

# Power Management for Xilinx® FPGAs

## Quick Reference Guide

Power  
Management



### Power for Virtex®-7, Kintex®-7, Artix®-7 and Zynq® Families

Output Current	Input Voltage Range (V)			
	1.5 to 3.0	3.0 to 5.5	5.5 to 17	> 17
< 200 mA	TPS720xx	LP5900 TPS71202 (Dual)	TPS715A01 TPS7A4901 TPS62170	TPS7A1601 TPS7A4901 TPS54062
≤ 500 mA	TPS73501 TPS74701 TPS8267x	TPS7A7100 TPS6223x TPS62290 LMZ20500	TPS62175 LMZ14201 LMZ21700	LM3103 LM5017 LMZ14201
500 mA to 1.5 A	LP38500 TPS74201 TPS74801	LP38500 TPS7A8101 TPS7A8300 TPS54218 TPS62140 LMZ20501 LMZ30602 TPS650250	TPS7A45 TPS7A47 TPS54120 TPS54294/5 (Dual) TPS62160 TPS62140 LMZ21701	TPS7A47 LM3100 LMR24210 LMZ14202
1.5 A to 3 A	TPS74401	TPS74401 TPS54318 TPS62065 LMZ31704	TPS54327 TPS62130 LMZ22003 LMZ31704 TPS65273V	LM203x3 LM3102 LMR24220 LMZ14203 LMZ23603
3 A to 6 A	LM1084 LM1085	TPS53321 TPS54418 TPS54618 LMZ31707	TPS54521 TPS5462x TPS4821 LMZ22008/10 LMZ31707	LMZ13610 LMZ23605/8 LM25117 LM3150 TPS40170
6 A to 10 A	—	LM21212 LMZ31710 TPS40040 TPS40305	TPS53315 TPS54020 TPS54821 LMZ22008/10 LMZ31707 TPS65279V	LMZ13160 LMZ23608/10 LM25117 LM3150 TPS40170
≥ 10 A to 16 A	—	LM21215 LMZ31520 TPS53353 TPS40322	TPS56121 LMZ31520 LM27403 TPS40400	LM3150 TPS40061 TPS40170
≥ 20 A	—	TPS53355 LMZ31530 TPS40322	TPS53355 TPS56221 LMZ31530 LMZ27403 TPS40422	LM(2)5117 LM(2)5119 (Dual) TPS40140

**Color Code Key:**

Black = Low Dropout Regulators

Green = Converters

Blue = Modules

Red = Controllers

Purple = PMIC

### Sequencer and Voltage Supervisor

1 rail	Up to 4 rails	Up to 10 rails
TPS3808	LM3880	UCD9090
TPS3839	TPS38600	

For more information: [www.ti.com/xilinx](http://www.ti.com/xilinx)

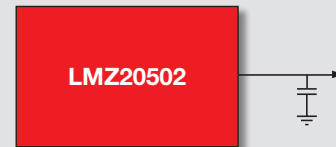
## Integrated Inductors

### Smallest 10-A Power Solution in Industry



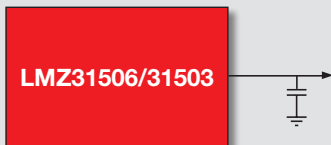
- 10 x 10 x 4.3 QFN package, 205-mm<sup>2</sup> total solution size
- Input voltage: 2.95 to 17 V
- Capable of current sharing up to 60 A
- Flexible features provide the design flexibility of a discrete solution
- Pin-compatible 7-A and 4-A devices
- Class-B EMI compliant

### Ultra Small 2-A Nano Power Module with Integrated Inductor



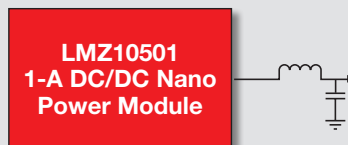
- Input voltage: 2.7 to 5.5 V
- Adjustable output: 0.8 to 3.6 V
- 3.5 x 3.5 x 1.7 mm DFN package
- Pin-to-pin compatible with 1-A LMZ20501
- Features: PG, EN, mode pin for high light-load efficiency

### 3-A/6-A Integrated Inductor Power Module



- Input voltage: 2.95 to 14.5 V
- 3-A/6-A modules in pin-compatible 9 x 15 x 2.8 mm package
- Capable of current sharing up to six devices at 36 A
- Flexible features provides the design flexibility of a discrete solution
- Class-B EMI compliant

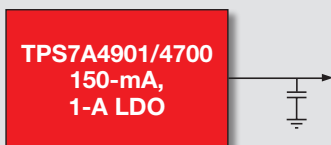
### 1-A DC/DC Nano Power Module in Tiny 2.5 x 3-mm Package



- Low input voltage: 2.7 to 5 V
- Integrated inductor
- Tiny packaging: 2.5 x 3 x 1.2 mm
- Integrated compensation with current-limit protection
- 0.6- to 3.6-V output

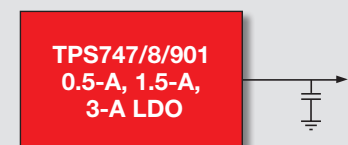
## Low-Noise LDOs

### Lowest-Noise LDO in Industry



- Ultralow noise: 4  $\mu\text{V}_{\text{rms}}$
- High PSR: > 55 dB from 10 Hz to 10 MHz
- Adjustable output: 1.2 to 33 V
- Input voltage: 3 to 36 V

### Low-Dropout Regulator (LDO)



- Adjustable output: 0.8 to 3.6 V
- Input voltage: 0.8 to 5.5 V with external bias
- Low noise: 25  $\mu\text{V}_{\text{rms}}$  x  $V_{\text{OUT}}$ , 100 Hz to 100 kHz
- Low dropout: 60 mV at 1.5 A

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Amplifiers	<a href="http://amplifier.ti.com">amplifier.ti.com</a>
Data Converters	<a href="http://dataconverter.ti.com">dataconverter.ti.com</a>
DLP® Products	<a href="http://www.dlp.com">www.dlp.com</a>
DSP	<a href="http://dsp.ti.com">dsp.ti.com</a>
Clocks and Timers	<a href="http://www.ti.com/clocks">www.ti.com/clocks</a>
Interface	<a href="http://interface.ti.com">interface.ti.com</a>
Logic	<a href="http://logic.ti.com">logic.ti.com</a>
Power Mgmt	<a href="http://power.ti.com">power.ti.com</a>
Microcontrollers	<a href="http://microcontroller.ti.com">microcontroller.ti.com</a>
RFID	<a href="http://www.ti-rfid.com">www.ti-rfid.com</a>
OMAP Applications Processors	<a href="http://www.ti.com/omap">www.ti.com/omap</a>
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### Applications

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Consumer Electronics	<a href="http://www.ti.com/consumer-apps">www.ti.com/consumer-apps</a>
Energy and Lighting	<a href="http://www.ti.com/energy">www.ti.com/energy</a>
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Medical	<a href="http://www.ti.com/medical">www.ti.com/medical</a>
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