Sine On™

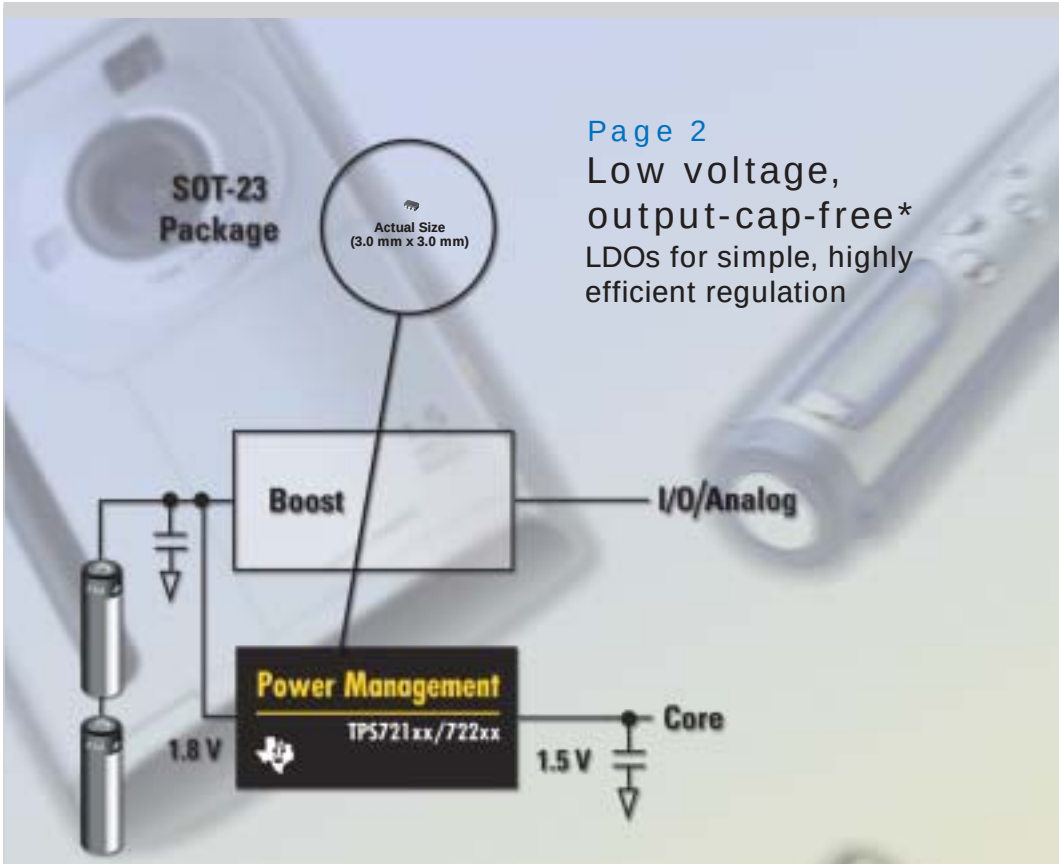
An Analog Product Catalog

3Q 2002

Low Dropout Regulators

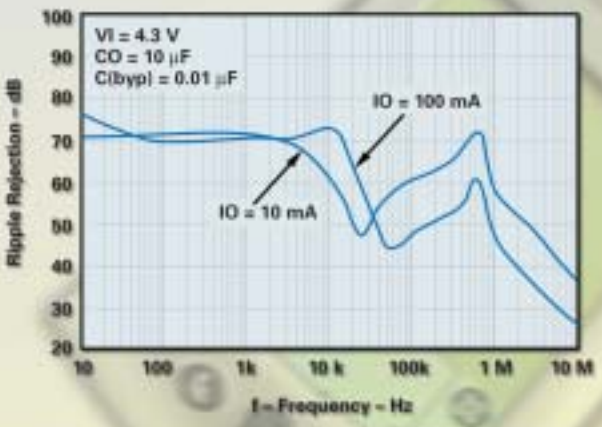
Low Dropout Regulators

Resources



Page 2

Low voltage, output-cap-free* LDOs for simple, highly efficient regulation



Page 3

Low-noise, high-PSRR LDO for RF applications

*Stable with as low as 0.1-µF ceramic output capacitors (typically already present in loads)

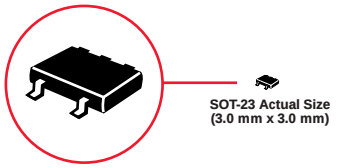
Low Dropout Regulators

Low input voltage and output-cap-free LDO in SOT-23 package

TPS721xx/TPS722xx/TPS725xx/ TPS726xx

Get samples and datasheets at:
power.ti.com/ldo

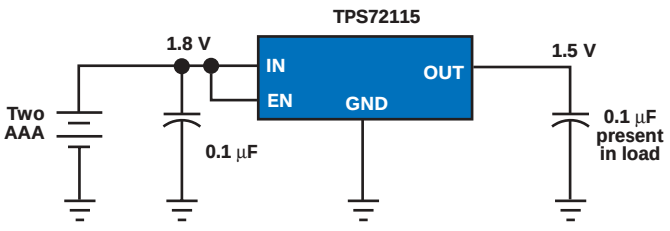
- Output current: 50 mA to 1 A (see table below)
- Supports input voltages down to 1.8 V, allowing up to 83% efficiency (see table)
- 50-/150-mA LDOs work with the 0.1-µF capacitors already present in most loads
- 1-A LDOs do not require an output capacitor for stability
- Integrated supply voltage supervisor in TPS725xx (50-ms delay) and TPS726xx (200-ms delay)
- Dropout voltage: 50 mV at 50 mA; 170 mV at 1 A
- Packaging: SOT-23-5, SOT223-5, DDPAK
- Suggested resale price starts at $.39 each in quantities of 1,000



Device[1]	I_O (mA)	V_O (V)	V_{IN} (V)
TPS721xx	150	1.5/1.6/1.8/adj.	1.8 to 5.5
TPS722xx	50	1.5/1.6/1.8/adj.	1.8 to 5.5
TPS725xx	1000	1.5/1.6/1.8/2.5/adj.	2.1 to 5.5
TPS726xx	1000	1.5/1.6/1.8/2.5/adj.	2.1 to 5.5

[1]xx represents the 2 digits of output voltage; adjustable represented by OI.

Typical Application Diagram



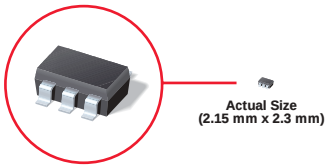
Applications include:
- Battery-powered systems
- Post-regulator for switching supplies
- PCMCIA/PCI cards
- DSP/FPGA/Microprocessor supplies

Low, 1.8-V input voltage LDO with Power Good and 1.2-µA Iq in SC-70

TPS797xx

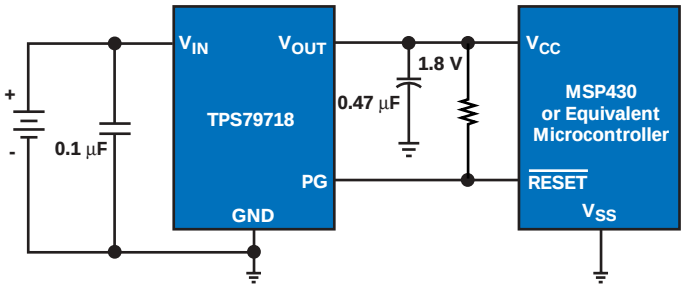
Get samples, datasheets and EVMs at:
power.ti.com/ldo

- Output current: 10 mA (higher on request)
- Input voltage: 1.8 V to 5.5 V
- Quiescent current: 1.2 µA (typ)
- Integrated Power Good output for processors like MSP430
- Output capacitor: any capacitor >0.47 µF
- Packaging: 5-pin SC-70 (half size of SOT-23)
- Suggested resale price starts at $.32 each in quantities of 1,000



Device	I_O (mA)	V_O (V)	Peak Current (mA)
TPS79718	10	1.8	190
TPS79730	10	3.0	190
TPS79733	10	3.3	190

MSP430 Microcontroller Powered by a TPS79718 LDO



Applications include:
- Battery management
- Microcontrollers and microprocessors
- PDAs and notebooks

Low Dropout Regulators

High, 24-V input voltage LDO with 3.2-µA quiescent current in SC-70

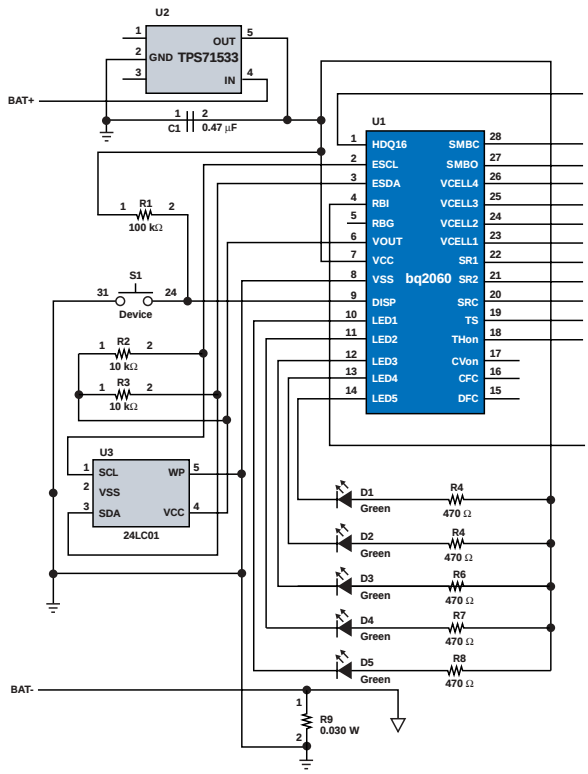
TPS715xx

Get samples, datasheets and EVMs at:
power.ti.com/ldo

- Output current: 50 mA
- Input voltage: 2.5 V to 24 V
- Quiescent current: 3.2 µA (typ)
- Output capacitor: any capacitor >0.47 µF
- Packaging: 5-pin SC-70 (half size of SOT-23)
- Suggested resale price starts at $.32 each in quantities of 1,000

Device	I_O (mA)	V_O (V)	Peak Current (mA)
TPS71525	50	2.5	500
TPS71533	50	3.3	500
TPS71501	50	1.2 to 15	500

bq2060 Gas Gauge Powered with 3.3-V TPS71533



Applications include:
- Powering displays in portable devices
- Microcontrollers
- PDAs and notebooks

Ultra-low-noise, high-PSRR, fast-RF LDO in SOT-23

TPS791xx/TPS792xx/TPS793xx/TPS794xx/ TPS795xx/TPS796xx/TPS786xx

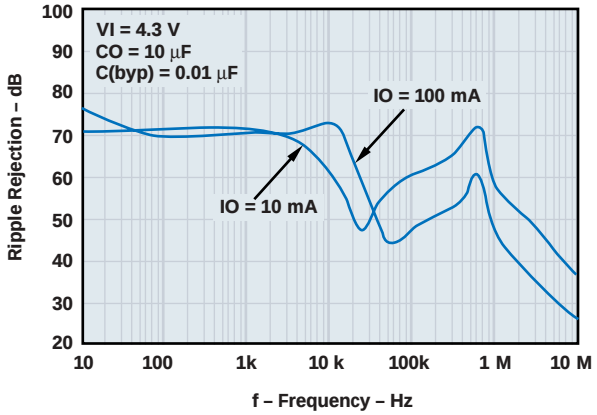
Get samples, datasheets and EVMs at:
power.ti.com/ldo

- Output current: 100 mA to 1 A (see table below)
- Input voltage: 2.7 V to 5.5 V
- Output capacitor: 1.0-µF or 2.2-µF ceramic
- High PSRR: 70 dB at 10 kHz
- Ultra-low noise: 15 μV_{RMS} (TPS791xx)
- Fast start time: 50 µs (TPS792xx)
- Dropout voltage: 38 mV at 100 mA (TPS791xx)
- Packaging: SOT-23-5, MSOP-8, SOT-223-5, DDPAK
- Suggested resale price starts at $.38 each in quantities of 1,000

Device[1]	I_O (mA)	V_O (V)	Peak Current (mA)
TPS791xx	100	1.8/3.3/4.7/adj.	285
TPS792xx	100	2.5/2.8/3.0/adj.	285
TPS793xx	200	1.8/2.5/2.8/2.85/ 3.0/3.3/4.75/adj.	285
TPS794xx	250	2.5/2.8/3.0/3.3/adj.	700
TPS795xx	500	1.6/2.5/3.0/3.3/adj.	1700
TPS796xx	1000	2.5/2.8/3.0/3.3/adj.	1700
TPS786xx	1500	2.5/2.8/3.0/3.3/adj.	1700

[1]*xx represents the 2 digits of output voltage.*

3.3-V TPS79133 Ripple Rejection vs. Frequency



Applications include:
- Cellular phones
- RF, VCOs
- Bluetooth™, Wireless LAN
- Handheld organizers, PDAs

Low Dropout Regulators

Fast-transient response 3-A and 5-A LDOs with reverse leakage protection

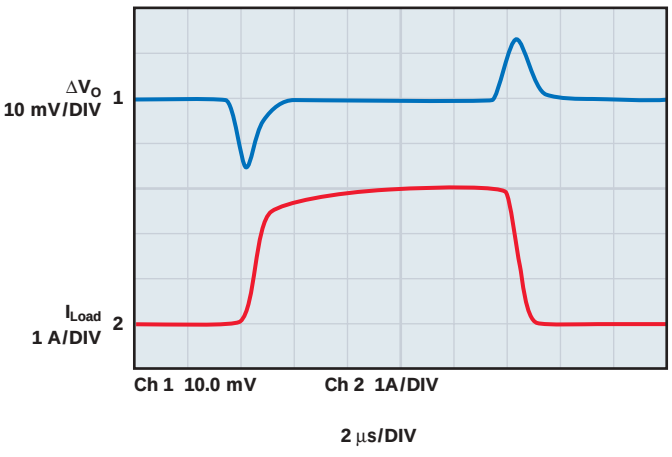
UC282-x/UC382-x/UC285-x/UC385-x

Get samples, datasheets and EVMs at:
power.ti.com/ldo

- Output current: 3 A (UC282-x) and (UC382-x)
- Output current: 5 A (UC285-x) and (UC385-x)
- Separate Bias and V_{IN} pins to minimize power dissipation
- Dropout voltage: 350 mV at 3 A or 5 A
- Reverse current protection
- Packaging: 5-pin TO-263, TO-220
- Suggested resale price starts at $5.00 each in quantities of 1,000

Device	I_O (mA)	V_O (V)	Temp. (C)
UC282-1, -2, -3, -adj	3000	1.5/2.1/2.5/adj.	-40º to 100º
UC382-1, -2, -3, -adj	3000	1.5/2.1/2.5/adj.	0 to 100º
UC285-1, -2, -3, -adj	5000	1.5/2.1/2.5/adj.	-40º to 100º
UC385-1, -2, -3, -adj	5000	1.5/2.1/2.5/adj.	0 to 100º

10-mA to 3-A Load Transient Response



Applications include:
- Driving GTL and BTL buses
- Optical networking
- Base stations
- DSP/FPGA/microprocessor supplies

Fast-transient response 3-A, 5-A and 7.5-A LDOs with Power Good option

TPS755xx/TPS756xx/TPS757xx/ TPS758xx/TPS759xx

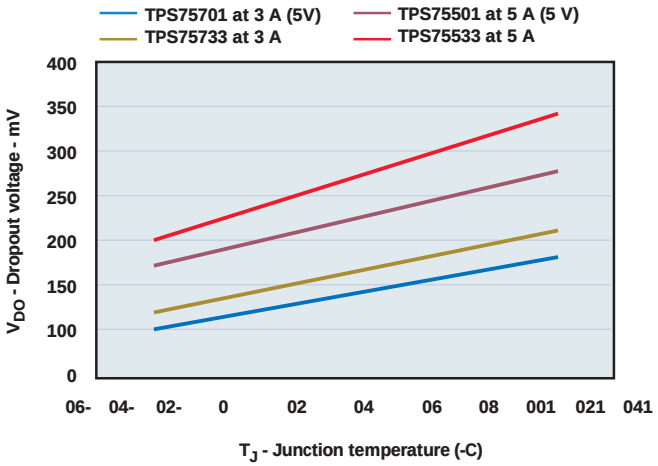
Get samples, datasheets and EVMs at:
power.ti.com/ldo

- Output current: 3 A, 5 A, 7.5 A (see table below)
- Input voltage: 2.8 V to 5.5 V
- Quiescent current: 125 µA (typ)
- Dropout voltage: 150 mV at 3 A; 250 mV at 5 A; 400 mV at 7.5 A
- Packaging: 5-pin TO-263, TO-220
- Open-drain power-good (PG) status output (see table below)
- Suggested resale price starts at $2.83 each in quantities of 1,000

Device[1]	I_O (mA)	V_O (V)	Power Good
TPS755xx	5000	1.5/1.8/2.5/3.3/adj.	yes
TPS756xx	5000	1.5/1.8/2.5/3.3/adj.	no
TPS757xx	3000	1.5/1.8/2.5/3.3/adj.	yes
TPS758xx	3000	1.5/1.8/2.5/3.3/adj.	no
TPS759xx	7500	1.5/1.8/2.5/3.3/adj.	yes

[1]*xx represents the 2 digits of output voltage.*

Dropout Voltage vs. Junction Temperature



Applications include:
- Battery-powered systems
- PDAs and notebooks

Low Dropout Regulators

Fast-transient response 1.5-A and 2-A LDOs with power-on Reset or Power Good

TPS751xxQ/TPS752xxQ/TPS753xxQ/ TPS754xxQ

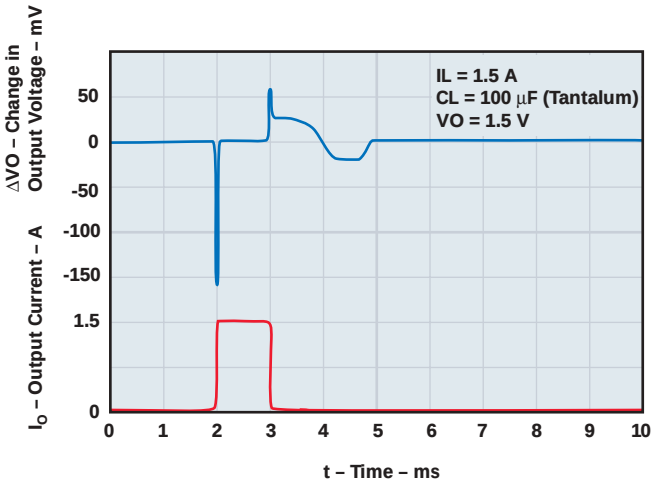
Get samples and datasheets at:
power.ti.com/ldo

- Output current: 1.5 A, 2 A (see table below)
- Input voltage: 2.7 V to 5.0 V
- Quiescent current: 75 µA (typ)
- Dropout voltage: 160 mV at 1.5 A; 210 mV at 2 A
- Open drain power-good (PG) status output option
- Open drain power-on Reset option
- Packaging: 20-pin TSSOP (PowerPAD™)
- Suggested resale price starts at $1.65 each in quantities of 1,000

Device[1]	I_O (mA)	V_O (V)	Reset/ PG
TPS751xxQ	1500	1.5/1.8/2.5/3.3/adj.	PG
TPS752xxQ	2000	1.5/1.8/2.5/3.3/adj.	Reset
TPS753xxQ	1500	1.5/1.8/2.5/3.3/adj.	Reset
TPS754xxQ	2000	1.5/1.8/2.5/3.3/adj.	PG

[1]xx represents the 2 digits of output voltage. [2]PG = Power Good

Load Transient Response TPS75x15Q



Applications include:
- Battery-powered systems
- PDAs and notebooks

Up to 10-V input voltage, fast-transient-response LDO with power-on Reset or Power Good

TPS775xx/TPS776xx/TPS777xx/ TPS778xx/TPS767xx/TPS768xx

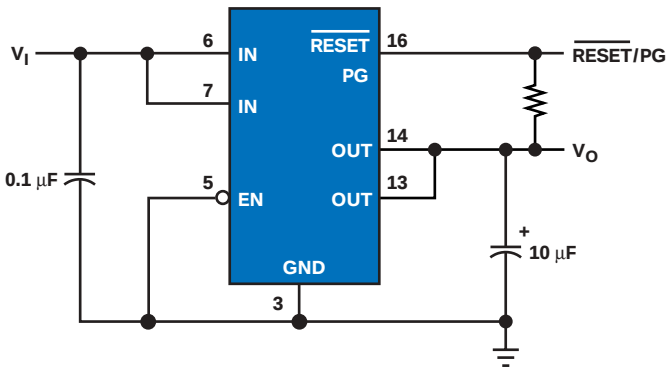
Get samples and datasheets at:
power.ti.com/ldo

- Output current: 500 mA to 1 A (see table below)
- Input voltage: 2.7-V to 10-V
- Quiescent current: 85 µA (typ)
- Dropout voltage: 169 mV at 500 mA; 260 mV at 750 mA; 230 mV at 1 A
- Open-drain power-good (PG) status output option
- Open-drain power-on Reset option
- Packaging: 8-pin SOIC, 20-pin TSSOP
- Suggested resale price starts at $.83 each in quantities of 1,000

Device[1]	I_O (mA)	V_O (V)	Reset/ PG[2]
TPS775xx	500	1.5/1.6/1.8/2.5/2.8/3.3/adj.	Reset
TPS776xx	500	1.5/1.8/2.5/2.8/3.3/adj.	PG
TPS777xx	750	1.5/1.8/2.5/3.3/adj.	Reset
TPS778xx	750	1.5/1.8/2.5/3.3/adj.	PG
TPS767xx	1000	1.5/1.8/2.5/2.7/2.8/3.0/3.3/5.0/adj.	PG
TPS768xx	1000	1.5/1.8/2.5/2.7/2.8/3.0/3.3/5.0/adj.	Reset

[1]xx represents the 2 digits of output voltage. [2]PG = Power Good

Typical Application Diagram



Applications include:
- Battery-powered systems
- PDAs and notebooks

Low Dropout Regulators

Fast-transient response, ultra-low-noise LDO with PG/Reset

TPS771xx/TPS772xx/TPS773xx/ TPS774xx/TPS779xx

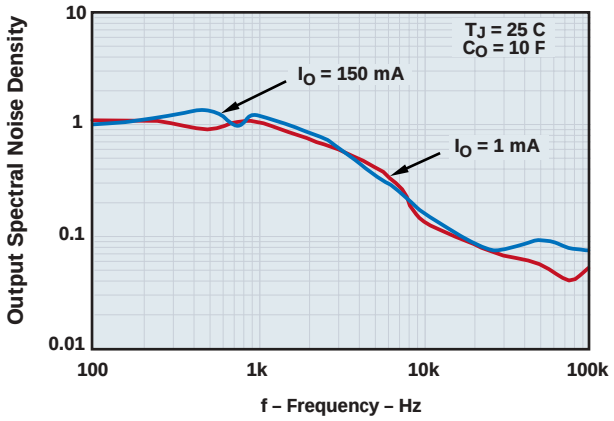
Get samples and datasheets at:
power.ti.com/ldo

- Output current: 150 mA to 250 mA (see table below)
- Input voltage: 2.7 V to 10 V
- Low noise: 55 μV_{RMS} without external filter capacitor
- Quiescent current: 92 µA (typ)
- Output capacitor: 10 µF ceramic
- Dropout voltage: 115 mV at 150 mA; 200 mV at 250 mA
- Open-drain power-good (PG) status output option
- Open-drain power-on Reset option
- Packaging: 8-pin MSOP
- Suggested resale price starts at $.56 each in quantities of 1,000

Device[1]	I_O (mA)	V_O (V)	Reset/ PG[2]
TPS771xx	150	1.5/1.8/2.7/2.8/3.3/5.0/adj.	Reset
TPS772xx	150	1.5/1.8/2.7/2.8/3.3/5.0/adj.	PG
TPS773xx	250	1.5/1.6/1.8/2.7/2.8/3.3/5.0/adj.	Reset
TPS774xx	250	1.5/1.8/2.7/2.8/3.3/5.0/adj.	PG
TPS779xx	250	1.8/2.5/3.0/adj.	Reset

[1] xx represents the 2 digits of output voltage. [2] PG=Power Good

Output Spectral Noise Density for 3.3-V Output



Applications include:
- DSP/FPGA/microprocessor applications
- PDAs and notebooks

Capacitor-free, 1.5% accuracy, low-noise LDO

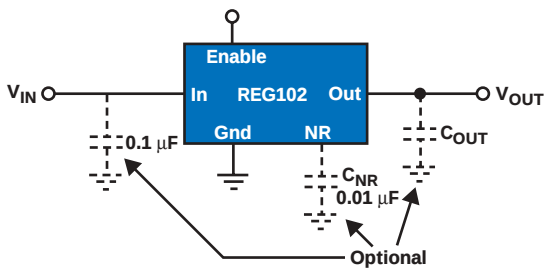
REG101/REG102/REG103/REG104/ REG113

Get samples and datasheets at:
power.ti.com/ldo

- Output current: 100 mA to 1 A (see table below)
- Input voltage: 1.8 V to 10 V
- Low noise: 23 μV_{RMS}
- Output capacitor not required for stability
- Accuracy: 1.5%
- Quiescent current: 0.01 µA (not enabled)
- Dropout voltage: 60 mV at 100 mA; 230 mV at 1 A
- Foldback current limit
- Packaging: 5-pin SOT-23, MSOP-8, SO-8
- Suggested resale price starts at $.88 each in quantities of 1,000

Device	I_O (mA)	V_O (V)
REG101	100	2.5/2.8/2.85/3.0/3.3/5.0/adj.
REG102	250	2.5/2.8/2.85/3.0/3.3/5.0/adj.
REG103	500	2.5/2.7/3.0/3.3/5.0/adj.
REG104	1000	2.5/2.7/3.0/3.3/5.0/adj.
REG113	400	2.5/2.85/3.0/3.3/5.0

Typical Application Circuit for REG102



Applications include:
- Battery-powered equipment
- PDAs
- Modems
- Backup power supplies

Low Dropout Regulators

Super-low, 35-mV dropout LDO with 17-µA quiescent current

TPS769xx/TPS770xx/TPS789xx/ TPS790xx/TPS76201

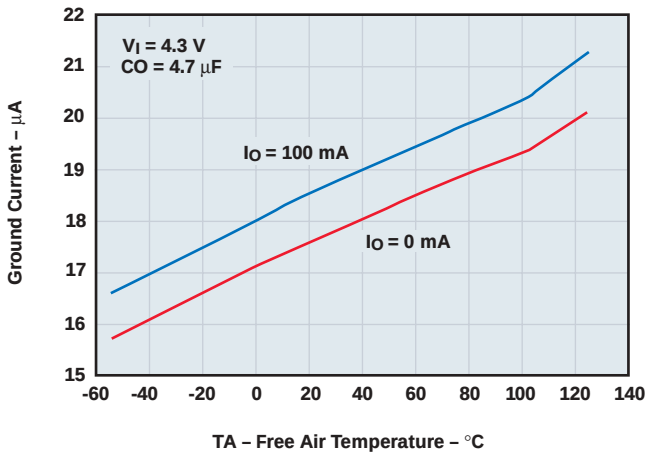
Get samples, datasheets and EVMs at:
power.ti.com/ldo

- Output current: 50 mA, 100 mA (see table below)
- Input voltage: 2.7 V to 10 V
- Quiescent current: 17 µA (typ); 23 µA (typ) for TPS76201
- Dropout voltage: 35 mV at 50 mA or 100 mA
- Low noise: 56 μV_{RMS}
- Qualified for automotive applications (TPS769xx)
- Packaging: 5-pin SOT-23
- Suggested resale price starts at $.35 each in quantities of 1,000

Device[1]	I_O (mA)	V_O (V)
TPS769xx	100	1.2/1.5/1.8/2.5/2.7/2.8/3.0/3.3/5.0/adj.
TPS770xx	50	1.2/1.5/1.8/2.5/2.7/2.8/3.0/3.3/5.0/adj.
TPS789xx	100	1.5/1.8/2.5/2.8/3.0
TPS790xx	50	1.5/1.8/2.5/2.8/3.0
TPS76201	100	adj.

[1] *xx represents the 2 digits of output voltage.*

Ground Current vs. Air Temperature



Applications include:
- Automotive
- PDAs and notebooks
- DSP power supply
- Battery management

Low-noise LDO with in-rush current control for USB applications

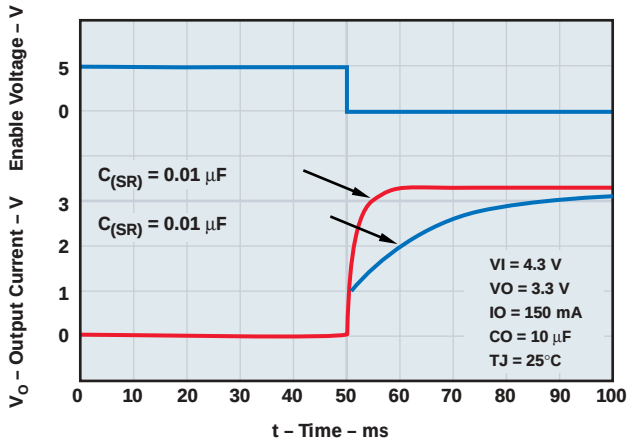
TPS788xx

Get samples, datasheets and EVMs at:
power.ti.com/ldo

- Output current: 150 mA
- Input voltage: 2.7 V to 10 V
- Quiescent current: 17 µA (typ)
- Low noise: 56 μV_{RMS}
- Programmable output voltage slew rate to control inrush current from USB bus
- Dropout voltage: 150 mV at 150 mA
- Packaging: 5-pin SOT-23
- Suggested resale price starts at $.36 each in quantities of 1,000

Device	Io (mA)	Vo (V)	Peak Current (mA)
TPS78825	150	2.5	350
TPS78833	150	3.3	350

Output Voltage vs. Start-Up Time



Applications include:
- USB peripherals
- PDAs and notebooks

Low Dropout Regulators

Dual-output LDO (up to 500 mA) with SVS and power-up sequencing for DSP/split-supply applications

TPS701xx/TPS702xx/TPS707xx/TPS708xx

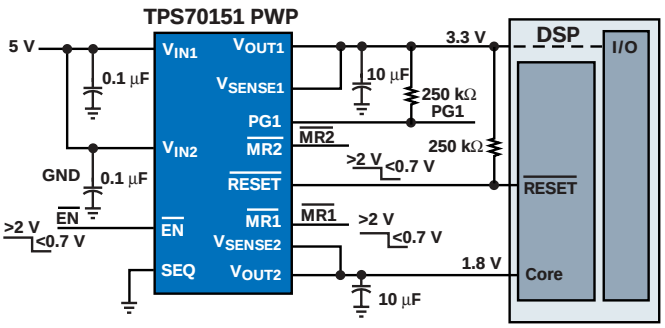
Get samples, datasheets and EVMs at:
power.ti.com/ldo

- Output current: 250/500 mA or 250/125 mA (see table below)
- Dual output voltages for split supply
- Sequencing (TPS701xx, TPS707xx) or independent enables (TPS702xx, TPS708xx)
- Input voltage: 2.7 V to 6.0 V
- Quiescent current: 190 µA
- Low noise: 65 μV_{RMS}
- Open-drain, power-good (PG) status output
- Open-drain, power-on Reset option
- Undervoltage lockout (UVLO)
- Packaging: 20-pin TSSOP (PWP)
- Suggested resale price starts at $2.17 each in quantities of 1,000

Device[1]	I_O (mA)	V_O (V)	Reset
TPS701xx	250/500	3.3/2.5, 3.3/1.8, 3.3/1.5, 3.3/1.2, adj./adj.	yes
TPS702xx	250/500	3.3/2.5, 3.3/1.8, 3.3/1.5, 3.3/1.2, adj./adj.	no
TPS707xx	250/125	3.3/2.5, 3.3/1.8, 3.3/1.5, 3.3/1.2, adj./adj.	yes
TPS708xx	250/125	3.3/2.5, 3.3/1.8, 3.3/1.5, 3.3/1.2, adj./adj.	yes

[1]*xx represents the 2 digits of output voltage.*

The TPS70151 LDO Powers a DSP



Applications include:
- DSP
- Processor power
- ASIC
- FPGA
- Digital applications where dual output voltage regulators are required

Dual-output 1-A/2-A LDO with SVS and power-up sequencing for DSP/split-supply applications

TPS703xx/TPS704xx

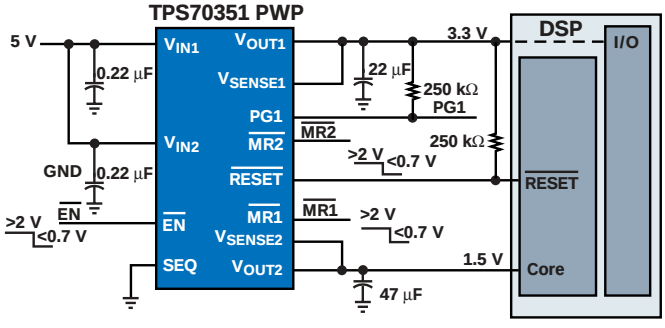
Get samples, datasheets and EVMs at:
power.ti.com/ldo

- Output current: 1 A/2 A
- Dual output voltages for split supply
- Sequencing (TPS703xx) or independent enables (TPS704xx)
- Input voltage: 2.7 V to 6.0 V
- Quiescent current: 185 µA
- Low noise: 78 μV_{RMS}
- Open-drain power-good (PG) status output
- Open-drain power-on Reset
- Undervoltage lockout (UVLO)
- Packaging: 20- or 24-pin TSSOP (PWP)
- Suggested resale price starts at $2.39 each in quantities of 1,000

Device[1]	I_O (mA)	V_O (V)
TPS703xx	1000/2000	3.3/2.5, 3.3/1.8, 3.3/1.5, 3.3/1.2, adj./adj.
TPS704xx	1000/2000	3.3/2.5, 3.3/1.8, 3.3/1.5, 3.3/1.2, adj./adj.

[1]*xx represents the 2 digits of output voltage.*

The TPS70351 LDO Powers a DSP



Applications include:
- DSP
- Processor power
- ASIC
- FPGA
- Digital applications where dual output voltage regulators are required

Selection Guides

Low Dropout Regulators Selection Guide

	Device	I_O (mA)	V_{DO} @ I_O (mV)	Iq @ I_O (µA)	Output Voltage Options (V)			Min V_{IN}	Max V_{IN}	Accuracy (%)	Packages										Features[1]			
					Negative Out		Adj.				SC70	SOT23	MSOP	SO8	SOT223	PWP	TO263	TO220	PW	DDPAK		C_O[2]	Comments	Price[3]
NEW	TPS797xx	10	105	1.2		1.8, 3, 3.3		1.8	5.5	4	✔										PG	0.47 µF C	MSP430; lowest I_q	0.32
	TPS760xx	50	120	850		3, 3.2, 3.3, 3.8, 5.0		3.2	16	2		✔									EN	2.2 µF T	Bipolar	0.34
NEW	TPS715xx	50	415	3.2		2.5, 3.3	✔	2.5	24	4	✔											0.47 µF C	V_{IN} up to 24 V	0.32
	TPS770xx	50	35	17		1.2, 1.5, 1.8, 2.5, 2.7, 2.8, 3, 3.3, 5	✔	2.7	10	3		✔									/EN	4.7 µF T	Low I_q	0.34
	TPS790xx	50	35	17		1.5, 1.8, 2.5, 2.8, 3		2.7	10	3		✔									/EN	4.7 µF T	Low Noise, Low I_q	0.34
NEW	TPS722xx	50	50	550		1.5, 1.6, 1.8	✔	1.8	5.5	3		✔									EN	0.1 µF C	Low Noise V_{IN} down to 1.8 V	0.39
	TPS761xx	100	170	2600		3, 3.2, 3.3, 3.8, 5		3.2	16	2		✔									EN	2.2 µF T	Bipolar	0.35
	TPS769xx	100	70	17		1.2, 1.5, 1.8, 2.5, 2.7, 2.8, 3, 3.3, 5	✔	2.7	10	3		✔									/EN	4.7 µF T	Low Cost	0.35
	TPS789xx	100	35	17		1.5, 1.8, 2.5, 2.8, 3		2.7	10	3		✔									/EN	4.7 µF T	Low Cost + Low Noise	0.35
	TPS76201	100	35	23			✔	2.7	10	3		✔									/EN	4.7 µF T	V_O Adj. to 0.7 V	0.35
	REG101	100	60	500		2.5, 2.8, 2.85, 3, 3.3, 5	✔	1.8	10	2		✔		✔							EN	No Cap	Low Noise	0.88
	TPS791xx	100	38	170		1.8, 3.3, 4.7	✔	2.7	5.5	2		✔									/EN	1 µF C	RF Low Noise; High PSRR	0.38
	TPS792xx	100	38	170		2.5, 2.8, 3	✔	2.7	5.5	2		✔									EN	1 µF C	RF Low Noise; High PSRR	0.38
	TL750Lxx	150	600	10 mA		5		6	26	5				✔				✔				10 µF T	Basic Regulator	0.63
	TL751Lxx	150	600	10 mA		5		6	26	5				✔							/EN	10 µF T	Basic Regulator	0.88
	TPS763xx	150	300	85		2.5, 2.7, 2.8, 3, 3.3, 5	✔	2.7	10	3		✔									EN	4.7 µF T	Low Cost	0.34
	TPS764xx	150	300	85		2.5, 2.7, 2.8, 3, 3.3		2.7	10	3		✔									EN	4.7 µF T	Low Cost + Low Noise	0.34
	TPS765xx	150	85	35		2.5, 2.7, 2.8, 3, 3.3, 5	✔	2.7	10	3				✔							/EN, PG	4.7 µF T	Low I_q	0.48
	TPS771xx	150	115	92		1.5, 1.8, 2.5, 2.7, 2.8, 3.3	✔	2.7	10	2				✔							/EN, SVS	10 µF C	Low Noise	0.56
	TPS772xx	150	115	92		1.5, 1.8, 2.5, 2.7, 2.8, 3.3	✔	2.7	10	2				✔							/EN, PG	10 µF C	Low Noise	0.54
	TPS788xx	150	150	17		2.5, 3.3		2.7	10	3		✔									/EN	4.7 µF T	USB LDO, Low Noise	0.36
NEW	TPS721xx	150	150	850		1.5, 1.6, 1.8	✔	1.8	5.5	3		✔									EN	0.1 µF C	Low Noise V_{IN} down to 1.8 V	0.39
	TPS74xx	200	170	1500		1.8, 2.5, 3, 3.3		2.5	7	3				✔								1 µF T	200-mA LDO	0.56
NEW	TPS793xx	200	72	170		2.5, 2.8, 2.85, 3, 3.3, 4.75	✔	2.7	5.5	2		✔	✔		✔						EN	2.2 µF C	RF Low Noise, High PSRR	0.40
NEW	TPS794xx	250	90	170		2.5, 2.8, 3.0, 3.3	✔	2.7	5.5	2			✔		✔						EN	2.2 µF C	RF Low Noise, High PSRR	0.62
	TPS72xx	250	85	180		2.5, 3 3.3, 4.85, 5	✔	3	10	2				✔						✔	/EN, PG	10 µF T	Low Dropout	0.56
	TPS766xx	250	140	35		2.5, 2.7, 2.8, 3, 3.3, 5	✔	2.7	10	3				✔							/EN, PG	4.7 µF T	Low I_q, Low Noise	0.61
	TPS773xx	250	200	92		1.5, 1.6, 1.8, 2.7, 2.8, 3.3, 5	✔	2.7	10	2			✔								/EN, SVS	10 µF C	Low Noise	0.65
	TPS774xx	250	200	92		1.5, 1.8, 2.7, 2.8, 3.3, 5	✔	2.7	10	2			✔								/EN, PG	10 µF C	Low Noise	0.65
	TPS779xx	250	200	92		1.8, 2.5, 3	✔	2.7	10	2			✔								EN, SVS	10 µF C	Low Noise	0.65
	REG102	250	150	600		2.5, 2.8, 2.85, 3, 3.3, 5	✔	1.8	10	2		✔		✔	✔						EN	No Cap	Capacitor Free, DMOS	1.00
	REG113	400	250	850		2.5, 2.85, 3, 3.3, 5		1.8	10	2		✔	✔								EN	No Cap	Capacitor Free, DMOS	1.04
	TLV2217	500	500	19 mA		3.3		3.8	12	2							✔	✔				22 µF T	Basic Regulator	0.63
	TPS71025	500	330	292		2.5		3	10	2				✔					✔		/EN	4.7 µF T	Low Dropout	1.17
	TPS71Hxx	500	160	285		3.3, 4.85, 5	✔	2.5	10	2						✔					PG	10 µF T	Low Dropout	2.08
	TPS71xx	500	160	285		3.3, 4.85, 5	✔	2.5	10	2				✔					✔		PG	10 µF T	Low Dropout	1.17
	TPS73xx	500	165	340		2.5, 3, 3.3, 4.85, 5	✔	2.5	10	2				✔					✔		SVS	10 µF T	Low Dropout	0.99
	TPS775xx	500	169	85		1.5, 1.6, 1.8, 2.5, 2.8, 3.3	✔	2.7	10	2				✔		✔					SVS	10 µF T	Fast Transient Response	0.87
	TPS776xx	500	169	85		1.5, 1.8, 2.5, 2.8, 3.3	✔	2.7	10	2				✔		✔					PG	10 µF T	Fast Transient Response	0.83
	UCCx84-x	500	200	280	–12, –5		✔	-15	-5.2	3				✔							/EN	4.7 µF T	Negative Output	1.86
	REG103	500	115	1000		2.5, 2.7, 3, 3.3, 5	✔	2.1	15	2				✔	✔					✔	EN, PG	No Cap	Capacitor Free, DMOS	2.00
	TL-SCSI285	620	800	37 mA	–5	2.85	✔	2.7	10	2								✔	✔			22 µF T	SCSI	1.54
	TPS777xx	750	260	85		1.5, 1.8, 2.5, 3.3	✔	2.7	10	2				✔		✔					/EN,SVS	10 µF T	Fast Transient Response	0.96
	TPS778xx	750	260	85		1.5, 1.8, 2.5, 3.3	✔	2.7	10	2			✔		✔						/EN,PG	10 µF T	Fast Transient Response	0.92
NEW	TPS725xx	1000	170	210		1.5, 1.6, 1.8, 2.5	✔	2.1	5.5	2					✔					✔	EN, SVS	No Cap	V_{IN} down to 2.1 V, low noise	1.04
NEW	TPS726xx	1000	170	210		1.5, 1.6, 1.8, 2.5	✔	2.1	5.5	2					✔					✔	EN, SVS	No Cap	V_{IN} down to 2.1 V, low noise	1.04
	TPS767xx	1000	230	85		1.5, 1.8, 2.5, 2.7, 2.8, 3, 3.3, 5	✔	2.7	10	2				✔		✔					SVS	10 µF T	Fast Transient Response	1.04
	TPS768xx	1000	230	85		1.5, 1.8, 2.5, 2.7, 2.8, 3, 3.3, 5	✔	2.7	10	2				✔		✔					PG	10 µF T	Fast Transient Response	1.00
	UCCx81-x	1000	500	400		3.3, 5	✔	2.7	9	2				✔							EN	2.2 µF T	Reverse Leakage	2.30
	REG104	1000	230	1700		2.5, 2.7, 3, 3.3, 5	✔	2.1	15	2					✔					✔	EN	No Cap	Capacitor Free, DMOS	2.22
	TPS751xx	1500	160	75		1.5, 1.8, 2.5, 3.3	✔	2.7	5.0	2						✔					/EN, PG	47 µF T	Fast Transient Response	1.52
	TPS753xx	1500	160	75		1.5, 1.8, 2.5, 3.3	✔	2.7	5.0	2						✔					/EN, SVS	47 µF T	Fast Transient Response	1.61

[1]PG = PowerGood, EN = Active High Enable, IEN = Active Low Enable, SVS = Supply Voltage Supervisor
[2]C = Ceramic, T = Tantalum, No Cap = Capacitor Free LDO
[3]Suggested resale price in U.S. dollars in quantities of 1,000.

Selection Guides

Low Dropout Regulators Selection Guide

Device	I_O (mA)	V_{DO} @ I_O (mV)	Iq @ I_O (µA)	Output Voltage Options (V)			Min V_{IN}	Max V_{IN}	Accuracy (%)	Packages										Features[1]	C_O[2]	Comments	Price[3]
				Negative Out		Adj.				SC70	SOT23	MSOP	SO8	SOT223	PWP	TO263	TO220	PW	DDPAK				
TPS752xx	2000	210	75		1.5, 1.8, 2.5, 3.3	✔	2.7	5.0	2						✔					/EN, SVS	47 µF T	Fast Transient Response	1.71
TPS754xx	2000	210	75		1.5, 1.8, 2.5, 3.3	✔	2.7	5.0	2						✔					/EN, PG	47 µF T	Fast Transient Response	1.65
UCx82-x	3000	350	18 mA		1.2, 1.5, 2.1, 2.5, 3.3	✔	1.5	7.5	3							✔	✔				100 µF T	Fast LDO with Reverse Leak.	4.13
UCCx83-x	3000	700	400		3.3, 5	✔	3.45	9	2							✔	✔			/EN	47 µF T	Reverse Leakage Protection	2.90
TPS757xx	3000	150	125		1.5, 1.8, 2.5, 3.3	✔	2.8	5.5	3							✔	✔			/EN, PG	47 µF T	Fast Transient Response	2.57
TPS758xx	3000	150	125		1.5, 1.8, 2.5, 3.3	✔	2.8	5.5	3							✔	✔			/EN	47 µF T	Fast Transient Response	2.57
UCx85-x	5000	350	30 mA		1.2, 1.5, 2.1, 2.5	✔	1.5	7.5	3							✔	✔				100 µF T	Fast LDO with Reverse Leak.	5.00
TPS755xx	5000	250	125		1.5, 1.8, 2.5, 3.3	✔	2.8	5.5	3							✔	✔			/EN, PG	47 µF T	Fast Transient Response	2.83
TPS756xx	5000	250	125		1.5, 1.8, 2.5, 3.3	✔	2.8	5.5	3							✔	✔			/EN	47 µF T	Fast Transient Response	2.83
TPS759xx	7500	400	125		1.5, 1.8, 2.5, 3.3	✔	2.8	5.5	3							✔	✔			/EN, PG	47 µF T	Fast Transient Response	3.04

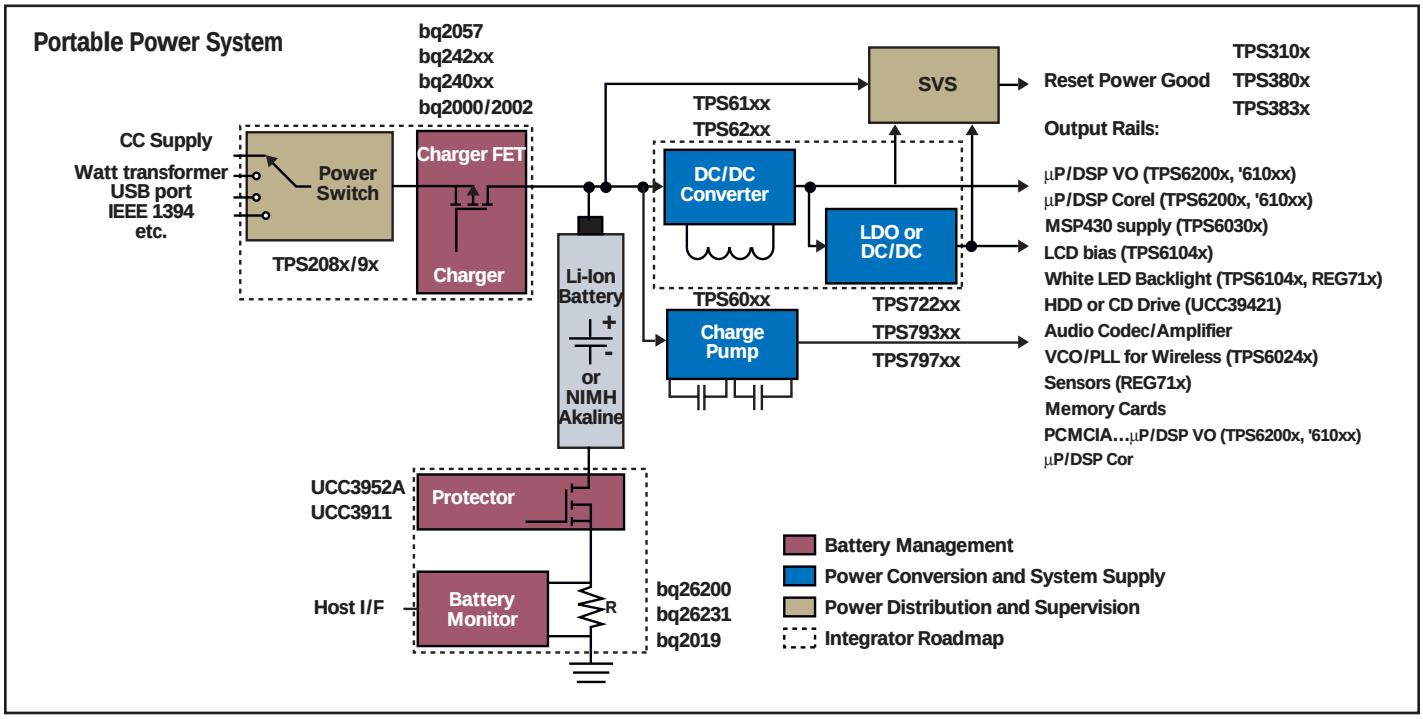
[1]PG = Power Good, EN = Active High Enable, /EN = Active Low Enable, SVS = Supply Voltage Supervisor
[2] T = Tantalum
[3]Suggested resale price in U.S. dollars in quantities of 1,000

Dual Output LDOs Selection Guide

Device	I_{O1} (mA)	I_{O2} (mA)	V_{DO1} @ I_{O1} (mV)	V_{DO2} @ I_{O2} (mV)	I_q @ I_O (µA)	Voltage Options		Accuracy (%)	PWP Package	Min V_O	Max V_O	Features						Min V_{IN}	Max V_{IN}	C_O[2]	Description	Price[1]
							Adj.					/EN	PG	SVS	Seq	Low Noise						
TPS707xx	250	150	83	—	95	3.3/2.5, 3.3/1.8, 3.3/1.5, 3.3/1.5	✔	2	✔	1.2	5	✔	✔	✔	✔	✔	2.7	5.5	10 µF T	Dual Output LDO with Sequencing	1.91
TPS708xx	250	150	83	—	95	3.3/2.5, 3.3/1.8, 3.3/1.5, 3.3/1.5	✔	2	✔	1.2	5	✔	✔	✔		✔	2.7	5.5	10 µF T	Dual Output LDO with Independent Enable	1.91
TPS701xx	500	250	170	170	95	3.3/2.5, 3.3/1.8, 3.3/1.5, 3.3/1.5	✔	2	✔	1.2	5	✔	✔	✔	✔	✔	2.7	5.5	10 µF T	Dual Output LDO with Sequencing	2.17
TPS702xx	500	250	170	170	95	3.3/2.5, 3.3/1.8, 3.3/1.5, 3.3/1.5	✔	2	✔	1.2	5	✔	✔				2.7	5.5	10 µF T	Dual Output LDO with Independent Enable	2.17
TPS73HD3xx	750	750	220	220	340	3.3/2.5 3.3/1.8	✔	2	✔	1.2	9.75	✔		✔			2.7	10	10 µF T	Dual Output LDO with Integrated SVS	2.09
TPS767D3xx	1000	1000	230	230	170	3.3/2.5 3.3/1.8	✔	2	✔	1.2	5	✔		✔			2.7	10	10 µF T	Dual Output FAST LDO with Integrated SVS	2.17
TPS703xx	2000	1000	160	—	185	3.3/2.5, 3.3/1.8, 3.3/1.5, 3.3/1.5	✔	2	✔	1.2	5	✔	✔	✔	✔	✔	2.7	5.5	22 µF T	Dual Output LDO with Sequencing	2.30
TPS704xx	2000	1000	160	—	185	3.3/2.5, 3.3/1.8, 3.3/1.5, 3.3/1.5	✔	2	✔	1.2	5	✔	✔	✔		✔	2.7	5.5	22 µF T	Dual Output LDO with Independent Enable	2.30

[1]Suggested resale price in U.S. dollars in quantities of 1,000
[2]T = Tantalum

Typical Portable Application



TI Worldwide Technical Support

Internet

TI Semiconductor Product Information Center Home Page
support.ti.com

TI Semiconductor KnowledgeBase Home Page
support.ti.com/sc/knowledgebase

Product Information Centers

Americas

Phone	+1(972) 644-5580
Fax	+1(972) 927-6377
Internet	support.ti.com/sc/pic/americas.htm

Europe, Middle East, and Africa

Phone	
Belgium (English)	+32 (0) 27 45 55 32
Finland (English)	+358 (0) 9 25173948
France	+33 (0) 1 30 70 11 64
Germany	+49 (0) 8161 80 33 11
Israel (English)	1800 949 0107
Italy	800 79 11 37
Netherlands (English)	+31 (0) 546 87 95 45
Spain	+34 902 35 40 28
Sweden (English)	+46 (0) 8587 555 22
United Kingdom	+44 (0) 1604 66 33 99
Fax	+(49) (0) 8161 80 2045
Email	epic@ti.com
Internet	support.ti.com/sc/pic/euro.htm

Japan

Fax	International	+81-3-3344-5317
	Domestic	0120-81-0036
Internet/Email	International	support.ti.com/sc/pic/japan.htm
	Domestic	www.tij.co.jp/pic

Asia

Phone	
International	+886-2-23786800
Domestic	Toll-Free Number
Australia	1-800-999-084
China	108-00-886-0015
Hong Kong	800-96-5941
Indonesia	001-803-8861-1006
Korea	080-551-2804
Malaysia	1-800-80-3973
New Zealand	0800-446-934
Philippines	1-800-765-7404
Singapore	800-886-1028
Taiwan	0800-006800
Thailand	001-800-886-0010
Fax	886-2-2378-6808
Email	tiasia@ti.com
Internet	support.ti.com/sc/pic/asia.htm

B070802

Safe Harbor Statement
This publication may contain forward-looking statements that involve a number of risks and uncertainties. These "forward-looking statements" are intended to qualify for the safe harbor from liability established by the Private Securities Litigation Reform Act of 1995. These forward-looking statements generally can be identified by phrases such as TI or its management "believes," "expects," "anticipates," "foresees," "forecasts," "estimates" or other words or phrases of similar import. Similarly, such statements herein that describe the company's products, business strategy, outlook, objectives, plans, intentions or goals also are forward-looking statements. All such forward-looking statements are subject to certain risks and uncertainties that could cause actual results to differ materially from those in forward-looking statements. Please refer to TI's most recent Form 10-K for more information on the risks and uncertainties that could materially affect future results of operations. We disclaim any intention or obligation to update any forward-looking statements as a result of developments occurring after the date of this publication.

Get the latest on TI's power management products in the 'Power Management Selection Guide'

The Power Management Selection Guide provides a single, concise tool to obtain information quickly on TI's high-performance power management products.

The selection guide layout enables anyone, from a new system designer to an experienced power designer, to rapidly review key areas for each of the represented product spaces, identify a family that meets the design's needs and then select the corresponding TI device number.

Key features of the guide include parametric values, specification tables and a resource section identifying additional information and tools. A power-supply decision tree is also included to help quickly identify the type of device required.

To order your free copy return the enclosed reply card or download it at power.ti.com/selectionguideldo

Texas Instruments Incorporated
P.O. Box 954
Santa Clarita, CA 91380

Address service requested

PRSRT STD
U.S. POSTAGE
PAID
DALLAS, TEXAS
PERMIT NO. 2758

Sine On
AN ANALOG AND MIXED-SIGNAL PRODUCT CATALOG

this issue:

Low-Dropout Regulators

3Q 2002 Issue 4

SLPM007B