 to 125                       | TSSOP 16                   | V62/10612-01XE |
| SN74HC74-EP       | Enhanced Product Dual D-Type Positive Edge Triggered Flip Flop With Clear And Preset    | D-type flip-flop | 2             | 6             | 2        | No             | -55 to 125                       | TSSOP 14                   | V62/08613-01XE |
| SN74LV165A-EP     | Enhanced Product Parallel-Load 8-Bit Shift Registers                                    | Shift register   | 2             | 5.5           | 8        | No             | -55 to 125                       | TSSOP 16                   | V62/06603-01XE |
| SN74LV374A-EP     | Enhanced Product Octal Edge-Triggered D-Type Flip-Flops With 3-State Outputs            | D-type flip-flop | 2             | 5.5           | 8        | Yes            | -40 to 105                       | TSSOP 20                   | V62/03663-01XE |
| SN74LV595A-EP     | Enhanced Product 8-Bit Shift Registers With 3-State                                     | Shift register   | 2             | 5.5           | 8        | Yes            | -40 to 85                        | TSSOP 16                   | V62/04696-01XE |
| SN74LV74A-EP      | Enhanced Product Dual Positive-Edge-Triggered D-Type Flip-Flops                         | D-type flip-flop | 2             | 5.5           | 2        | No             | -55 to 125                       | TSSOP 14                   | V62/06605-01XE |
| SN74LVC16373A-EP  | Enhanced Product 16-Bit Transparent D-Type Latch With 3-State Outputs                   | D-type latch     | 1.65          | 3.6           | 16       | Yes            | -55 to 125                       | SSOP 48                    | V62/06649-01XE |
| SN74LVC1G175-EP   | Enhanced Product Single D-Type Flip-Flop With Asynchronous Clear                        | D-type flip-flop | 1.65          | 5.5           | 1        | No             | -55 to 125                       | SC70 6                     | V62/06633-01XE |
| SN74LVC1G79-EP    | Enhanced Product Positive-Edge-Triggered D-Type Flip-Flop                               | D-type flip-flop | 1.65          | 5.5           | 1        | No             | -55 to 115                       | SC70 5                     | V62/05621-01XE |
| SN74LVC2G74-EP    | Enhanced Product Single Positive Edge Triggered D-Type Flip-Flop With Clear And Preset  | D-type flip-flop | 1.65          | 5.5           | 1        | No             | -55 to 125                       | VSSOP 8                    | V62/08617-01XE |
| SN74LVC373A-EP    | Enhanced Product Octal Transparent D-Type Latch With 3-State Outputs                    | D-type latch     | 2             | 3.6           | 8        | Yes            | -55 to 125                       | SSOP 20, TSSOP 20          | V62/04662-01YE |
| SN74LVC374A-EP    | Enhanced Product Octal Edge-Triggered D-Type Flip-Flops With 3-State Outputs            | D-type flip-flop | 2             | 3.6           | 8        | Yes            | -40 to 125                       | TSSOP 20                   | V62/04663-01YE |
| SN74LVC573A-EP    | Enhanced Product Octal Transparent D-Type Latches With 3-State Outputs                  | D-type latch     | 2             | 3.6           | 8        | Yes            | -40 to 125                       | TSSOP 20                   | V62/04667-01YE |
| SN74LVC574A-EP    | Enhanced Product Octal Edge-Triggered D-Type Flip-Flop With 3-State Outputs             | D-type flip-flop | 2             | 3.6           | 8        | Yes            | -40 to 125                       | TSSOP 20                   | V62/04668-01YE |
| SN74LVC74A-EP     | Enhanced Product Dual Positive-Edge-Triggered D-Type Flip-Flops With Clear And Preset   | D-type flip-flop | 2             | 3.6           | 2        | No             | -55 to 125                       | SOIC 14, TSSOP 14          | V62/04669-01XE |
| SN74LVTH162373-EP | Enhanced Product 3.3-V Abt 16-Bit Transparent D-Type Latches With 3-State Outputs       | D-type latch     | 2.7           | 3.6           | 16       | Yes            | -55 to 125                       | SSOP 48                    | V62/06654-01XE |
| SN74LVTH16373-EP  | Enhanced Product 3.3-V Abt 16-Bit Transparent D-Type Latches With 3-State Outputs       | D-type latch     | 2.7           | 3.6           | 16       | Yes            | -55 to 125                       | uBGA 56, SSOP 48, TSSOP 48 | V62/04712-01XE |
| SN74LVTH16374-EP  | Enhanced Product 3.3-V Abt 16-Bit Edge-Triggered D-Type Flip-Flops With 3-State Outputs | D-type flip-flop | 2.7           | 3.6           | 16       | Yes            | -40 to 85                        | SSOP 48                    | V62/04711-01YE |
| SN74LVTH273-EP    | Enhanced Product 3.3-V Abt Octal D-Type Flip-Flops                                      | D-type flip-flop | 2.7           | 3.6           | 8        | No             | -55 to 125                       | SO 20                      | V62/04674-02YE |
| SN74LVTH32374-EP  | Enhanced Product 3.3-V Abt 32-Bit Edge-Triggered D-Type Flip-Flop With 3-State Outputs  | D-type flip-flop | 2.7           | 3.6           | 32       | Yes            | -40 to 85                        | LFPGA 96                   | V62/04722-01XA |
| SN74LVTH373-EP    | Enhanced Product 3.3-V Abt Octal Transparent D-Type Latches With 3-State Outputs        | D-type latch     | 2.7           | 3.6           | 8        | Yes            | -40 to 85                        | TSSOP 20                   | V62/04675-01XE |
| SN74LVTH374-EP    | Enhanced Product 3.3-V Abt Octal Edge-Triggered D-Type Flip-Flops With 3-State Outputs  | D-type flip-flop | 2.7           | 3.6           | 8        | Yes            | -40 to 85                        | TSSOP 20                   | V62/04676-01XE |

**Table 7-5. Flip-Flop/Latch/Register (continued)**

| Part Number    | Description  | SubFamily        | VCC (Min) (V) | VCC (Max) (V) | Bits (#) | 3-state Output | Operating Temperature Range (°C) | Package Group | DLA - VID      |
|----------------|--|------------------|---------------|---------------|----------|----------------|----------------------------------|---------------|----------------|
| SN74LVTH573-EP | Enhanced Product 3.3-V Abt Octal Transparent D-Type Latches With 3-State Outputs       | D-type latch     | 2.7           | 3.6           | 8        | Yes            | -40 to 85                        | TSSOP 20      | V62/04678-01XE |
| SN74LVTH574-EP | Enhanced Product 3.3-V Abt Octal Edge-Triggered D-Type Flip-Flops With 3-State Outputs | D-type flip-flop | 2.7           | 3.6           | 8        | Yes            | -40 to 85                        | TSSOP 20      | V62/04679-01XE |

## 7.6 Speciality Logic

**Table 7-6. Speciality Logic**

| Part Number       | Description   | SubFamily                           | Technology Family | VCC (Min) (V) | VCC (Max) (V) | Bits (#) | Operating Temperature Range (°C) | Package Group     | DLA - VID      |
|-------------------|---|-------------------------------------|-------------------|---------------|---------------|----------|----------------------------------|-------------------|----------------|
| CD74HC40103-EP    | Enhanced Product High Speed Cmos Logic 8-Stage Synchronous Down Counters            | Counter/parity function             | HC                | 2             | 6             | 8        | -40 to 125                       | SOIC 16           | V62/04702-01XE |
| CD74HC4017-EP     | Enhanced Product Decade Counter/Divider With 10 Decoded Outputs                     | Counter/parity function             | HC                | 2             | 6             | 10       | -40 to 125                       | SOIC 16, TSSOP 16 | V62/04703-01XE |
| SN74AHC123A-EP    | Enhanced Product Dual Retriggerable Multivibrator                                   | Monostable multivibrator (one-shot) | AHC               | 2             | 5.5           | 2        | -55 to 125                       | SOIC 16           | V62/06665-01XE |
| SN74AHCT138-EP    | Enhanced Product 3-Line To 8-Line Decoder / Demultiplexer                           | Encoders and decoders               | AHCT              | 4.5           | 5.5           | 8        | -55 to 125                       | SOIC 16, TSSOP 16 | V62/03655-01XE |
| SN74HC253-EP      | Enhanced Product Dual 4-Line To 1-Line Multiplexers                                 | Encoders and decoders               | HC                | 2             | 6             | 4        | -40 to 125                       | SOIC 16           | V62/04699-01XE |
| SN74LV123A-EP     | Enhanced Product Dual Retriggerable Multivibrators                                  | Monostable multivibrator            | LV-A              | 2             | 5.5           | 2        | -40 to 125                       | TSSOP 16          | V62/03661-01XE |
| SN74LV393A-EP     | Enhanced Product Dual 4-Bit Binary Counters   | Counter/parity function             | LV-A              | 2             | 5.5           | 4        | -40 to 105                       | TSSOP 14          | V62/04695-01XE |
| SN74LV4040A-EP    | Enhanced Product 12-Bit Asynchronous Binary Counter                                 | Counter/parity function             | LV-A              | 2             | 5.5           | 12       | -55 to 125                       | TSSOP 16          | V62/07630-01XE |
| SN74LV8154-EP     | Enhanced Product Dual 16-Bit Binary Counter With 3-State Output Registers           | Counter/parity function             | LV-A              | 2             | 5.5           | 16       | -55 to 125                       | TSSOP 20          | V62/06662-01XE |
| SN74LVC138A-EP    | Enhanced Product 3-Line To 8-Line Decoder/Demultiplexer                             | Encoders and decoders               | LVC               | 2             | 3.6           | 8        | -55 to 125                       | SOIC 16, TSSOP 16 | V62/04657-01XE |
| SN74LVC157A-EP    | Enhanced Product Quadruple 2-Line To 1-Line Multiplexer                             | Encoders and decoders               | LVC               | 2             | 3.6           | 2        | -40 to 125                       | SOIC 16, TSSOP 16 | V62/04659-01XE |
| SN74LVC257A-EP    | Enhanced Product Quadruple 2-Line To 1-Line Multiplexer                             | Encoders and decoders               | LVC               | 2             | 3.6           | 2        | -55 to 125                       | TSSOP 16          | V62/04660-02YE |
| SN74LVT8980A-EP   | Enhanced Product Embedded Test-Bus Controllers IEEE Std 1149.1 Tap Masters          | Boundary scan (JTAG) logic          | LVT               | 2.7           | 3.6           | 8        | -40 to 85                        | SOIC 24           | V62/03668-01XE |
| SN74LVT8996-EP    | Enhanced Product 10-Bit Multidrop-Addressable IEEE Std 1149.1 Tap Transceiver       | Boundary scan (JTAG) logic          | LVT               | 2.7           | 3.6           | 10       | -40 to 85                        | TSSOP 24          | V62/04644-01XE |
| SN74LVTH182512-EP | Enhanced Product 3.3-V Abt Scan Test Devices With 18-Bit Universal Bus Transceivers | Boundary scan (JTAG) logic          | LVT               | 2.7           | 3.6           | 18       | -40 to 85                        | TSSOP 64          | V62/04730-01XE |

## 7.7 Universal Bus Function

**Table 7-7. Universal Bus Function**

| Part Number                       | Description   | SubFamily                       | Technology Family | VCC (Min) (V) | VCC (Max) (V) | Bits (#) | Operating Temperature Range (°C) | Package Group      | DLA - VID      |
|-----------------------------------|---|---------------------------------|-------------------|---------------|---------------|----------|----------------------------------|--------------------|----------------|
| <a href="#">SN74VMEH22501A-EP</a> | Enhanced Product 8-Bit Universal Bus Transceiver And Two 1-Bit Bus Transceivers | Universal bus transceiver (UBT) | VME               | 3.15          | 3.45          | 8        | -55 to 125                       | TSSOP148, TVSOP148 | V62/05606-01XE |

## Motor Drivers

### 8.1 Brushless DC (BLDC) Motor Drivers

**Table 8-1. Brushless DC (BLDC) Motor Drivers**

| Part Number                | Description  | Control Method   | Sensor Type | Architecture | Peak Output Current (A) | Gate Drive (A) | Operating Temperature Range (°C) | Package Group | DLA - VID      |
|----------------------------|--|------------------|-------------|--------------|-------------------------|----------------|----------------------------------|---------------|----------------|
| <a href="#">UC2625-EP</a>  | Enhanced Product Brushless DC Motor Controller                   | External Control | Universal   | Controller   | -                       | -              | -55 to 125                       | SOIC  28      | V62/08624-01YE |
| <a href="#">DRV8842-EP</a> | Enhanced Product Brushed DC or Half-Bipolar Stepper Motor Driver | PWM              | Universal   | -            | 6                       | 2              | -55 to 125                       | HTSSOP  28    | V62/14615-01XE |

## Microcontrollers

### 9.1 MSP430 Ultra-low-power MCUs

**Table 9-1. MSP430 Ultra-low-power MCUs**

| Part Number                     | Description  | Non-volatile Memory (kB) | RAM (KB) | ADC: Channels (#) | GPIO Pins (#) | I2C/SPI/UART | Operating Temperature Range (°C) | Package Group     | DLA - VID                      |
|---------------------------------|--|--------------------------|----------|-------------------|---------------|--------------|----------------------------------|-------------------|--------------------------------|
| <a href="#">MSP430F2013-EP</a>  | Enhanced Product 16-bit Ultra-Low-Power Microcontroller  | 2                        | 0.125    | 4                 | 10            | 1/1/0        | -40 to 125                       | QFN 16            | V62/11613-01XE                 |
| <a href="#">MSP430F2132-EP</a>  | Enhanced Product 16-bit Ultra-Low-Power Microcontroller  | 8                        | 0.5      | 8                 | 24            | 1/2/1        | -40 to 125                       | VQFN 32           | V62/13624-01XE                 |
| <a href="#">MSP430F2274-EP</a>  | Enhanced Product 16-Bit Ultra-Low-Power Microcontroller  | 32                       | 1        | 12                | 32            | 1/1/1        | -55 to 125                       | TSSOP 38, VQFN 40 | V62/08631-01YE, V62/08631-01XE |
| <a href="#">MSP430F249-EP</a>   | Enhanced Product 16-Bit Ultra-Low-Power Microcontroller  | 60                       | 2        | 8                 | 48            | 4/2/2        | -55 to 125                       | LQFP 64           | V62/09601-01XE                 |
| <a href="#">MSP430F5328-EP</a>  | Enhanced Product Mixed Signal Microcontroller            | 128                      | 10       | 10                | 47            | 2/2/2        | -40 to 105                       | VQFN 64           | V62/13628-01XE                 |
| <a href="#">MSP430F5438A-EP</a> | Enhanced Product Mixed Signal Microcontroller            | 256                      | 16       | 14                | 87            | 4/8/4        | -55 to 125                       | LQFP 100          | V62/14608-02XE                 |
| <a href="#">MSP430FR5739-EP</a> | Enhanced Product 24 MHz ULP microcontroller              | 16                       | 1        | 12                | 32            | 1/3/2        | -55 to 85                        | VQFN 40           | V62/14644-01XE                 |
| <a href="#">MSP430FR5989-EP</a> | Enhanced Product 16 MHz ULP Microcontroller              | 128                      | 2        | 12                | 48            | 2/4/2        | -55 to 95                        | VQFN 64           | V62/16627-01XE                 |
| <a href="#">MSP430G2230-EP</a>  | Enhanced Product 16-bit Ultra-Low-Power Mixed Signal MCU | 2                        | 0.125    | 4                 | 4             | 1/1/0        | -40 to 125                       | SOIC 8            | V62/12620-01XE                 |
| <a href="#">MSP430G2231-EP</a>  | Enhanced Product 16-bit Ultra-Low-Power Mixed Signal MCU | 2                        | 0.125    | 8                 | 10            | 1/1/0        | -40 to 125                       | TSSOP 14          | V62/12621-01XE                 |
| <a href="#">MSP430G2302-EP</a>  | Enhanced Product Mixed Signal Microcontroller            | 4                        | 0.25     | 0                 | 16            | 1/1/0        | -40 to 85                        | TSSOP 14          | V62/12623-01XE                 |
| <a href="#">MSP430G2332-EP</a>  | Enhanced Product Mixed Signal Microcontroller            | 4                        | 0.25     | 8                 | 16            | 1/1/0        | -40 to 125                       | TSSOP 20          | V62/12625-01XE                 |

### 9.2 C2000 Real-time Control MCUs

**Table 9-2. C2000 Real-time Control MCUs**

| Part Number                   | Description                                | Frequency (MHz) | Flash (KB) | ADC (Ch) | RAM (KB) | PWM (Ch) | Operating Temperature Range (°C) | Package Group | DLA - VID      |
|-------------------------------|--|-----------------|------------|----------|----------|----------|----------------------------------|---------------|----------------|
| <a href="#">SM320F2801-EP</a> | Enhanced Product Digital Signal Processors | 100             | 32         | 16       | 12       | 6        | -55 to 125                       | LQFP 100      | V62/06619-03XE |

**Table 9-2. C2000 Real-time Control MCUs (continued)**

| Part Number                      | Description   | Frequency (MHz) | Flash (KB) | ADC (Ch)      | RAM (KB) | PWM (Ch) | Operating Temperature Range (°C) | Package Group        | DLA - VID                      |
|----------------------------------|---|-----------------|------------|---------------|----------|----------|----------------------------------|----------------------|--------------------------------|
| <a href="#">SM320F2808-EP</a>    | Enhanced Product Digital Signal Processors          | 100             | 128        | 16            | 36       | 12       | -55 to 125                       | LQFP 100             | V62/06619-01XE                 |
| <a href="#">SM320F2812-EP</a>    | Enhanced Product Digital Signal Processor           | 150             | 256        | 16            | 36       | 16       | -55 to 125                       | LQFP 176             | V62/05601-03ZE                 |
| <a href="#">SM320F28335-EP</a>   | Enhanced Product Delfino™ Microcontroller           | 150             | 512        | up to 24      | 68       | 12       | -55 to 125                       | BGA 176, HLQFP 176   | V62/09624-02XE                 |
| <a href="#">SM320LF2407A-EP</a>  | Enhanced Product Digital Signal Controller          | 40              | 64         | 10            | 5        | 16       | -55 to 125                       | LQFP 144             | V62/04608-01XE                 |
| <a href="#">TMS320F28035-EP</a>  | Enhanced Product Piccolo™ Microcontroller           | 60              | 128        | 16            | 20       | 14       | -55 to 125                       | LQFP 80              | V62/18605-01XE                 |
| <a href="#">TMS320F28377D-EP</a> | Enhanced Product Dual-Core Delfino™ Microcontroller | 200             | 1024       | 9, 12, 20, 24 | 204      | 24       | -55 to 125                       | HLQFP 176, NFBGA 337 | V62/18601-01YE, V62/18601-01XF |

### 9.3 Hercules MCUs for Functional Safety

**Table 9-3. Hercules MCUs for Functional Safety**

| Part Number                     | Description  | Frequency (MHz) | RAM (KB) | Data flash (KB) | ADC               | CAN (#) /GPIO (#) | Operating Temperature Range (°C) | Package Group | DLA - VID                      |
|---------------------------------|--|-----------------|----------|-----------------|-------------------|-------------------|----------------------------------|---------------|--------------------------------|
| <a href="#">TMS570LC4357-EP</a> | Enhanced Product 16- and 32-Bit ARM Cortex Flash Microcontroller | 300             | 512      | 128             | 2 x 12-Bit (41ch) | 3 / 144           | -40 to 125                       | NFBGA 337     | V62/18606-01XF                 |
| <a href="#">TMS570LS3137-EP</a> | Enhanced Product 16- and 32-Bit ARM Cortex Flash Microcontroller | 180             | 256      | 64              | 2 x 12-Bit (24ch) | 3 / 144           | -55 to 125                       | NFBGA 337     | V62/13629-01XF, V62/13629-02XF |

## Processors

### 10.1 Sitara Processors

**Table 10-1. Sitara Processors**

| Part Number | Description  | Arm MHz (Max.) | Serial I/O               | EMAC                                      | Security Enabler           | Co-processor(s) | Operating Temperature Range (°C) | Package Group | DLA - VID      |
|-------------|--|----------------|--------------------------|---|----------------------------|-----------------|----------------------------------|---------------|----------------|
| AM3358-EP   | Enhanced Product Sitara Processor: Arm Cortex-A8, 3D, PRU-ICSS | 800            | CAN, I2C, SPI, UART, USB | 2-Port 10/100 PRU EMAC, 2-Port 1Gb Switch | Cryptographic acceleration | PRU-ICSS        | -40 to 105                       | NFBGA 324     | V62/15602-01XF |

### 10.2 Digital Signal Processors

**Table 10-2. Digital Signal Processors**

| Part Number    | Description  | SubFamily                  | DSP     | DSP MHz       | Operating Systems                | ARM MHz       | Operating Temperature Range (°C) | Package Group | DLA - VID                      |
|----------------|--|----------------------------|---------|---------------|----------------------------------|---------------|----------------------------------|---------------|--------------------------------|
| OMAPL138B-EP   | Enhanced Product Low-Power Applications Processor        | C6000 DSP + ARM            | 1 C674x | 345           | Linux, SYS/BIOS                  | 345           | -55 to 125                       | NFBGA 361     | V62/12605-01XE                 |
| SM320C6201-EP  | Enhanced Product Fixed-Point Digital Signal Processor    | C6000 floating point DSP   | 1 C62x  | 200           | DSP/BIOS                         | -             | -40 to 105                       | FCBGA 352     | V62/04606-01XA                 |
| SM320C6415-EP  | Enhanced Product Fixed-Point Digital Signal Processor    | C6000 floating point DSP   | 1 C64x  | 500           | DSP/BIOS                         | -             | -55 to 105                       | FCBGA 532     | V62/04609-05XA                 |
| SM320C6424-EP  | Enhanced Product Fixed-Point Digital Signal Processor    | C6000 floating point DSP   | 1 C64x+ | 700           | DSP/BIOS                         | -             | -40 to 125                       | BGA 376       | V62/09629-03XF                 |
| SM320C6701-EP  | Enhanced Product Floating-Point Digital Signal Processor | C6000 floating point DSP   | 1 C67x  | 167           | DSP/BIOS                         | -             | -40 to 105                       | FCBGA 352     | V62/03669-01XA                 |
| SM320C6711D-EP | Enhanced Product Floating-Point Digital Signal Processor | C6000 floating point DSP   | 1 C67x  | 167, 200, 250 | DSP/BIOS                         | -             | -40 to 105                       | BGA 272       | V62/04753-04YA, V62/04753-16YA |
| SM320C6712D-EP | Enhanced Product Floating-Point Digital Signal Processor | C6000 floating point DSP   | 1 C67x  | 167           | DSP/BIOS                         | -             | -40 to 105                       | BGA 272       |                                |
| SM320C6727B-EP | Enhanced Product Floating-Point Digital Signal Processor | C6000 floating point DSP   | 1 C67x+ | 250           | DSP/BIOS                         | -             | -55 to 125                       | BGA 256       | V62/11617-01XF                 |
| SM320DM355-EP  | Enhanced Product Digital Media System-on-Chip            | Audio and media processors | -       | -             | Neutrino, ProS, Integrity, Linux | 135, 216, 270 | -55 to 125                       | NFBGA 337     | V62/09643-01XF                 |



**Table 10-2. Digital Signal Processors (continued)**

| Part Number                    | Description   | SubFamily                  | DSP    | DSP MHz       | Operating Systems | ARM MHz | Operating Temperature Range (°C) | Package Group | DLA - VID      |
|--------------------------------|---|----------------------------|--------|---------------|-------------------|---------|----------------------------------|---------------|----------------|
| <a href="#">SM320VC33-EP</a>   | Enhanced Product Digital Signal Processor             | Other DSPs                 | 1 C3x  | 75            | DSP/BIOS          | -       | -55 to 125                       | LQFP 144      | V62/03610-01XE |
| <a href="#">SM320VC5416-EP</a> | Enhanced Product Fixed-Point Digital Signal Processor | Audio and media processors | 1 C54x | 160           | DSP/BIOS          | -       | -40 to 100                       | BGA 144       | V62/04610-01YE |
| <a href="#">SM320VC5421-EP</a> | Enhanced Product Fixed-Point Digital Signal Processor | C5000 low-power DSP        | 1 C54x | 100           | DSP/BIOS          | -       | -40 to 85                        | LQFP 144      | V62/04607-01XE |
| <a href="#">SM320VC5507-EP</a> | Enhanced Product Fixed-Point Digital Signal Processor | C5000 low-power DSP        | 1 C55x | 108, 144, 200 | DSP/BIOS, VLX     | -       | -55 to 85                        | LQFP 144      | V62/09647-01XA |

## Power Management

### 11.1 Linear Regulators (LDO)

**Table 11-1. Linear Regulators (LDO)**

| Part Number                  | Description   | Output Options    | Vin (Max) (V) | Vin (Min) (V) | Vout (Max) (V) | Vout (Min) (V) | Operating Temperature Range (°C) | Package Group | DLA - VID      |
|------------------------------|---|-------------------|---------------|---------------|----------------|----------------|----------------------------------|---------------|----------------|
| <a href="#">TPS70345-EP</a>  | Enhanced Product Dual-Output Low-Dropout Voltage Regulators W/Power Up Sequencing               | Fixed Output      | 6             | 2.7           | 3.3            | 3.3            | -55 to 125                       | HTSSOP 24     | V62/06616-01XE |
| <a href="#">TPS70751-EP</a>  | Enhanced Product Dual-Output Ldo Voltage Regulator W/ Power-Up Sequencing                       | Fixed Output      | 6             | 2.7           | 3.3            | 3.3            | -55 to 125                       | HTSSOP 20     | V62/07610-01XE |
| <a href="#">TPS71202-EP</a>  | Enhanced Product Dual, 250-mA Output, Ultra-Low Noise, High PSRR, Low-Dropout, Linear Regulator | Adjustable Output | 5.5           | 2.7           | 5.4            | 1.2            | -55 to 125                       | VSON 10       | V62/08621-01XE |
| <a href="#">TPS71501-EP</a>  | Enhanced Product 50 mA, 24 V, 3.2 uA Supply Current, Low Dropout, Linear Regulator              | Adjustable Output | 24            | 2.5           | 15             | 1.2            | -55 to 125                       | SC70 5        | V62/08619-01XE |
| <a href="#">TPS72118-EP</a>  | Enhanced Product Low Input Voltage, Cap Free 150-Ma Low-Dropout Linear Regulators               | Fixed Output      | 5.5           | 1.8           | 1.8            | 1.8            | -55 to 125                       | SOT-23 5      | V62/07636-01XE |
| <a href="#">TPS73101-EP</a>  | Enhanced Product Cap-Free Nmos 150-Ma Low Dropout Regulator                                     | Adjustable Output | 5.5           | 1.7           | 5.5            | 1.2            | -55 to 125                       | SOT-23 5      | V62/06652-01XE |
| <a href="#">TPS731125-EP</a> | Enhanced Product Cap-Free, Nmos, 150 Ma Low Dropout Regulator                                   | Fixed Output      | 5.5           | 1.7           | 1.25           | 1.25           | -55 to 125                       | SOT-23 5      | V62/06652-09XE |
| <a href="#">TPS73115-EP</a>  | Enhanced Product Cap-Free Nmos 150-Ma Low Dropout Regulator                                     | Fixed Output      | 5.5           | 1.7           | 1.5            | 1.5            | -55 to 125                       | SOT-23 5      | V62/06652-02XE |
| <a href="#">TPS73118-EP</a>  | Enhanced Product Cap-Free Nmos 150-Ma Low Dropout Regulator                                     | Fixed Output      | 5.5           | 1.7           | 1.8            | 1.8            | -55 to 125                       | SOT-23 5      | V62/06652-03XE |
| <a href="#">TPS73125-EP</a>  | Enhanced Product Cap-Free Nmos 150-Ma Low Dropout Regulator                                     | Fixed Output      | 5.5           | 1.7           | 2.5            | 2.5            | -55 to 125                       | SOT-23 5      | V62/06652-04XE |
| <a href="#">TPS73130-EP</a>  | Enhanced Product Cap-Free Nmos 150-Ma Low Dropout Regulator                                     | Fixed Output      | 5.5           | 1.7           | 3              | 3              | -55 to 125                       | SOT-23 5      | V62/06652-05XE |
| <a href="#">TPS73132-EP</a>  | Enhanced Product Cap-Free Nmos 150-Ma Low Dropout Regulator                                     | Fixed Output      | 5.5           | 1.7           | 3.2            | 3.2            | -55 to 125                       | SOT-23 5      | V62/06652-06XE |
| <a href="#">TPS73133-EP</a>  | Enhanced Product Cap-Free Nmos 150-Ma Low Dropout Regulator                                     | Fixed Output      | 5.5           | 1.7           | 3.3            | 3.3            | -55 to 125                       | SOT-23 5      | V62/06652-07XE |

**Table 11-1. Linear Regulators (LDO) (continued)**

| Part Number  | Description  | Output Options    | Vin (Max) (V) | Vin (Min) (V) | Vout (Max) (V) | Vout (Min) (V) | Operating Temperature Range (°C) | Package Group              | DLA - VID                                      |
|--------------|--|-------------------|---------------|---------------|----------------|----------------|----------------------------------|----------------------------|--|
| TPS73150-EP  | Enhanced Product Cap-Free Nmos 150-Ma Low Dropout Regulator                | Fixed Output      | 5.5           | 1.7           | 5              | 5              | -55 to 125                       | SOT-23 5                   | V62/06652-08XE                                 |
| TPS73201-EP  | Enhanced Product Cap-Free Nmos 250-Ma Ldo Regulator                        | Adjustable Output | 5.5           | 1.7           | 5.4            | 1.2            | -55 to 125                       | SOT-23 5                   | V62/06644-01XE                                 |
| TPS73215-EP  | Enhanced Product Cap-Free Nmos 250-Ma Ldo Regulator                        | Fixed Output      | 5.5           | 1.7           | 1.5            | 1.5            | -55 to 125                       | SOT-23 5                   | V62/06644-02XE                                 |
| TPS73216-EP  | Enhanced Product Cap-Free Nmos 250-Ma Ldo Regulator                        | Fixed Output      | 5.5           | 1.7           | 1.6            | 1.6            | -55 to 125                       | SOT-23 5                   | V62/06644-03XE                                 |
| TPS73218-EP  | Enhanced Product Cap-Free Nmos 250-Ma Ldo Regulator                        | Fixed Output      | 5.5           | 1.7           | 1.8            | 1.8            | -55 to 125                       | SOT-23 5                   | V62/06644-04XE                                 |
| TPS73225-EP  | Enhanced Product Cap-Free Nmos 250-Ma Ldo Regulator                        | Fixed Output      | 5.5           | 1.7           | 2.5            | 2.5            | -55 to 125                       | SOT-23 5                   | V62/06644-05XE                                 |
| TPS73230-EP  | Enhanced Product Cap-Free Nmos 250-Ma Ldo Regulator                        | Fixed Output      | 5.5           | 1.7           | 3              | 3              | -55 to 125                       | SOT-23 5                   | V62/06644-06XE                                 |
| TPS73233-EP  | Enhanced Product Cap-Free Nmos 250-Ma Ldo Regulator                        | Fixed Output      | 5.5           | 1.7           | 3.3            | 3.3            | -55 to 125                       | SOT-23 5                   | V62/06644-07XE                                 |
| TPS73250-EP  | Enhanced Product Cap-Free Nmos 250-Ma Ldo Regulator                        | Fixed Output      | 5.5           | 1.7           | 5              | 5              | -55 to 125                       | SOT-23 5                   | V62/06644-08XE                                 |
| TPS73601-EP  | Enhanced Product Cap-Free Low Dropout Regulator                            | Adjustable Output | 5.5           | 1.7           | 5.4            | 1.2            | -55 to 125                       | SON 8, SOT-223 6, SOT-23 5 | V62/06626-01XE, V62/06626-01YE, V62/06626-01ZE |
| TPS73615-EP  | Enhanced Product Cap-Free Low Dropout Regulator                            | Fixed Output      | 5.5           | 1.7           | 1.5            | 1.5            | -55 to 125                       | SOT-23 5                   | V62/06626-02XE                                 |
| TPS73618-EP  | Enhanced Product Cap-Free Low Dropout Regulator                            | Fixed Output      | 5.5           | 1.7           | 1.8            | 1.8            | -55 to 125                       | SOT-23 5                   | V62/06626-03XE                                 |
| TPS73625-EP  | Enhanced Product Cap-Free Low Dropout Regulator                            | Fixed Output      | 5.5           | 1.7           | 2.5            | 2.5            | -55 to 125                       | SOT-23 5                   | V62/06626-04XE                                 |
| TPS73630-EP  | Enhanced Product Cap-Free Low Dropout Regulator                            | Fixed Output      | 5.5           | 1.7           | 3              | 3              | -55 to 125                       | SOT-23 5                   | V62/06626-05XE                                 |
| TPS73632-EP  | Enhanced Product Cap-Free Low Dropout Regulator                            | Fixed Output      | 5.5           | 1.7           | 3.2            | 3.2            | -55 to 125                       | SOT-23 5                   | V62/06626-06XE                                 |
| TPS73633-EP  | Enhanced Product Cap-Free Low Dropout Regulator                            | Fixed Output      | 5.5           | 1.7           | 3.3            | 3.3            | -55 to 125                       | SOT-23 5                   | V62/06626-07XE                                 |
| TPS74401-EP  | Enhanced-product single-output 3A LDO, adjustable, fast transient response | Adjustable Output | 5.5           | 0.8           | 3.6            | 0.8            | -55 to 125                       | VQFN 20                    | V62/10611-01XE                                 |
| TPS75125-EP  | Enhanced Product Fast-Trans-Resp 1.5-A Ldo V-Reg                           | Fixed Output      | 5.5           | 2.7           | 2.5            | 2.5            | -55 to 125                       | HTSSOP 20                  | V62/03636-14XE                                 |
| TPS75201-EP  | Enhanced Product Fast Trans Respon Volt Regulators                         | Adjustable Output | 5.5           | 2.7           | 5.5            | 1.5            | -40 to 125                       | HTSSOP 20                  | V62/03635-11XE                                 |
| TPS75201M-EP | Enhanced Product Fast Trans Respond Volt Regulators                        | Adjustable Output | 5.5           | 2.7           | 5.5            | 1.5            | -55 to 125                       | HTSSOP 20                  | V62/03635-11XE                                 |

**Table 11-1. Linear Regulators (LDO) (continued)**

| Part Number                   | Description  | Output Options                  | Vin (Max) (V) | Vin (Min) (V) | Vout (Max) (V) | Vout (Min) (V) | Operating Temperature Range (°C) | Package Group | DLA - VID      |
|-------------------------------|--|---------------------------------|---------------|---------------|----------------|----------------|----------------------------------|---------------|----------------|
| <a href="#">TPS75215-EP</a>   | Enhanced Product Fast Transient Response Voltage Regulators                  | Fixed Output                    | 5.5           | 2.7           | 1.5            | 1.5            | -40 to 125                       | HTSSOP 20     | V62/03635-02XE |
| <a href="#">TPS75218-EP</a>   | Enhanced Product Fast Trans Response Volt Regulators                         | Fixed Output                    | 5.5           | 2.7           | 1.8            | 1.8            | -40 to 125                       | HTSSOP 20     | V62/03635-03XE |
| <a href="#">TPS75225-EP</a>   | Enhanced Product Fast Transient Response Voltage Regulators                  | Fixed Output                    | 5.5           | 2.7           | 2.5            | 2.5            | -40 to 125                       | HTSSOP 20     | V62/03635-04XE |
| <a href="#">TPS75233-EP</a>   | Enhanced Product Fast Transient Response Voltage Regulators                  | Fixed Output                    | 5.5           | 2.7           | 3.3            | 3.3            | -40 to 125                       | HTSSOP 20     | V62/03635-05XE |
| <a href="#">TPS75301-EP</a>   | Enhanced Product Fast-Transient-Response 1.5-A Low-Dropout Voltage Regulator | Adjustable Output               | 5.5           | 2.7           | 5.5            | 1.5            | -40 to 125                       | HTSSOP 20     | V62/03636-06XE |
| <a href="#">TPS75318-EP</a>   | Enhanced Product Fast-Transient-Response 1.5-A Low-Dropout Voltage Regulator | Fixed Output                    | 5.5           | 2.7           | 1.8            | 1.8            | -40 to 125                       | HTSSOP 20     | V62/03636-08XE |
| <a href="#">TPS75325-EP</a>   | Enhanced Product Fast-Transient-Response 1.5-A Low-Dropout Voltage Regulator | Fixed Output                    | 5.5           | 2.7           | 2.5            | 2.5            | -40 to 125                       | HTSSOP 20     | V62/03636-09XE |
| <a href="#">TPS75333-EP</a>   | Enhanced Product Fast-Transient-Response 1.5-A Low-Dropout Voltage Regulator | Fixed Output                    | 5.5           | 2.7           | 3.3            | 3.3            | -40 to 125                       | HTSSOP 20     | V62/03636-10XE |
| <a href="#">TPS76701-EP</a>   | Enhanced Product Fast-Transient-Response 1-A Low-Dropout Voltage Regulators  | Adjustable Output               | 10            | 2.7           | 5.5            | 1.2            | -40 to 125                       | HTSSOP 20     | V62/03630-01XE |
| <a href="#">TPS76715-EP</a>   | Enhanced Product Fast-Transient-Response 1-A Low-Dropout Voltage Regulators  | Fixed Output                    | 10            | 2.7           | 1.5            | 1.5            | -40 to 125                       | HTSSOP 20     | V62/03630-02XE |
| <a href="#">TPS76718-EP</a>   | Enhanced Product Fast-Transient-Response 1-A Low-Dropout Voltage Regulators  | Fixed Output                    | 10            | 2.7           | 1.8            | 1.8            | -40 to 125                       | HTSSOP 20     | V62/03630-03XE |
| <a href="#">TPS76725-EP</a>   | Enhanced Product Fast-Transient-Response 1-A Low-Dropout Voltage Regulators  | Fixed Output                    | 10            | 2.7           | 2.5            | 2.5            | -40 to 125                       | HTSSOP 20     | V62/03630-04XE |
| <a href="#">TPS76733-EP</a>   | Enhanced Product Fast-Transient-Response 1-A Low-Dropout Voltage Regulators  | Fixed Output                    | 10            | 2.7           | 3.3            | 3.3            | -40 to 125                       | HTSSOP 20     | V62/03630-08XE |
| <a href="#">TPS767D301-EP</a> | Enhanced Product Dual-Output Low-Dropout Voltage Regulators                  | Adjustable Output, Fixed Output | 10            | 2.7           | 5.5            | 1.5            | -55 to 125                       | HTSSOP 28     | V62/06617-01XE |
| <a href="#">TPS76801-EP</a>   | Enhanced Product Fast-Transient-Response 1-A Low-Dropout Voltage Regulators  | Adjustable Output               | 10            | 2.7           | 5.5            | 1.2            | -55 to 125                       | HTSSOP 20     | V62/03632-01XE |
| <a href="#">TPS76815-EP</a>   | Enhanced Product Fast-Transient-Response 1-A Low-Dropout Voltage Regulators  | Fixed Output                    | 10            | 2.7           | 1.5            | 1.5            | -40 to 125                       | HTSSOP 20     | V62/03632-02XE |

**Table 11-1. Linear Regulators (LDO) (continued)**

| Part Number                 | Description  | Output Options                  | Vin (Max) (V) | Vin (Min) (V) | Vout (Max) (V) | Vout (Min) (V) | Operating Temperature Range (°C) | Package Group | DLA - VID      |
|-----------------------------|--|---------------------------------|---------------|---------------|----------------|----------------|----------------------------------|---------------|----------------|
| <a href="#">TPS76818-EP</a> | Enhanced Product Fast-Transient-Response 1-A Low-Dropout Voltage Regulators    | Fixed Output                    | 10            | 2.7           | 1.8            | 1.8            | -40 to 125                       | HTSSOP 20     | V62/03632-03XE |
| <a href="#">TPS76825-EP</a> | Enhanced Product Fast-Transient-Response 1-A Low-Dropout Voltage Regulators    | Fixed Output                    | 10            | 2.7           | 2.5            | 2.5            | -40 to 125                       | HTSSOP 20     | V62/03632-04XE |
| <a href="#">TPS76833-EP</a> | Enhanced Product Fast-Transient-Response 1-A Low-Dropout Voltage Regulators    | Fixed Output                    | 10            | 2.7           | 3.3            | 3.3            | -40 to 125                       | HTSSOP 20     | V62/03632-08XE |
| <a href="#">TPS76850-EP</a> | Enhanced Product Fast-Transient-Response 1-A Low-Dropout Voltage Regulators    | Adjustable Output, Fixed Output | 10            | 2.7           | 5              | 5              | -55 to 125                       | HTSSOP 20     | V62/03632-11XE |
| <a href="#">TPS77401-EP</a> | Enhanced Product 250-Ma Ldo Voltage Regulator With Power-Good Output           | Adjustable Output               | 10            | 2.7           | 5.5            | 1.5            | -55 to 125                       | VSSOP 8       | V62/06663-01XE |
| <a href="#">TPS77501-EP</a> | Enhanced Product Fast-Transient-Response 500-Ma Low-Dropout Voltage Regulators | Adjustable Output               | 10            | 2.7           | 5.5            | 1.5            | -55 to 125                       | HTSSOP 20     | V62/03631-01XE |
| <a href="#">TPS77515-EP</a> | Enhanced Product Fast-Transient-Response 500-Ma Low-Dropout Voltage Regulators | Fixed Output                    | 10            | 2.7           | 1.5            | 1.5            | -55 to 125                       | HTSSOP 20     | V62/03631-02XE |
| <a href="#">TPS77518-EP</a> | Enhanced Product Fast-Transient-Response 500-Ma Low-Dropout Voltage Regulators | Fixed Output                    | 10            | 2.7           | 1.8            | 1.8            | -55 to 125                       | HTSSOP 20     | V62/03631-04XE |
| <a href="#">TPS77525-EP</a> | Enhanced Product Fast-Transient-Response 500-Ma Low-Dropout Voltage Regulators | Fixed Output                    | 10            | 2.7           | 2.5            | 2.5            | -55 to 125                       | HTSSOP 20     | V62/03631-05XE |
| <a href="#">TPS77533-EP</a> | Enhanced Product Fast-Transient-Response 500-Ma Low-Dropout Voltage Regulators | Fixed Output                    | 10            | 2.7           | 3.3            | 3.3            | -55 to 125                       | HTSSOP 20     | V62/03631-06XE |
| <a href="#">TPS77601-EP</a> | Enhanced Product Fast-Transient-Response 500-Ma Low-Dropout Voltage Regulators | Adjustable Output               | 10            | 2.7           | 5.5            | 1.2            | -40 to 125                       | HTSSOP 20     | V62/03631-07XE |
| <a href="#">TPS77615-EP</a> | Enhanced Product Fast-Transient-Response 500-Ma Low-Dropout Voltage Regulators | Fixed Output                    | 10            | 2.7           | 1.5            | 1.5            | -40 to 125                       | HTSSOP 20     | V62/03631-08XE |
| <a href="#">TPS77618-EP</a> | Enhanced Product Fast-Transient-Response 500-Ma Low-Dropout Voltage Regulators | Fixed Output                    | 10            | 2.7           | 1.8            | 1.8            | -40 to 125                       | HTSSOP 20     | V62/03631-09XE |
| <a href="#">TPS77625-EP</a> | Enhanced Product Fast-Transient-Response 500-Ma Low-Dropout Voltage Regulators | Fixed Output                    | 10            | 2.7           | 2.5            | 2.5            | -40 to 125                       | HTSSOP 20     | V62/03631-10XE |
| <a href="#">TPS77633-EP</a> | Enhanced Product Fast-Transient-Response 500-Ma Low-Dropout Voltage Regulators | Fixed Output                    | 10            | 2.7           | 3.3            | 3.3            | -40 to 125                       | HTSSOP 20     | V62/03631-12XE |

**Table 11-1. Linear Regulators (LDO) (continued)**

| Part Number  | Description   | Output Options                         | Vin (Max) (V) | Vin (Min) (V) | Vout (Max) (V) | Vout (Min) (V) | Operating Temperature Range (°C) | Package Group   | DLA - VID      |
|--------------|---|--|---------------|---------------|----------------|----------------|----------------------------------|-----------------|----------------|
| TPS79101-EP  | Enhanced Product Ultralow Noise High Psrr Fast Rf 100-Ma Low-Dropout Linear Regulator           | Adjustable Output                      | 5.5           | 2.7           | 5.2            | 1.2            | -40 to 125                       | SOT-23 6        | V62/03644-01YE |
| TPS79133-EP  | Enhanced Product Ultralow Noise High Psrr Fast Rf 100-Ma Low-Dropout Linear Regulator           | Fixed Output                           | 5.5           | 2.7           | 3.3            | 3.3            | -55 to 125                       | SOT-23 5        | V62/03644-03XE |
| TPS79147-EP  | Enhanced Product Ultralow Noise High Psrr Fast Rf 100-Ma Low-Dropout Linear Regulator           | Fixed Output                           | 5.5           | 2.7           | 4.7            | 4.7            | -40 to 125                       | SOT-23 5        | V62/03634-04XE |
| TPS79301-EP  | Enhanced Product Ultralow-Noise, High Psrr, Fast Rf 200-Ma Low-Dropout Linear Regulators        | Adjustable Output                      | 5.5           | 2.7           | 5.5            | 1.22           | -40 to 125                       | SOT-23 6        | V62/03634-01YE |
| TPS79318-EP  | Enhanced Product Ultralow-Noise High Psrr Fast Rf 200-Ma Low-Dropout Linear Regulators          | Fixed Output                           | 5.5           | 2.7           | 1.8            | 1.8            | -40 to 125                       | SOT-23 5        | V62/03634-02XE |
| TPS79333-EP  | Enhanced Product Ultralow-Noise High Psrr Fast Rf 200-Ma Low-Dropout Linear Regulators          | Fixed Output                           | 5.5           | 2.7           | 3.3            | 3.3            | -40 to 125                       | SOT-23 5        | V62/03634-07XE |
| TPS793475-EP | Enhanced Product Ultralow-Noise High Psrr Fast Rf 200-Ma Low-Dropout Linear Regulators          | Adjustable Output, Fixed Output        | 5.5           | 2.7           | 4.75           | 4.75           | -40 to 125                       | SOT-23 5        | V62/03634-08XE |
| TPS79718-EP  | Enhanced Product Ultra Low-Power 10 Ma Ldo Linear Regulators With Power Good                    | Fixed Output                           | 5.5           | 2             | 1.8            | 1.8            | -55 to 125                       | SC70 5          | V62/06673-01XE |
| TPS79730-EP  | Enhanced Product Ultra Low-Power Linear Regulators w/ Power Good Output                         | Fixed Output                           | 5.5           | 1.8           | 3              | 3              | -55 to 125                       | SC70 5          | V62/06673-02XE |
| TPS79901-EP  | Enhanced Product 200-mA, Low Quiescent Current, UltraLow Noise, High PSRR, Low Dropout          | Adjustable Output                      | 6.5           | 2.7           | 6.5            | 1.2            | -55 to 125                       | WSON 6          | V62/17614-01XE |
| TPS7A3001-EP | Enhanced Product Negative Vin, -200mA, Ultra-Low-Noise, High-PSRR, Low-Dropout Linear Regulator | Adjustable Output, Negative Output     | -3            | -36           | -1.2           | -33            | -55 to 125                       | MSOP-PowerPAD 8 | V62/11619-01XE |
| TPS7A4001-EP | Enhanced Product 100V Input Voltage, 50mA Single Output Low Dropout Linear Regulator            | Adjustable Output                      | 100           | 7             | 90             | 1.2            | -55 to 125                       | MSOP-PowerPAD 8 | V62/15603-01XE |
| TPS7A4701-EP | Enhanced Product 36-V, 1-A, 4- $\mu$ VRMS, RF LDO Voltage Regulator                             | Adjustable Output                      | 36            | 3             | 34             | 1.4            | -55 to 125                       | VQFN 20         | V62/17601-01XE |
| TPS7A7200-EP | Enhanced Product 2-A, Fast-Transient, Low-Dropout Voltage Regulator                             | Adjustable Output, Programmable Output | 6.5           | 1.43          | 5              | 0.9            | -40 to 125                       | VQFN 20         | V62/13612-01XE |

## 11.2 DC/DC Switching Regulators

**Table 11-2. Step-down (Buck)**

| Part Number                 | Description  | Output Options | Vin (Max) (V) | Vin (Min) (V) | Vout (Max) (V) | Vout (Min) (V) | Operating Temperature Range (°C) | Package Group             | DLA - VID                      |
|-----------------------------|--|----------------|---------------|---------------|----------------|----------------|----------------------------------|---------------------------|--------------------------------|
| <a href="#">TPS40021-EP</a> | Enhanced Product Synchronous Buck Controller                                     | 2.25           | 5.5           | 0.7           | 4              | 25             | -55 to 125                       | HTSSOP 16                 | V62/12601-01XE                 |
| <a href="#">TPS40055-EP</a> | Enhanced Product Wide Input Synchronous Buck Controller                          | 8              | 40            | 0.7           | 35             | 20             | -55 to 125                       | HTSSOP 16                 | V62/05617-01XE                 |
| <a href="#">TPS40170-EP</a> | Enhanced Product 4.5 V to 60 V Wide-Input Synchronous PWM Buck Controller        | 4.5            | 60            | 0.6           | 57             | 20             | -55 to 125                       | VQFN 20                   | V62/13607-01XE                 |
| <a href="#">TPS40200-EP</a> | Enhanced Product Wide-Input-Range Non-Synchronous Voltage-Mode Controller        | 4.5            | 52            | 0.7           | 46             | 3              | -55 to 125                       | SOIC 8                    | V62/07618-01XE                 |
| <a href="#">TPS5120-EP</a>  | Enhanced Product Dual Output Two-Phase Synchronous Buck Dc/Dc Controller         | 4.5            | 28            | 0.9           | 26             | 1.5            | -55 to 125                       | TSSOP 30                  | V62/04645-01XE, V62/04645-02XE |
| <a href="#">TPS54010-EP</a> | Enhanced Product 2.2-V to 4-V, 14-A Output Synchronous Buck PWM Switcher         | 2.2            | 4             | 0.9           | 2.5            | 14             | -55 to 125                       | HTSSOP 28                 | V62/13604-01XE                 |
| <a href="#">TPS54060-EP</a> | Enhanced Product TPS54060-EP- 0.5-A, 60V Step Down DC/DC Converter with Eco-Mode | 3.5            | 60            | 0.8           | 58             | 0.5            | -55 to 125                       | MSOP-PowerPAD 10          | V62/14617-01XE                 |
| <a href="#">TPS5410-EP</a>  | Enhanced Product 5.5V to 36V, 1A, 500kHz Step Down Converter                     | 5.5            | 36            | 1.23          | 31             | 1              | -55 to 125                       | SOIC 8                    | V62/09645-01XE                 |
| <a href="#">TPS5420-EP</a>  | Enhanced Product 5.5V to 36V Input, 2A, 500kHz Step Down Converter               | 5.5            | 36            | 1.23          | 31             | 2              | -55 to 125                       | SOIC 8                    | V62/07613-01XE                 |
| <a href="#">TPS54260-EP</a> | Enhanced Product 3.5-V to 60-V Input, 2.5A Step-Down Converter                   | 3.5            | 60            | 0.8           | 58             | 2.5            | -55 to 125                       | MSOP-PowerPAD 10, VSON 10 | V62/16624-01XE, V62/16624-01YE |
| <a href="#">TPS5430-EP</a>  | Enhanced Product 5.5V to 36V Input, 3A, 500kHz Step Down Converter               | 5.5            | 36            | 1.23          | 31             | 3              | -55 to 125                       | SO PowerPAD 8             | V62/09625-01XE                 |
| <a href="#">TPS54310-EP</a> | Enhanced Product 3-V To 6-V, 3-A Output Synchronous-Buck Pwm Switcher w/FETs     | 3              | 6             | 3.3           | 3.3            | 3              | -55 to 125                       | HTSSOP 20                 | V62/08606-01XE                 |
| <a href="#">TPS54311-EP</a> | Enhanced Product 3-V To 6-V, 3-A Output Synchronous-Buck Pwm Switcher w/FETs     | 3              | 6             | 1.5           | 1.5            | 3              | -55 to 125                       | HTSSOP 20                 | V62/06657-01XE                 |
| <a href="#">TPS54312-EP</a> | Enhanced Product 3V to 6V Input, 3A, Synchronous Buck PWM Switcher w/FETs        | 3              | 6             | 0.9           | 3.3            | 3              | -55 to 125                       | HTSSOP 20                 | V62/06657-02XE                 |
| <a href="#">TPS54313-EP</a> | Enhanced Product 3-V To 6-V, 3-A Output Synchronous-Buck Pwm Switcher w/FETs     | 3              | 6             | 1.8           | 1.8            | 3              | -55 to 125                       | HTSSOP 20                 | V62/06657-03XE                 |
| <a href="#">TPS54314-EP</a> | Enhanced Product 3-V To 6-V, 3-A Output Synchronous-Buck Pwm Switcher w/FETs     | 3              | 6             | 0.9           | 0.9            | 3              | -55 to 125                       | HTSSOP 20                 | V62/06657-04XE                 |

**Table 11-2. Step-down (Buck) (continued)**

| Part Number | Description   | Output Options | Vin (Max) (V) | Vin (Min) (V) | Vout (Max) (V) | Vout (Min) (V) | Operating Temperature Range (°C) | Package Group | DLA - VID      |
|-------------|---|----------------|---------------|---------------|----------------|----------------|----------------------------------|---------------|----------------|
| TPS54315-EP | Enhanced Product 3-V To 6-V In, 3-A Out, Synchronous-Buck Pwm Switchers w/FETs              | 3              | 6             | 1.2           | 1.2            | 3              | -55 to 125                       | HTSSOP 20     | V62/06657-05XE |
| TPS54316-EP | Enhanced Product 3-V To 6-V, 3-A Output Synchronous-Buck Pwm Switcher w/FETs                | 3              | 6             | 2.5           | 2.5            | 3              | -55 to 125                       | HTSSOP 20     | V62/06657-06XE |
| TPS54350-EP | Enhanced Product 4.5-V To 20-V Input 3-A Output Synchronous Pwm Switcher w/FETs             | 4.5            | 20            | 0.9           | 12             | 3              | -55 to 125                       | HTSSOP 16     | V62/06610-01XE |
| TPS54354-EP | Enhanced Product 4.5-V To 20-V Input, 3-A Output Synchronous Pwm Switches w/FETs            | 4.5            | 20            | 1.8           | 1.8            | 3              | -55 to 125                       | HTSSOP 16     | V62/07616-03XE |
| TPS54356-EP | Enhanced Product 4.5-V To 20-V Input, 3-A Output Synchronous Pwm Switches W/ Integrated Fet | 6.5            | 20            | 3.2           | 3.36           | 3              | -55 to 125                       | HTSSOP 16     | V62/07616-05XE |
| TPS5450-EP  | Enhanced Product 5.5V to 36V Input, 5A, 500kHz Step-Down Converter                          | 5.5            | 36            | 1.22          | 31             | 5              | -55 to 125                       | SO PowerPAD 8 | V62/09644-01XE |
| TPS54610-EP | Enhanced Product 3-V To 6-V Input, 6-A Output Synchronous Buck Pwm Switcher w/FETs          | 3              | 6             | 2.5           | 2.5            | 6              | -55 to 125                       | HTSSOP 28     | V62/05622-01XE |
| TPS54615-EP | Enhanced Product 3V to 6V Input Tracking Synchronous Buck Pwm Switcher                      | 3              | 6             | 0.9           | 3.3            | 6              | -55 to 125                       | HTSSOP 28     | V62/05620-05XE |
| TPS54680-EP | Enhanced Product 3-V To 6-V Input, 6-A Output Synchronous Buck Pwm Switcher W/ Integr. Fets | 3              | 6             | 0.9           | 4.5            | 6              | -55 to 125                       | HTSSOP 28     | V62/04641-02XE |
| TPS57114-EP | Enhanced Product 2.95V to 6V Input, 3.5-A Output, 2MHz, Synchronous Step Down Switcher      | 2.95           | 6             | 0.8           | 4.5            | 3.5            | -55 to 125                       | WQFN 16       | V62/14612-01XE |
| TPS57140-EP | TPS57140-EP 1.5-A 42-V STEP-DOWN DC-DC Converter with Eco-mode™ Control                     | 3.5            | 42            | 0.8           | 39             | 1.5            | -55 to 125                       | VSON 10       | V62/15604-01YE |
| TPS62110-EP | Enhanced Product 17-V, 1.5-A, Synchronous Step-Down Converter                               | 3.1            | 17            | 3.3           | 3.3            | 1.5            | -55 to 125                       | QFN 16        | V62/07622-01XE |
| TPS62111-EP | Enhanced Product 17 V, 1.5 A Synchronous Step-Down Converter                                | 3.1            | 17            | 1.153         | 16             | 1.5            | -55 to 125                       | QFN 16        | V62/07622-02XE |
| TPS62112-EP | Enhanced Product 17 V, 1.5 A, Synchronous Step-Down Converter                               | 3.1            | 17            | 5             | 5              | 1.5            | -55 to 125                       | QFN 16        | V62/07622-03XE |

**Table 11-3. Step-up (Boost)**

| Part Number | Description  | Vin (Min) (V) | Vin (Max) (V) | Vout (Min) (V) | Vout (Max) (V) | Type       | Operating Temperature Range (°C) | Package Group | DLA - VID      |
|-------------|--|---------------|---------------|----------------|----------------|------------|----------------------------------|---------------|----------------|
| TPS40210-EP | Enhanced Product 4.5-V to 52-V Input Current Mode Boost Controller | 4.5           | 52            | 5              | 300            | Controller | -55 to 125                       | VSON 10       | V62/16602-01XE |



**Table 11-3. Step-up (Boost) (continued)**

| Part Number | Description  | Vin (Min) (V) | Vin (Max) (V) | Vout (Min) (V) | Vout (Max) (V) | Type      | Operating Temperature Range (°C) | Package Group | DLA - VID      |
|-------------|--|---------------|---------------|----------------|----------------|-----------|----------------------------------|---------------|----------------|
| TPS5340-EP  | Enhanced Product Integrated, 5-A 40-V Wide Input Range Boost/SEPIC/Flyback DC-DC Regulator | 2.9           | 32            | 3              | 38             | Converter | -55 to 125                       | WQFN 16       | V62/14611-01XE |
| TPS61222-EP | Enhanced Product Low Input Voltage, 0.7V, Boost Converter                                  | 0.7           | 5.5           | 4.8            | 5.19           | Converter | -55 to 125                       | SC70 6        | V62/12603-01XE |

**Table 11-4. Buck-boost and Inverting**

| Part Number | Description  | Vin (Min) (V) | Vin (Max) (V) | Vout (Min) (V) | Vout (Max) (V) | Type       | Operating Temperature Range (°C) | Package Group | DLA - VID      |
|-------------|--|---------------|---------------|----------------|----------------|------------|----------------------------------|---------------|----------------|
| TPS63060-EP | Enhanced Product High Input Voltage Buck-Boost Converter | 2.5           | 12            | 2.5            | 8              | Converter  | -55 to 125                       | WSO 10        | V62/14602-01XE |
| TL1451A-EP  | Enhanced Product Dual PWM Control Circuits               | 3.6           | 50            | 1              | 50             | Controller | -55 to 125                       | SOIC 16       | V62/06611-01XE |

## 11.3 Multi-channel ICs (PMIC)

**Table 11-5. Multi-channel ICs (PMIC)**

| Part Number                     | Description   | Regulated Outputs (#) | Vin (Min) (V) | Vin (Max) (V) | Iout (Max) (A) | Step-Down DC/DC Controller | Operating Temperature Range (°C) | Package Group | DLA - VID      |
|---------------------------------|---|-----------------------|---------------|---------------|----------------|----------------------------|----------------------------------|---------------|----------------|
| TPS75003-EP                     | Enhanced Product Triple-Supply Power Management IC (PMIC) For Powering FPGAs and DSPs | 3                     | 2.2           | 6.5           | 3              | 2                          | -55 to 125                       | VQFN 20       | V62/07614-01XE |
| LM26480-EP<br>PREVIEW<br>DEVICE | Enhanced Product Dual 2MHz 1.5A buck regulators and dual 300mA LDOs                   | 4                     | 2.8           | 5.5           | 1.5            |                            | -55 to 125                       | WQFN 24       | WIP            |
| Expect availability early 2020  |   |                       |               |               |                |                            |                                  |               |                |

## 11.4 Battery Management

**Table 11-6. Battery Management**

| Part Number | Description  | Charge Current (Max) (A) | Operating Vin (Max) (V) | Cell Chemistry | Control Topology | Control Interface        | Operating Temperature Range (°C) | Package Group | DLA - VID      |
|-------------|--|--------------------------|-------------------------|----------------|------------------|--------------------------|----------------------------------|---------------|----------------|
| UC2909-EP   | Enhanced Product Switch-mode Lead-Acid Battery Charger with Differential Current Sense | 2                        | 40                      | Lead Acid      | Switch Mode      | Standalone (RC-Settable) | -55 to 125                       | SOIC 20       | V62/10616-01XE |

## 11.5 Power Muxes

**Table 11-7. Power Muxes**

| Part Number | Description   | IN1, IN2 Input Voltage (Min) (V) | IN1, IN2 Input Voltage (Max) (V) | IN1, IN2 rDS(on) (Typ) (mΩ) | IN1 Output Current (Max) (A) | IN2 Output Current (Max) (A) | Operating Temperature Range (°C) | Package Group | DLA - VID      |
|-------------|---|----------------------------------|----------------------------------|-----------------------------|------------------------------|------------------------------|----------------------------------|---------------|----------------|
| TPS2105-EP  | Enhanced Product 2.7-5.5V Dual In/Single Out MOSFET | 2.7                              | 5.5                              | 250, 1.3                    | 0.5                          | 0.1                          | -55 to 125                       | SOT-23 5      | V62/14616-01XE |

## 11.6 Low-side Switches

**Table 11-8. Low-side Switches**

| Part Number | Description                             | Switching Voltage (Max) (V) | Output Voltage (Max) (V) | Peak Output Current (mA) | Delay Time (Typ) (ns) | V <sub>OL</sub> at Lowest Spec Current (Typ) (mV) | Operating Temperature Range (°C) | Package Group | DLA - VID      |
|-------------|---|-----------------------------|--------------------------|--------------------------|-----------------------|---|----------------------------------|---------------|----------------|
| SN65472-EP  | Enhanced Product Dual Peripheral Driver | 55                          | 70                       | 500                      | 30                    | 250   | -40 to 85                        | SOIC 8        | V62/13618-01XE |

## 11.7 USB Power Switches and Charging Port Controllers

**Table 11-9. USB Power Switches and Charging Port Controllers**

| Part Number | Description   | V <sub>in</sub> (Min) (V) | V <sub>in</sub> (Max) (V) | Continuous Current (Max) (A) | Current Limit (A) | Current Limit Topology | Operating Temperature Range (°C) | Package Group | DLA - VID      |
|-------------|---|---------------------------|---------------------------|------------------------------|-------------------|------------------------|----------------------------------|---------------|----------------|
| TPS2041B-EP | Enhanced Product Single-Channel Current-Limited Power Distribution Switch | 2.7                       | 5.5                       | 0.5                          | 1                 | Constant-Current       | -55 to 125                       | SOT-23 5      | V62/11620-01XE |

## 11.8 Offline and Isolated DC/DC Controllers and Converters

**Table 11-10. Power Factor Correction (PFC) Controllers**

| Part Number | Description  | Practical Operating Frequency (Max) (MHz) | Operating Supply (Max) (V) | Startup Current (mA) | Operating Supply Current (mA) | UVLO Thresholds On/Off (V) | Operating Temperature Range (°C) | Package Group | DLA - VID      |
|-------------|--|---|----------------------------|----------------------|-------------------------------|----------------------------|----------------------------------|---------------|----------------|
| UCC2818-EP  | Enhanced Product BiCMOS Power Factor Preregulator        | 0.25                                      | 18                         | 0.15                 | 4                             | 10.5/10                    | -55 to 125                       | SOIC 16       | V62/09617-01XE |
| UC2854B-EP  | Enhanced Product Advanced High-Power Factor Preregulator | 0.2                                       | 20                         | 0.25                 | 12                            | 10.5/10                    | -55 to 125                       | SOIC 16       | V62/06612-01XE |

**Table 11-11. PWM Controllers and Resonant Controllers**

| Part Number | Description                                  | Control Method | UVLO Thresholds On/Off (V) | Topology   | Frequency (Max) (kHz) | Gate Drive (Typ) (A) | Operating Temperature Range (°C) | Package Group | DLA - VID      |
|-------------|--|----------------|----------------------------|--|-----------------------|----------------------|----------------------------------|---------------|----------------|
| UC1842A-EP  | Enhanced Product Current-Mode PWM Controller | Current        | 16/10                      | Boost, Flyback, Forward                                  | 500                   | 1                    | -55 to 125                       | SOIC 8        | V62/03625-01YE |
| UC1843A-EP  | Enhanced Product Current-Mode PWM Controller | Current        | 8.4/7.6                    | Boost, Flyback, Forward                                  | 500                   | 1                    | -55 to 125                       | SOIC 8        | V62/03625-02YE |
| UC1844A-EP  | Enhanced Product Current Mode PWM Controller | Current        | 16/10                      | Boost, Flyback, Forward                                  | 500                   | 1                    | -55 to 125                       | SOIC 8        | V62/03625-03YE |
| UC1845A-EP  | Enhanced Product Current-Mode PWM Controller | Current        | 8.4/7.6                    | Boost, Flyback, Forward                                  | 500                   | 1                    | -55 to 125                       | SOIC 8        | V62/03625-04YE |
| UC1846-EP   | Enhanced Product Current-Mode PWM Controller | Current        | 7.7/6.95                   | Boost, Flyback, Forward, Full and Half-Bridge, Push-Pull | 500                   | 0.5                  | -55 to 125                       | SOIC 16       | V62/06606-01XE |

**Table 11-11. PWM Controllers and Resonant Controllers (continued)**

| Part Number                      | Description  | Control Method                | UVLO Thresholds On/Off (V) | Topology   | Frequency (Max) (kHz) | Gate Drive (Typ) (A) | Operating Temperature Range (°C) | Package Group | DLA - VID                        |
|----------------------------------|--|-------------------------------|----------------------------|--|-----------------------|----------------------|----------------------------------|---------------|----------------------------------|
| UC2825A-EP                       | Enhanced Product High-Speed PWM Controller                         | Current, Voltage              | 9.2/8.4                    | Boost, Flyback, Forward, Full and Half-Bridge, Push-Pull | 1000                  | 2                    | -55 to 125                       | SOIC 16       | V62/05616-01XE<br>V62/05616-02XE |
| UC2875-EP                        | Enhanced Product Phase Shift Resonant Controller                   | Current, Voltage              | 10/7/9.2                   | Full-Bridge  | 1000                  | 2                    | -25 to 110                       | SOIC 28       | V62/04752-01XE                   |
| UC2901-EP                        | Enhanced Product Isolated Feedback Generator                       |                               | 3.9/3.9                    |  | 5000                  | 0                    | -55 to 125                       | SOIC 14       | V62/07609-01XE                   |
| UCC2800-EP                       | Enhanced Product Low-Power Bicomos Current-Mode PWM                | Current                       | 7.2/6.9                    | Boost, Flyback, Forward                                  | 1000                  | 1                    | -55 to 125                       | SOIC 8        | V62/03624-01XE<br>V62/03624-09XE |
| UCC2801-EP                       | Enhanced Product Low-Power Bicomos Current-Mode PWM                | Current                       | 9.4/7.4                    | Boost, Flyback, Forward                                  | 1000                  | 1                    | -55 to 125                       | SOIC 8        | V62/03624-02XE<br>V62/03624-07XE |
| UCC2802-EP                       | Enhanced Product Low-Power Bicomos Current-Mode PWM                | Current                       | 12.5/8.3                   | Boost, Flyback, Forward                                  | 1000                  | 1                    | -40 to 125                       | SOIC 8        | V62/03624-03XE                   |
| UCC2803-EP                       | Enhanced Product Low-Power Bicomos Current-Mode PWM                | Current                       | 4.1/3.6                    | Boost, Flyback, Forward                                  | 1000                  | 1                    | -55 to 125                       | SOIC 8        | V62/03624-04XE<br>V62/03624-08XE |
| UCC2804-EP                       | Enhanced Product Low-Power Bicomos Current-Mode PWM                | Current                       | 12.5/8.3                   | Boost, Flyback, Forward                                  | 1000                  | 1                    | -40 to 125                       | SOIC 8        | V62/03624-05XE                   |
| UCC2805-EP                       | Enhanced Product Low-Power Bicomos Current-Mode PWM                | Current                       | 4.1/3.6                    | Boost, Flyback, Forward                                  | 1000                  | 1                    | -40 to 125                       | SOIC 8        | V62/03624-06XE                   |
| UCC2808A-1EP                     | Enhanced Product Low Power Current Mode Push-Pull PWM              | Current                       | 12.5/8.3                   | Push-Pull  | 1000                  | 1                    | -40 to 125                       | SOIC 8        | V62/04642-01XE                   |
| UCC2808A-2EP                     | Enhanced Product Low Power Current Mode Push-Pull PWM              | Current                       | 4.3/4.1                    | Push-Pull  | 1000                  | 1                    | -40 to 125                       | SOIC 8        | V62/04642-02XE                   |
| UCC2895-EP                       | Enhanced Product Bicomos Advanced Phase Shift PWM Controller       | Current, Feedforward, Voltage | 11/9                       | Phase-Shifted Full-Bridge                                | 1000                  | 0.1                  | -55 to 125                       | SOIC 20       | V62/06614-01XE                   |
| UCC2897A-EP<br>PREVIEW<br>DEVICE | Enhanced Product Advanced Current-Mode Active Clamp PWM Controller | Current                       | 12.7/8                     | Active-Clamp Forward                                     | 1000                  | 2                    | -55 to 125                       | TSSOP 20      | WIP                              |
|                                  | Expect availability late 2019                                      |                               |                            |  |                       |                      |                                  |               |                                  |
| UCC28C43-EP                      | Enhanced Product Bicomos Low-Power Current-Mode PWM Controller     | Peak Current Mode             | 8.4/7.6                    | Boost, Buck, Buck-Boost, Flyback, Forward                | 1000                  | 1                    | -55 to 125                       | SOIC 8        | V62/07615-01XE                   |
| UCC28C45-EP                      | Enhanced Product Bicomos Low-Power Current-Mode PWM Controller     | Peak Current Mode             | 8.4/7.6                    | Boost, Buck, Buck-Boost, Flyback, Forward                | 1000                  | 1                    | -55 to 125                       | SOIC 8        | V62/07615-02XE                   |

## 11.9 Gate Drivers

**Table 11-12. Gate Drivers**

| Part Number   | Description  | Number of Channels (#) | Power Switch            | Peak Output Current (A) | Input VCC (Min) (V) | Input VCC (Max) (V) | Operating Temperature Range (°C) | Package Group       | DLA - VID                         |
|---|--|------------------------|-------------------------|-------------------------|---------------------|---------------------|----------------------------------|---------------------|-----------------------------------|
| LMG1210-EP<br>PREVIEW<br>DEVICE<br><br>Expect<br>availability mid<br>2020 | Enhanced Product 200V,<br>1.5A/3A Half Bridge GaN<br>Driver          | 1                      | MOSFET,<br>GaNFET       | 3                       | 6                   | 18                  | -55 to 125                       | WQFN 16             | WIP                               |
| ISO5852S-EP   | Enhanced Product 2.5-A<br>/ 5-A Isolated IGBT,<br>MOSFET Gate Driver | 1                      | IGBT, SiCFET            | 5                       | 2.25                | 5.5                 | -55 to 125                       | SOIC 16             | V62/16623-01XE                    |
| TPS2818-EP  | Enhanced Product Single<br>High-Speed MOSFET<br>Driver               | 1                      | MOSFET                  | 2                       | 4                   | 14                  | -55 to 125                       | SOT-23 5            | V62/08601-03XE                    |
| TPS2819-EP  | Enhanced Product Single<br>High-Speed MOSFET<br>Driver               | 1                      | MOSFET                  | 2                       | 4                   | 14                  | -55 to 125                       | SOT-23 5            | V62/08601-04XE                    |
| UCC27322-EP   | Enhanced Product Single<br>9-A High Speed Low-<br>Side MOSFET Driver | 1                      | MOSFET, IGBT            | 9                       | 4                   | 15                  | -55 to 125                       | SOIC 8,<br>VSSOP 8  | V62/11601-01XE,<br>V62/11601-02YE |
| UCC27423-EP   | Enhanced Product Dual<br>4-A MOSFET Driver with<br>Enable            | 2                      | MOSFET, IGBT            | 4                       | 4.5                 | 15                  | -55 to 125                       | SOIC 8              | V62/07624-02XE                    |
| UCC27424-EP   | Enhanced Product Dual<br>4-A MOSFET Driver                           | 2                      | MOSFET, IGBT            | 4                       | 4.5                 | 15                  | -55 to 125                       | MSOP-<br>PowerPAD 8 | V62/07624-01XE                    |
| UCC27512-EP   | Enhanced Product 8-A<br>High-Speed, Low-Side<br>Gate Driver          | 1                      | MOSFET, IGBT,<br>GaNFET | 8                       | 4.5                 | 18                  | -55 to 125                       | SON 6               | V62/13608-01XE                    |

## 11.10 Voltage References

**Table 11-13. Voltage References**

| Part Number  | Description  | SubFamily                    | VO (V) | Vin (Min) (V) | Vin (Max) (V) | Initial Accuracy (Max) (%) | Operating Temperature Range (°C) | Package Group | DLA - VID      |
|--------------|--|------------------------------|--------|---------------|---------------|----------------------------|----------------------------------|---------------|----------------|
| LM4040C25-EP | Enhanced Product 2.5V<br>Precision<br>Micropower<br>Shunt Voltage<br>Reference           | Shunt voltage<br>references  | 2.5    | -             | -             | 0.5                        | -55 to 125                       | SOT-23 3      | V62/11615-01XE |
| REF3425-EP   | Enhanced Product 2.5V<br>low-drift low-<br>power reference                               | Series voltage<br>references | 2.5    | 2.55          | 12            | 0.05                       | -55 to 125                       | SOT-23 6      | V62/18622-01XE |
| REF3430-EP   | Enhanced Product 3.0V<br>low-drift low-<br>power reference                               | Series voltage<br>references | 3      | 3.05          | 12            | 0.05                       | -55 to 125                       | SOT-23 6      | V62/18622-03XE |
| REF3433-EP   | Enhanced Product 3.3V<br>low-drift low-<br>power reference                               | Series voltage<br>references | 3.3    | 3.35          | 12            | 0.05                       | -55 to 125                       | SOT-23 6      | V62/18622-04XE |
| REF3440-EP   | Enhanced Product 4.0V<br>low-drift low-<br>power reference                               | Series voltage<br>references | 4.096  | 4.15          | 12            | 0.05                       | -55 to 125                       | SOT-23 6      | V62/18622-02XE |
| REF5020-EP   | Enhanced Product 2.0V<br>Low-Noise, Very<br>Low Drift,<br>Precision Voltage<br>Reference | Series voltage<br>references | 2.048  | 2.7           | 18            | 0.05                       | -55 to 125                       | SOIC 8        | V62/10613-01XE |
| REF5025-EP   | Enhanced Product 2.5V<br>Low-Noise, Very<br>Low Drift,<br>Precision Voltage<br>Reference | Series voltage<br>references | 2.5    | 2.7           | 18            | 0.05                       | -55 to 125                       | SOIC 8        | V62/10613-04XE |

Table 11-13. Voltage References (continued)

| Part Number                   | Description  | SubFamily                 | VO (V)                  | Vin (Min) (V) | Vin (Max) (V) | Initial Accuracy (Max) (%) | Operating Temperature Range (°C) | Package Group | DLA - VID                      |
|-------------------------------|--|---------------------------|-------------------------|---------------|---------------|----------------------------|----------------------------------|---------------|--------------------------------|
| REF5040-EP                    | Enhanced Product 4V Low-Noise, Very Low Drift, Precision Voltage Reference | Series voltage references | 4.096                   | 4.296         | 18            | 0.05                       | -55 to 125                       | SOIC 8        | V62/10613-02XE                 |
| REF5050-EP                    | Enhanced Product 5V Low-Noise, Very Low Drift, Precision Voltage Reference | Series voltage references | 5                       | 5.2           | 18            | 0.05                       | -55 to 125                       | SOIC 8        | V62/10613-03XE                 |
| TL1431-EP                     | Enhanced Product Precision Adjustable Shunt Reference                      | Shunt voltage references  | Adjustable 2.5V to 36V  | 2.5           | 36            | 0.4                        | -55 to 125                       | SOIC 8        | V62/04756-01XE, V62/04756-02XE |
| TLVH431B-EP<br>PREVIEW DEVICE | Enhanced Product Precision Adjustable Shunt Reference                      | Shunt voltage references  | Adjustable 1.24V to 18V | 1.24          | 18            | b                          | -55 to 125                       | SOT23 3       | WIP                            |
| Expect availability late 2019 |  |                           |                         |               |               |                            |                                  |               |                                |
| TLE2426-EP                    | Enhanced Product Rail Splitter Precision Virtual Ground                    | Series voltage references |                         | 4             | 40            |                            | -55 to 125                       | SOIC 8        | V62/06601-01XE                 |

## 11.11 Supervisor and Reset IC

Table 11-14. Supervisor and Reset IC

| Part Number   | Description   | Threshold Voltage 1 (Typ) (V) | Number of Supplies Monitored | Output Driver Type/Reset Output    | Time Delay (ms) | VCC (Max) (V) | Operating Temperature Range (°C) | Package Group           | DLA - VID                      |
|---------------|---|-------------------------------|------------------------------|------------------------------------|-----------------|---------------|----------------------------------|-------------------------|--------------------------------|
| TLC77-EP      | Enhanced Product Micropower Supply Voltage Supervisors                        | Adjustable, 1.1, 2.93, 4.5    | 1                            | Active-high, Active-low, Push-pull | Programmable    | 6             | -55 to 125                       | SOIC 8, TSSOP 8         | V62/04604-01XE                 |
| TPS3106-EP    | Enhanced Product Ultra-Low Supply-Current/Supply-Voltage Supervisory Circuits | 2.941                         | 1                            | -                                  | 195             | 3.6           | -55 to 125                       | SOT-23 6                | V62/06643-07XE                 |
| TPS3307-EP    | Enhanced Product Triple Processor Voltage Supervisor                          | 2.93, 4.55                    | 3                            | Active-high, Active-low, Push-pull | 200             | 6             | -55 to 125                       | MSOP-PowerPAD 8, SOIC 8 | V62/03629-01XE, V62/03629-02YE |
| TPS3619-33-EP | Enhanced Product Backup-Battery Supervisors                                   | 2.93                          | 1                            | Active-low, Push-pull              | 100             | 5.5           | -55 to 125                       | VSSOP 8                 | V62/06670-01XE                 |
| TPS3620-33-EP | Enhanced Product Backup-Battery Supervisors                                   | 2.93                          | 1                            | Active-low, Push-pull              | 100             | 5.5           | -55 to 125                       | VSSOP 8                 | V62/06670-03XE                 |
| TPS3803-EP    | Enhanced Product Voltage Detector   | Adjustable, 1.4, 3.05         | 1                            | Active-low, Open-drain             | 0               | 6             | -55 to 125                       | SC70 5                  | V62/04648-01XE                 |
| TPS3805H33-EP | Enhanced Product Dual Voltage Detectors                                       | 3.05                          | 2                            | Active-low, Push-pull              | 0               | 6             | -55 to 125                       | SC70 5                  | V62/04648-03XE, V62/04648-06XE |
| TPS3808-EP    | Enhanced Product Programmable Delay Supervisory Circuit                       | Adjustable                    | 1                            | Active-low, Open-drain             | Programmable    | 6.5           | -55 to 125                       | SOT-23 6                | V62/08607-01XE, V62/08607-09XE |

**Table 11-14. Supervisor and Reset IC (continued)**

| Part Number   | Description  | Threshold Voltage 1 (Typ) (V) | Number of Supplies Monitored | Output Driver Type/Reset Output | Time Delay (ms) | VCC (Max) (V) | Operating Temperature Range (°C) | Package Group | DLA - VID                                      |
|---------------|--|-------------------------------|------------------------------|---------------------------------|-----------------|---------------|----------------------------------|---------------|--|
| TPS3809-EP    | Enhanced Product Supply Voltage Supervisor                           | 2.6, 2.9, 4.5                 | 1                            | Active-low, Push-pull           | 200             | 6             | -55 to 125                       | SOT-23J3      | V62/06636-01XE, V62/06636-02XE, V62/06636-03XE |
| TPS3813K33-EP | Enhanced Product Processor Supervisory Circuits With Window-Watchdog | 2.93                          | 1                            | Active-low, Open-drain          | 25              | 6             | -55 to 125                       | SOT-23J6      | V62/06627-01XE                                 |
| TPS3836-EP    | Enhanced Product Nanopower Supervisory Circuit                       | 2.25, 2.64                    | 1                            | Active-low, Push-pull           | 10, 200         | 6             | -55 to 125                       | SOT-23J5      | V62/06637-15XE, V62/06637-17XE                 |
| TPS3837K33-EP | Enhanced Product Nanopower Supervisory Circuits                      | 2.93                          | 1                            | Active-high, Push-pull          | 10, 200         | 6             | -55 to 125                       | SOT-23J5      | V62/06637-09XE, V62/06637-22XE                 |

## 11.12 LED Driver

**Table 11-15. LED Driver**

| Part Number | Description  | SubFamily                   | Channels (#) | LED Current per Channel (mA) | Operating Temperature Range (°C) | Package Group      | DLA - VID                      |
|-------------|--|-----------------------------|--------------|------------------------------|----------------------------------|--------------------|--------------------------------|
| TLC5940-EP  | Enhanced Product 16 Channel LED Driver With DOT Correction and Grayscale PWM Control | Signage LED display drivers | 16           | 120                          | -40 to 125                       | HTSSOP 28, VQFN 32 | V62/10610-01XE, V62/10610-01YE |

## 11.13 DDR Memory

**Table 11-16. DDR Memory**

| Part Number | Description  | Control mode               | Output          | DDR Memory Type                              | Vin (Min) (V) | Vin (Max) (V) | Operating Temperature Range (°C) | Package Group | DLA - VID      |
|-------------|--|----------------------------|-----------------|--|---------------|---------------|----------------------------------|---------------|----------------|
| TPS51116-EP | Enhanced Product DDR1, DDR2, DDR3 Switcher and LDO                               | Current Mode, D-CAP, S4/S5 | VDDQ, VREF, VTT | DDR, DDR2, DDR3, DDR3L, DDR4, LPDDR2, LPDDR3 | 3             | 28            | -55 to 125                       | HTSSOP 20     | V62/12602-01XE |
| TPS51216-EP | Enhanced Product DDR2, DDR3/3L Memory Power Solution Synchronous Buck Controller | D-CAP, S4/S5               | VDDQ, VREF, VTT | DDR, DDR2, DDR3, DDR3L, LPDDR2, LPDDR3       | 3             | 28            | -55 to 125                       | WQFN 20       | V62/16601-01XE |
| TPS51200-EP | Enhanced Product Sink/Source DDR Termination Regulator                           | D-CAP, S3, S4/S5           | VREF, VTT       | DDR, DDR2, DDR3, DDR3L, DDR4, LPDDR2, LPDDR3 | 1.1           | 3.5           | -55 to 125                       | VSON 10       | V62/16610-01XE |

## 11.14 Digital Power

**Table 11-17. Digital Power Isolated Controllers**

| Part Number                | Description   | Number of Outputs | Compensator   | DPWM Resolution (ps) | Non-volatile Memory | Operating Temperature Range (°C) | Package Group | DLA - VID      |
|----------------------------|---|-------------------|---------------|----------------------|---------------------|----------------------------------|---------------|----------------|
| <a href="#">UCD9222-EP</a> | Enhanced Product Dual Digital PWM System Controller | 2                 | 3-pole/3-zero | 250                  | Yes w/ECC           | -55 to 115                       | VQFN 48       | V62/13622-01XE |
| <a href="#">UCD9244-EP</a> | Enhanced Product Quad Digital PWM System Controller | 4                 | 3-pole/3-zero | 250                  | Yes w/ECC           | -55 to 125                       | VQFN 64       | V62/14603-01XE |

**Table 11-18. Digital Power Control Drivers and Powertrain Modules**

| Part Number                | Description   | Number of Outputs | VCC (Min) (V) | VCC (Max) (V) | Fall Time (ns) | Rise Time (ns) | Operating Temperature Range (°C) | Package Group | DLA - VID      |
|----------------------------|---|-------------------|---------------|---------------|----------------|----------------|----------------------------------|---------------|----------------|
| <a href="#">UCD7242-EP</a> | Enhanced Product Digital Dual Synchronous-Buck Power Driver | 2                 | 2.2           | 18            | 10             | 32             | -55 to 125                       | VQFN-HR 32    | V62/14601-01XE |

## Sensors

### 12.1 Digital Temperature Sensors

**Table 12-1. Digital Temperature Sensors**

| Part Number               | Description   | Interface          | Remote Channels (#) | Local Sensor Accuracy (Max) ( $\pm$ C) | Supply Voltage (Min) (V) | Supply Voltage (Max) (V) | Operating Temperature Range ( $^{\circ}$ C) | Package Group | DLA - VID      |
|---------------------------|---|--------------------|---------------------|--|--------------------------|--------------------------|---|---------------|----------------|
| <a href="#">TMP100-EP</a> | Enhanced Product, Temperature Sensor w/I2C/SMBus          | I2C, SMBus, 2-Wire | 0                   | 2                                      | 2.7                      | 5.5                      | -55 to 125                                  | SOT-23 6      | V62/05618-01XE |
| <a href="#">TMP121-EP</a> | Enhanced Product, Temperature Sensor w/SPI                | SPI, Microwire     | 0                   | 1.5                                    | 2.7                      | 5.5                      | -40 to 125                                  | SOT-23 6      | V62/06608-01XE |
| <a href="#">TMP122-EP</a> | Enhanced Product, Temperature Sensor w/SPI and Alert      | SPI, Microwire     | 0                   | 1.5                                    | 2.7                      | 5.5                      | -55 to 125                                  | SOT-23 6      | V62/09607-01XE |
| <a href="#">TMP422-EP</a> | Enhanced Product Dual Remote and Local Temperature Sensor | I2C, SMBus, 2-Wire | 1                   | 2.5                                    | 2.7                      | 5.5                      | -55 to 125                                  | SOT-23 8      | V62/11618-01XE |

### 12.2 Magnetic Sensor

**Table 12-2. Magnetic Sensor**

| Part Number               | Description  | Vs (Min) (V) | Vs (Max) (V) | Vos (Max) (mV) | GAIN (V/V) | Gain Error Drift (ppm/C) | Operating Temperature Range ( $^{\circ}$ C) | Package Group  | DLA - VID      |
|---------------------------|--|--------------|--------------|----------------|------------|--------------------------|---|----------------|----------------|
| <a href="#">DRV401-EP</a> | Enhanced Product, Fluxgate Magnetic Signal Conditioning for Closed-Loop Applications | 4.5          | 5.5          | 0.1            | 4          | 0.1                      | -55 to 125                                  | SO PowerPAD 20 | V62/08630-01XE |



## Switches and Multiplexers

### 13.1 Analog Switches/Muxes

**Table 13-1. Analog Switches/Muxes**

| Part Number                      | Description   | Configuration | Number of Channels (#) | Vdd (Min) (V) | Vdd (Max) (V) | Bandwidth (MHz) | Operating Temperature Range (°C) | Package Group     | DLA - VID                      |
|----------------------------------|---|---------------|------------------------|---------------|---------------|-----------------|----------------------------------|-------------------|--------------------------------|
| <a href="#">CD74HC4051-EP</a>    | Enhanced Product High Speed Cmos Logic Analog Multiplexers/De multiplexers  | 8:1           | 1                      | 2             | 6             | 180             | -55 to 125                       | SOIC 16           | V62/03606-01XE                 |
| <a href="#">OPA4872-EP</a>       | Enhanced Product 4:1 High-Speed Multiplexer                                 | 4:1           | 1                      | 3.5           | 6             | 500             | -55 to 125                       | SOIC 14           | V62/09616-01XE                 |
| <a href="#">SN74CB3Q3306A-EP</a> | Enhanced Product Dual FET 2.5-V/3.3-V Low-Voltage High-Bandwidth Bus Switch | 1:1 SPST      | 2                      | 2.3           | 3.6           | 500             | -55 to 125                       | TSSOP 8           | V62/14606-01XE                 |
| <a href="#">SN74CBTLV3257-EP</a> | Enhanced Product Low-Voltage 4-Bit 1-Of-2 FET Multiplexer/Demultiplexer     | 2:1 SPDT      | 4                      | 2.3           | 3.6           | 200             | -55 to 125                       | TSSOP 16          | V62/08615-01XE                 |
| <a href="#">SN74LV4051A-EP</a>   | Enhanced Product 8-Channel Analog Multiplexer/Demultiplexer                 | 8:1           | 1                      | 2             | 5.5           | 35              | -40 to 105                       | SOIC 16, TSSOP 16 | V62/03664-01XE, V62/03664-01YE |
| <a href="#">SN74LV4052A-EP</a>   | Enhanced Product Dual 4-Channel Analog Multiplexer/Demultiplexer            | 4:1           | 2                      | 2             | 5.5           | 50              | -40 to 105                       | TSSOP 16          | V62/03665-01XE                 |
| <a href="#">SN74LV4053A-EP</a>   | Enhanced Product Triple 2-Channel Analog Multiplexer/Demultiplexer          | 2:1 SPDT      | 3                      | 2             | 5.5           | 50              | -40 to 105                       | TSSOP 16          | V62/03666-01XE                 |
| <a href="#">TS5A3159-EP</a>      | Enhanced Product 1-Ohm Spdt Analog Switch                                   | 2:1 SPDT      | 1                      | 1.65          | 5.5           | 100             | -55 to 125                       | SOT-23 6          | V62/06613-01XE                 |

### 13.2 Encoders and Decoders

**Table 13-2. Encoders and Decoders**

| Part Number                    | Description   | Technology Family | VCC (Min) (V) | VCC (Max) (V) | Configuration | Channels (#) | Operating Temperature Range (°C) | Package Group     | DLA - VID                      |
|--------------------------------|---|-------------------|---------------|---------------|---------------|--------------|----------------------------------|-------------------|--------------------------------|
| <a href="#">SN74AHCT138-EP</a> | Enhanced Product 3-Line To 8-Line Decoder / Demultiplexer | AHCT              | 4.5           | 5.5           | 3:8           | 1            | -55 to 125                       | SOIC 16, TSSOP 16 | V62/03655-01XE, V62/03655-01YE |

**Table 13-2. Encoders and Decoders (continued)**

| Part Number                    | Description   | Technology Family | VCC (Min) (V) | VCC (Max) (V) | Configuration | Channels (#) | Operating Temperature Range (°C) | Package Group     | DLA - VID                      |
|--------------------------------|---|-------------------|---------------|---------------|---------------|--------------|----------------------------------|-------------------|--------------------------------|
| <a href="#">SN74HC253-EP</a>   | Enhanced Product Dual 4-Line To 1-Line Data Selectors/Multiplexers      | HC                | 2             | 6             | 4:1           | 2            | -40 to 125                       | SOIC 16           | V62/04699-01XE                 |
| <a href="#">SN74LVC138A-EP</a> | Enhanced Product 3-Line To 8-Line Decoder/Demultiplexer                 | LVC               | 2             | 3.6           | 3:8           | 1            | -55 to 125                       | SOIC 16, TSSOP 16 | V62/04657-01XE, V62/04657-01YE |
| <a href="#">SN74LVC157A-EP</a> | Enhanced Product Quadruple 2-Line To 1-Line Data Selector / Multiplexer | LVC               | 2             | 3.6           | 2:1           | 4            | -40 to 125                       | SOIC 16, TSSOP 16 | V62/04659-01XE, V62/04659-01YE |
| <a href="#">SN74LVC257A-EP</a> | Enhanced Product Quadruple 2-Line To 1-Line Data Selector / Multiplexer | LVC               | 2             | 3.6           | 2:1           | 4            | -55 to 125                       | TSSOP 16          | V62/04660-01YE, V62/04660-02YE |

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