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## **PACKAGING INFORMATION**

| Orderable Device | Status (1) | Package Type               | Package<br>Drawing | Pins | Package<br>Qty | Eco Plan     | Lead finish/<br>Ball material | MSL Peak Temp       | Op Temp (°C) | Device Marking<br>(4/5) | Samples |
|------------------|------------|----------------------------|--------------------|------|----------------|--------------|-------------------------------|---------------------|--------------|-------------------------|---------|
| MSP430F2416TPM   | ACTIVE     | LQFP                       | PM                 | 64   | 160            | RoHS & Green | NIPDAU                        | Level-3-260C-168 HR | -40 to 105   | M430F2416T              | Samples |
| MSP430F2416TPMR  | ACTIVE     | LQFP                       | PM                 | 64   | 1000           | RoHS & Green | NIPDAU                        | Level-3-260C-168 HR | -40 to 105   | M430F2416T              | Samples |
| MSP430F2416TPN   | ACTIVE     | LQFP                       | PN                 | 80   | 119            | RoHS & Green | NIPDAU                        | Level-3-260C-168 HR | -40 to 105   | M430F2416T              | Samples |
| MSP430F2416TPNR  | ACTIVE     | LQFP                       | PN                 | 80   | 1000           | RoHS & Green | NIPDAU                        | Level-3-260C-168 HR | -40 to 105   | M430F2416T              | Samples |
| MSP430F2416TZCA  | ACTIVE     | NFBGA                      | ZCA                | 113  | 260            | RoHS & Green | SNAGCU                        | Level-3-260C-168 HR | -40 to 105   | F2416T                  | Samples |
| MSP430F2416TZCAR | ACTIVE     | NFBGA                      | ZCA                | 113  | 2500           | RoHS & Green | SNAGCU                        | Level-3-260C-168 HR | -40 to 105   | F2416T                  | Samples |
| MSP430F2416TZQW  | OBSOLETE   | BGA<br>MICROSTAR<br>JUNIOR | ZQW                | 113  |                | TBD          | Call TI                       | Call TI             | 0 to 0       | M430F2416T              |         |
| MSP430F2417TPM   | ACTIVE     | LQFP                       | PM                 | 64   | 160            | RoHS & Green | NIPDAU                        | Level-3-260C-168 HR | -40 to 105   | M430F2417T              | Samples |
| MSP430F2417TPMR  | ACTIVE     | LQFP                       | PM                 | 64   | 1000           | RoHS & Green | NIPDAU                        | Level-3-260C-168 HR | -40 to 105   | M430F2417T              | Samples |
| MSP430F2417TPN   | ACTIVE     | LQFP                       | PN                 | 80   | 119            | RoHS & Green | NIPDAU                        | Level-3-260C-168 HR | -40 to 105   | M430F2417T              | Samples |
| MSP430F2417TPNR  | ACTIVE     | LQFP                       | PN                 | 80   | 1000           | RoHS & Green | NIPDAU                        | Level-3-260C-168 HR | -40 to 105   | M430F2417T              | Samples |
| MSP430F2417TZCAR | ACTIVE     | NFBGA                      | ZCA                | 113  | 2500           | RoHS & Green | SNAGCU                        | Level-3-260C-168 HR | -40 to 105   | F2417T                  | Samples |
| MSP430F2417TZQWR | OBSOLETE   | BGA<br>MICROSTAR<br>JUNIOR | ZQW                | 113  |                | TBD          | Call TI                       | Call TI             | 0 to 0       | M430F2417T              |         |
| MSP430F2418TPM   | ACTIVE     | LQFP                       | PM                 | 64   | 160            | RoHS & Green | NIPDAU                        | Level-3-260C-168 HR | -40 to 105   | M430F2418T              | Samples |
| MSP430F2418TPMR  | ACTIVE     | LQFP                       | PM                 | 64   | 1000           | RoHS & Green | NIPDAU                        | Level-3-260C-168 HR | -40 to 105   | M430F2418T              | Samples |
| MSP430F2418TPN   | ACTIVE     | LQFP                       | PN                 | 80   | 119            | RoHS & Green | NIPDAU                        | Level-3-260C-168 HR | -40 to 105   | M430F2418T              | Samples |
| MSP430F2418TPNR  | ACTIVE     | LQFP                       | PN                 | 80   | 1000           | RoHS & Green | NIPDAU                        | Level-3-260C-168 HR | -40 to 105   | M430F2418T              | Samples |
| MSP430F2418TZCA  | ACTIVE     | NFBGA                      | ZCA                | 113  | 260            | RoHS & Green | SNAGCU                        | Level-3-260C-168 HR | -40 to 105   | F2418T                  | Samples |





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|------------------|----------|----------------------------|--------------------|------|----------------|--------------|-------------------------------|---------------------|--------------|-------------------------|---------|
| MSP430F2418TZCAR | ACTIVE   | NFBGA                      | ZCA                | 113  | 2500           | RoHS & Green | SNAGCU                        | Level-3-260C-168 HR | -40 to 105   | F2418T                  | Samples |
| MSP430F2419TPM   | ACTIVE   | LQFP                       | PM                 | 64   | 160            | RoHS & Green | NIPDAU                        | Level-3-260C-168 HR | -40 to 105   | M430F2419T              | Samples |
| MSP430F2419TPMR  | ACTIVE   | LQFP                       | PM                 | 64   | 1000           | RoHS & Green | NIPDAU                        | Level-3-260C-168 HR | -40 to 105   | M430F2419T              | Samples |
| MSP430F2419TPN   | ACTIVE   | LQFP                       | PN                 | 80   | 119            | RoHS & Green | NIPDAU                        | Level-3-260C-168 HR | -40 to 105   | M430F2419T              | Samples |
| MSP430F2419TPNR  | ACTIVE   | LQFP                       | PN                 | 80   | 1000           | RoHS & Green | NIPDAU                        | Level-3-260C-168 HR | -40 to 105   | M430F2419T              | Samples |
| MSP430F2419TZQWR | OBSOLETE | BGA<br>MICROSTAR<br>JUNIOR | ZQW                | 113  |                | TBD          | Call TI                       | Call TI             | 0 to 0       | M430F2419T              |         |
| MSP430F2616TPM   | ACTIVE   | LQFP                       | PM                 | 64   | 160            | RoHS & Green | NIPDAU                        | Level-3-260C-168 HR | -40 to 105   | M430F2616T              | Samples |
| MSP430F2616TPMR  | ACTIVE   | LQFP                       | PM                 | 64   | 1000           | RoHS & Green | NIPDAU                        | Level-3-260C-168 HR | -40 to 105   | M430F2616T              | Samples |
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| MSP430F2616TPNR  | ACTIVE   | LQFP                       | PN                 | 80   | 1000           | RoHS & Green | NIPDAU                        | Level-3-260C-168 HR | -40 to 105   | M430F2616T              | Samples |
| MSP430F2616TZCA  | ACTIVE   | NFBGA                      | ZCA                | 113  | 260            | RoHS & Green | SNAGCU                        | Level-3-260C-168 HR | -40 to 105   | F2616T                  | Samples |
| MSP430F2616TZCAR | ACTIVE   | NFBGA                      | ZCA                | 113  | 2500           | RoHS & Green | SNAGCU                        | Level-3-260C-168 HR | -40 to 105   | F2616T                  | Samples |
| MSP430F2616TZQWR | OBSOLETE | BGA<br>MICROSTAR<br>JUNIOR | ZQW                | 113  |                | TBD          | Call TI                       | Call TI             | 0 to 0       | M430F2616T              |         |
| MSP430F2617TPM   | ACTIVE   | LQFP                       | PM                 | 64   | 160            | RoHS & Green | NIPDAU                        | Level-3-260C-168 HR | -40 to 105   | M430F2617T              | Samples |
| MSP430F2617TPMR  | ACTIVE   | LQFP                       | PM                 | 64   | 1000           | RoHS & Green | NIPDAU                        | Level-3-260C-168 HR | -40 to 105   | M430F2617T              | Samples |
| MSP430F2617TPN   | ACTIVE   | LQFP                       | PN                 | 80   | 119            | RoHS & Green | NIPDAU                        | Level-3-260C-168 HR | -40 to 105   | M430F2617T              | Samples |
| MSP430F2617TPNR  | ACTIVE   | LQFP                       | PN                 | 80   | 1000           | RoHS & Green | NIPDAU                        | Level-3-260C-168 HR | -40 to 105   | M430F2617T              | Samples |
| MSP430F2617TZCA  | ACTIVE   | NFBGA                      | ZCA                | 113  | 260            | RoHS & Green | SNAGCU                        | Level-3-260C-168 HR | -40 to 105   | F2617T                  | Samples |
| MSP430F2617TZCAR | ACTIVE   | NFBGA                      | ZCA                | 113  | 2500           | RoHS & Green | SNAGCU                        | Level-3-260C-168 HR | -40 to 105   | F2617T                  | Samples |





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| Orderable Device | Status (1) | Package Type               | Package<br>Drawing | Pins | Package<br>Qty | Eco Plan     | Lead finish/<br>Ball material<br>(6) | MSL Peak Temp       | Op Temp (°C) | Device Marking<br>(4/5) | Samples |
|------------------|------------|----------------------------|--------------------|------|----------------|--------------|--------------------------------------|---------------------|--------------|-------------------------|---------|
| MSP430F2617TZQW  | OBSOLETE   | BGA<br>MICROSTAR<br>JUNIOR | ZQW                | 113  |                | TBD          | Call TI                              | Call TI             | 0 to 0       | M430F2617T              |         |
| MSP430F2617TZQWR | OBSOLETE   | BGA<br>MICROSTAR<br>JUNIOR | ZQW                | 113  |                | TBD          | Call TI                              | Call TI             | 0 to 0       | M430F2617T              |         |
| MSP430F2618TPM   | ACTIVE     | LQFP                       | PM                 | 64   | 160            | RoHS & Green | NIPDAU                               | Level-3-260C-168 HR | -40 to 105   | M430F2618T              | Samples |
| MSP430F2618TPMR  | ACTIVE     | LQFP                       | PM                 | 64   | 1000           | RoHS & Green | NIPDAU                               | Level-3-260C-168 HR | -40 to 105   | M430F2618T              | Samples |
| MSP430F2618TPN   | ACTIVE     | LQFP                       | PN                 | 80   | 119            | RoHS & Green | NIPDAU                               | Level-3-260C-168 HR | -40 to 105   | M430F2618T              | Samples |
| MSP430F2618TPNR  | ACTIVE     | LQFP                       | PN                 | 80   | 1000           | RoHS & Green | NIPDAU                               | Level-3-260C-168 HR | -40 to 105   | M430F2618T              | Samples |
| MSP430F2618TZCA  | ACTIVE     | NFBGA                      | ZCA                | 113  | 260            | RoHS & Green | SNAGCU                               | Level-3-260C-168 HR | -40 to 105   | F2618T                  | Samples |
| MSP430F2618TZCAR | ACTIVE     | NFBGA                      | ZCA                | 113  | 2500           | RoHS & Green | SNAGCU                               | Level-3-260C-168 HR | -40 to 105   | F2618T                  | Samples |
| MSP430F2619TPM   | ACTIVE     | LQFP                       | PM                 | 64   | 160            | RoHS & Green | NIPDAU                               | Level-3-260C-168 HR | -40 to 105   | M430F2619T<br>REV #     | Samples |
| MSP430F2619TPMR  | ACTIVE     | LQFP                       | PM                 | 64   | 1000           | RoHS & Green | NIPDAU                               | Level-3-260C-168 HR | -40 to 105   | M430F2619T<br>REV #     | Samples |
| MSP430F2619TPN   | ACTIVE     | LQFP                       | PN                 | 80   | 119            | RoHS & Green | NIPDAU                               | Level-3-260C-168 HR | -40 to 105   | M430F2619T              | Samples |
| MSP430F2619TPNR  | ACTIVE     | LQFP                       | PN                 | 80   | 1000           | RoHS & Green | NIPDAU                               | Level-3-260C-168 HR | -40 to 105   | M430F2619T              | Samples |
| MSP430F2619TZCA  | ACTIVE     | NFBGA                      | ZCA                | 113  | 260            | RoHS & Green | SNAGCU                               | Level-3-260C-168 HR | -40 to 105   | F2619T                  | Samples |
| MSP430F2619TZCAR | ACTIVE     | NFBGA                      | ZCA                | 113  | 2500           | RoHS & Green | SNAGCU                               | Level-3-260C-168 HR | -40 to 105   | F2619T                  | Samples |
| MSP430F2619TZQWR | OBSOLETE   | BGA<br>MICROSTAR<br>JUNIOR | ZQW                | 113  |                | TBD          | Call TI                              | Call TI             | 0 to 0       | M430F2619T              |         |

<sup>(1)</sup> The marketing status values are defined as follows: **ACTIVE:** Product device recommended for new designs.

**LIFEBUY:** TI has announced that the device will be discontinued, and a lifetime-buy period is in effect.

NRND: Not recommended for new designs. Device is in production to support existing customers, but TI does not recommend using this part in a new design. PREVIEW: Device has been announced but is not in production. Samples may or may not be available.

**OBSOLETE**: TI has discontinued the production of the device.



## PACKAGE OPTION ADDENDUM

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(2) RoHS: TI defines "RoHS" to mean semiconductor products that are compliant with the current EU RoHS requirements for all 10 RoHS substances, including the requirement that RoHS substance do not exceed 0.1% by weight in homogeneous materials. Where designed to be soldered at high temperatures, "RoHS" products are suitable for use in specified lead-free processes. TI may reference these types of products as "Pb-Free".

RoHS Exempt: TI defines "RoHS Exempt" to mean products that contain lead but are compliant with EU RoHS pursuant to a specific EU RoHS exemption.

Green: TI defines "Green" to mean the content of Chlorine (CI) and Bromine (Br) based flame retardants meet JS709B low halogen requirements of <=1000ppm threshold. Antimony trioxide based flame retardants must also meet the <=1000ppm threshold requirement.

- (3) MSL, Peak Temp. The Moisture Sensitivity Level rating according to the JEDEC industry standard classifications, and peak solder temperature.
- (4) There may be additional marking, which relates to the logo, the lot trace code information, or the environmental category on the device.
- (5) Multiple Device Markings will be inside parentheses. Only one Device Marking contained in parentheses and separated by a "~" will appear on a device. If a line is indented then it is a continuation of the previous line and the two combined represent the entire Device Marking for that device.
- (6) Lead finish/Ball material Orderable Devices may have multiple material finish options. Finish options are separated by a vertical ruled line. Lead finish/Ball material values may wrap to two lines if the finish value exceeds the maximum column width.

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