

Power Management Solutions for Actel's FPGAs

IGLOO™ Core Voltage: 1.2V						
Input Supply	≤200mA	≤500mA	≤1A – 1.5A	≤2A – 5A	5A – 10A	Up to 25A
1.8V	LT1761 Linear LTC3035 Linear LTC3549 Buck	LT1965 Linear LT3080 Linear LT1763 Linear LTC3409 Buck	LT1965 Linear LT3080 Linear LTC3026 Linear	LTC3713 Controller	LTC3713 Controller	LTC3713 Controller
2.5V to 5V	LT3020 Linear LTC3035 Linear LTC3410 Buck LTC3549 Buck	LT1965 Linear LT1763 Linear LTC3542 Buck LTC3560 Buck	LT1965 Linear LT3080 Linear LTC3411A Buck LTC3564/8 Bucks	LTC3412A Buck LTC3414 Buck LTC3801/9 Controllers LTC1773 Controller	LTC3418 Buck LTC3822 Controller LTM4601 μModule* LTC1778 Controller	LTC3713 Controller LTC3832 Controller LTC1778 Controller LTC3778 Controller
≤12V to 24V	LT3502 Buck	LT1933 Buck LTC3493 Buck LT3502 Buck	LT3503 Buck LT3505 Buck LT1936 Buck LT3481Buck	LT3680 Buck LTC1771 Controller LTM4603 μModule* LTC1778 Controller	LTM4601 μModule* LTC3772 Controller LTC1778 Controller LTC3823 Controller	2 x LTM4601 μModule* LTC1778 Controller LTC3823 Controller

Fusion, IGLOO, ProASIC®3, Axcelerator®, RTAX-S/SL Core Voltage: 1.5V						
Input Supply	≤200mA	≤500mA	≤1A – 1.5A	≤2A – 5A	5A – 10A	Up to 25A
1.8V	LTC1844 Linear LTC3035 Linear LT1962 Linear LTC3549 Buck	LT1763 Linear LT1965 Linear LT3080 Linear LTC3409 Buck	LT1965 Linear LT3080 Linear LTC3026 Linear	LTC3713 Controller	LTC3713 Controller	LTC3713 Controller
2.5V to 5V	LT1762 Linear LTC3035 Linear LTC3410 Buck LTC3549 Buck	LT1965 Linear LT3080 Linear LT1763 Linear LTC3542 Buck LTC3406A Buck	LT1965 Linear LT3080 Linear LT1963A Linear LTC3561 Buck LTC3411A Buck	LTC3412A Buck LTC3414 Buck LTC3801 Controller LTC3809 Controller	LTC3418 Buck LTC3822 Controller LTM4601 μModule* LTC1778 Controller	LTC3713 Controller LTC3832 Controller LTC1778 Controller LTC3778 Controller
≤12V to 24V	LT3470 Buck LT3502 Buck LT1616 Buck	LT1616 Buck LT1933 Buck LTC3493 Buck	LT3503 Buck LT3505 Buck LT3481 Buck LT3684 Buck	LT3680 Buck LTC1771 Controller LTM4603 μModule* LTC1778 Controller	LTM4601 μModule* LTC3610 Buck LTC3772 Controller LTC1778 Controller LTC3823 Controller	2 x LTM4601 μModule* LTC1778 Controller LTC3823 Controller LT1952 Controller

ProASICPLUS, SX-A, eX, RTSX-SU Core Voltage: 2.5V						
Input Supply	≤200mA	≤500mA	≤1A – 1.5A	≤2A – 5A	5A – 10A	Up to 25A
1.8V	LTC3525 Boost LTC3427 Boost LTC3429 Boost LTC3499 Boost	LTC3499 Boost LTC3426 Boost LTC3422 Boost	LTC3421 Boost LTC3428 Boost LTC3426 Boost	LTC3425 Boost LTC1872 Boost Controller LTC1700 Boost Controller	N/A	N/A
2.5V to 5V	LTC1844 Linear LTC3035 Linear LT1962 Linear LTC3410 Buck	LT3080 Linear LT1763 Linear LT1965 Linear LTC3542 Buck LTC3560 Buck	LTC3561 Buck LTC3411A Buck LT1619 SEPIC Controller	LTC3414 Buck LTC3801 Controller LTC3809 Controller LT1619 SEPIC Controller	LTC3418 Buck LTM4601 μModule* LTC3610 Buck LTC3822 Controller	LTC3822 Controller LTC3713 Controller LTC3832 Controller LTC1778 Controller
≤12V to 24V	LT3470 Buck LT1934 Buck LT1616 Buck LT3502 Buck	LT1616 Buck LT3502 Buck LT1933 Buck LTC3493 Buck	LT3503 Buck LT3505 Buck LT3684 Buck LT1936 Buck	LT3680 Buck LTC1771 Controller LTM4603 μModule* LTC1778 Controller	LTM4601 μModule* LTC3610 Buck LTC1778 Controller LTC3823 Controller	2 x LTM4601 μModule* LTC1778 Controller LTC3823 Controller LT1952 Controller

MX Core Voltage: 3.3V						
Input Supply	≤200mA	≤500mA	≤1A – 1.5A	≤2A – 5A	5A – 10A	Up to 25A
1.8V to 2.5V	LTC3525 Boost LTC3526 Boost LTC3429 Boost	LTC3426 Boost LTC3421 Boost LTC3422 Boost LTC3499 Boost	LTC3426 Boost LTC3421 Boost LTC3428 Boost	LTC3428 Boost LTC3425 Boost LTC1871 Boost Controller	N/A	N/A
Li-Ion 2.7V to 4.2V	LTC3531 Buck-Boost LTC3530 Buck-Boost LTC3440 Buck-Boost	LTC3530 Buck-Boost LTC3440 Buck-Boost LTC3538 Buck-Boost	LTC3442 Buck-Boost LTC3443 Buck-Boost LTC1871 SEPIC Controller	LTC3785 Buck-Boost Controller LTC1872 SEPIC Controller LTC1871 SEPIC Controller LT1619 SEPIC Controller	LTC3785 Buck-Boost Controller LT1619 SEPIC Controller	LTC1682 + LTC1778
≤5V	LTC1844 Linear LTC3035 Linear LT1962 Linear LTC3410 Buck	LT1965 Linear LT3080 Linear LTC3561 Buck LT1763 Linear LTC3560 Buck	LT1963A Linear LTC3411A Buck	LTC3414 Buck LTC3415 Buck LTC3809 Controller LTM4603 μModule*	LTC3418 Buck LTM4601 μModule* LTC3610 Buck LTC3778 Controller	LTC3830 Controller LTC3832 Controller LTC3770 Controller LTC3778 Controller
≤12V to 24V	LT3470 Buck LT1934 Buck LT1616 Buck LT3502 Buck	LT1616 Buck LT3502 Buck LT1933 Buck LTC3493 Buck	LT3503 Buck LT3505 Buck LT1936 Buck LT3684 Buck	LT3680 Buck LTC1771 Controller LTM4603 μModule* LTC1778 Controller	LTM4601 μModule* LTC3610 Buck LTC1778 Controller LTC3823 Controller	2 x LTM4601 μModule* LTC1778 Controller LTC3823 Controller LT1952 Controller

*Additional products in μModule Family now available. **New products highlighted in bold.**

Reliable Power Solutions for Rugged Environments

H Grade Power Products

Guaranteed and tested to perform within specification from -40°C to a minimum of 125°C.

	Part Number	V _{IN} Range	Description	Package
LDO	LT3010H/-5	3V to 80V	50mA, 3V to 80V Low Dropout Micropower Regulator	TSSOP-16
	LT3012/3H	4V to 80V	250mA, 4V to 80V Low Dropout Micropower Linear Regulator	DFN-12
DC/DC Buck Switching Regulators	LT3470H	4V to 40V	Micropower Buck Regulator with Integrated Boost and Catch Diodes	DFN-8
	LT3437H	3.3V to 80V	High Voltage 500mA, 200kHz Step-Down Switching Regulator with 100µA Quiescent Current	TSSOP-16
	LT1933H	3.6V to 36V	600mA, 500kHz Step-Down Switching Regulator	DFN-6
	LT1766H	5.5V to 60V	High Voltage 1.5A, 200kHz Step-Down Switching Regulator	SSOP-16, TSSOP-16
	LT1976H	3.3V to 60V	High Voltage 1.5A, 200kHz Micro-Power Step-Down Switching Regulator	TSSOP-16
	LT1936H	3.6V to 36V	1.4A, 500kHz Step-Down Switching Regulator	MSOP-8
	LT3508H	3.7V to 36V	Dual Monolithic 1.4A Step-Down Switching Regulator	QFN-24, TSSOP-16
DC/DC Controllers	LTC3803H-5	4V minimum	Constant Frequency Current Mode Flyback DC/DC Controller	ThinSOT™-6
	LTC1772H	2.5V to 9.8V	Constant Frequency Current Mode Step-Down DC/DC Controller	ThinSOT-6
	LTC1871H	2.5V to 36V	Wide Input Range, No R _{SENSE} ™ Current Mode Boost, Flyback and SEPIC Controller	MSOP-10
	LTC3731H	4V to 36V	3-Phase, 600kHz, Synchronous Buck Switching Regulator Controller	SSOP-36

Radiation Hardened Power Products

Device	Description	Symbol	10Krad		20Krad		50Krad		80Krad		100Krad		200Krad		Units	Packages
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max		
RH117	Positive Adjustable Regulator	V _{REF}	1.20	1.30	1.20	1.30	1.20	1.30			1.20	1.30			V	TO-39, TO-3
RH137	Negative Adjustable Regulator	V _{REF}	-1.2	-1.3	-1.2	-1.3	-1.2	-1.3			-1.2	-1.3	-1.2	-1.3	V	TO-39, TO-3
RH1084	5A Low Dropout Positive Adjustable Regulator	V _{REF} Dropout V	1.220	1.275	1.219	1.275	1.215	1.275			1.210	1.275	1.203	1.275	V	TO-3
				1.5		1.55		1.65				1.8		2.0	V	
RH1085	3A Low Dropout Positive Adjustable Regulator	V _{REF} Dropout V	1.220	1.275	1.219	1.275	1.215	1.275			1.210	1.275	1.20	1.275	V	TO-3
				1.5		1.5		1.55				1.6		1.65	V	
RH1086	0.5A and 1.5A Low Dropout Positive Adjustable Regulators	V _{REF} Dropout V	1.220	1.275	1.219	1.275	1.215	1.275			1.210	1.275	1.20	1.275	V	TO-3, TO-39
				1.5		1.51		1.52				1.56		1.575	V	

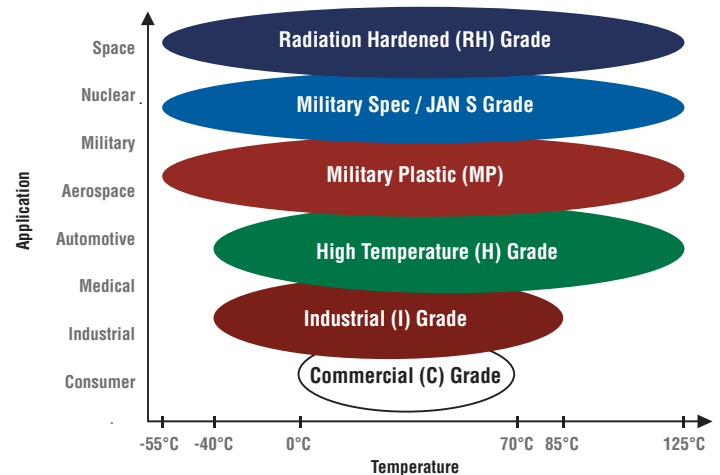
Military Plastic Power Products

Tested from -55°C to 125°C.

Part Number	Description	Package
LTM4600HVMP	10A, 28V _{IN} High Efficiency µModule™ DC/DC Converter	LGA
LTC3414MP	4A, 4MHz, Monolithic Synchronous Step-Down Regulator	TSSOP-20E
LTC3404MP	600mA 1.4MHz High Efficiency Monolithic Synchronous Step-Down Regulator	MS-8
LT1764AMP	3A, Fast Transient Response, Low Noise, LDO Regulators	DD-5
LT1763MP	500mA, Low Noise, LDO Micropower Regulators	SO-8
LT1761MP	100mA, Low Noise, LDO Micropower Regulators in SOT-23	ThinSOT-5

JAN S Power Products

Part Number*	Description	Package	Basic LTC Part**
JM38510/11703	0.5A I _{OUT} Positive Voltage Regulator	TO-39	LM117
JM38510/11704	1.5A I _{OUT} Positive Voltage Regulator	TO-3	LM117
JM38510/11705	5.0A I _{OUT} Positive Voltage Regulator	TO-3	LM138
JM38510/11803	Negative Voltage Regulator	TO-5	LM137



*DSCC document title search highlighted in bold.

**These are provided for reference only: use DSCC document for operation characteristic and specification information.

Additional Power Support Products

- Trackers/Sequencers
- Margining Controllers
- Silicon Oscillators
- µP/DSP/FPGA Supervisor Circuits
- PMBus Interface Products



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SwitcherCAD™/LTspice is a SPICE simulator for power supply, amplifier and filter designs

