

Power Management Solutions for Altera's FPGAs, CPLDs and Structured ASICs

Altera's PowerPlay Power Estimation Tools are available to help determine power consumption before and during the design process.

Stratix® (GX) V, IV, III, II & Hardcopy V, IV, III, II				Core Voltage: 0.85V, 0.9V, 1.1V, 1.2V		
Input Supply	≤200mA	≤500mA	≤1A – 1.5A	≤2A – 5A	5A – 10A	Up to 25A
1.8V	LT®3020 Linear LTC®3549 Monolithic	LT3085 Linear LTC3409 Monolithic	LT3080 Linear LTC3026 Linear	LT3083 Linear LT3070 Linear LT3071 Linear	2 × LT3070 Linear 2 × LT3071 Linear	2 × LTM4611 μModule
2.5V to 5V	LT3020 Linear LTM®8020 μModule*	LT3085 Linear LTM8021 μModule	LTC3411A Monolithic LTC3417A Monolithic LTC3569 Monolithic	LTC3612 Monolithic LTM4604A μModule LTM4614 Dual μModule LTM4615 Triple μModule	LTC3608 Monolithic LTC3616 Monolithic LTM4608A μModule LTM4616 Dual μModule	LTC3855 Controller 2 × LTM4611 μModule
≤12V to 24V	LT3502 Monolithic	LT3503 Monolithic	LT3503 Monolithic LTC3601 Monolithic	LTM8025 μModule LTM4618 μModule LTM4619 Dual μModule	LTM4601A μModule LTM4628 Dual μModule LTM4627 μModule	LTC3855 Controller LTC3880 Controller 2 × LTM4627 μModule

Arria® (GX) V, II, I				Core Voltage: 0.9V, 1.1V, 1.2V		
Input Supply	≤200mA	≤500mA	≤1A – 1.5A	≤2A – 5A	5A – 10A	
1.8V	LT1761 Linear LTC3549 Monolithic	LT3085 Linear LTC3409 Monolithic	LT3080 Linear LTC3026 Linear	LT3083 Linear LT3070 Linear LT3071 Linear	2 × LT3070 Linear 2 × LT3071 Linear	
2.5V to 5V	LT3020 Linear LTC3544 Monolithic	LT3085 Linear LTC3025-1	LTC3411A Monolithic LTC3417A Monolithic LTC3569 Monolithic	LTC3546 Monolithic LTC3612 Monolithic	LTC3608 Monolithic LTC3616 Monolithic LTC3418 Monolithic	
≤12V to 24V	LT3502 Monolithic	LT3503 Monolithic	LT3503 Monolithic LTC3601 Monolithic	LTC3604 Monolithic LTC3850 Controller LTC3633 Monolithic	LTC3605 Monolithic LTC3633 Monolithic LTC3855 Controller	

Cyclone® (GX) V, IV, III, II				Core Voltage: 1.1V, 1.2V		
Input Supply	≤200mA	≤500mA	≤1A – 1.5A	≤2A – 5A	5A – 10A	
1.8V	LT1761 Linear LTC3549 Monolithic	LT3085 Linear LTC3409 Monolithic	LT3080 Linear LTC3026 Linear	LT3083 Linear LT3070 Linear LT3071 Linear	2 × LT3070 Linear 2 × LT3071 Linear	
2.5V to 5V	LT3020 Linear LTC3544 Monolithic	LT3085 Linear LTC3025-1 Linear	LTC3411A Monolithic LTC3417A Monolithic LTC3569 Monolithic	LTC3612 Monolithic LTC3614 Monolithic LTC3615 Monolithic	LTC3608 Monolithic LTC3616 Monolithic LTC3617 Monolithic	
≤12V to 24V	LT3502 Monolithic	LT3503 Monolithic LT3645 Monolithic	LT3503 Monolithic LT3505 Monolithic LTC3601 Monolithic	LTC3604 Monolithic LTC3850 Controller LTC3633 Monolithic	LTC3605 Monolithic LTC3633 Monolithic	

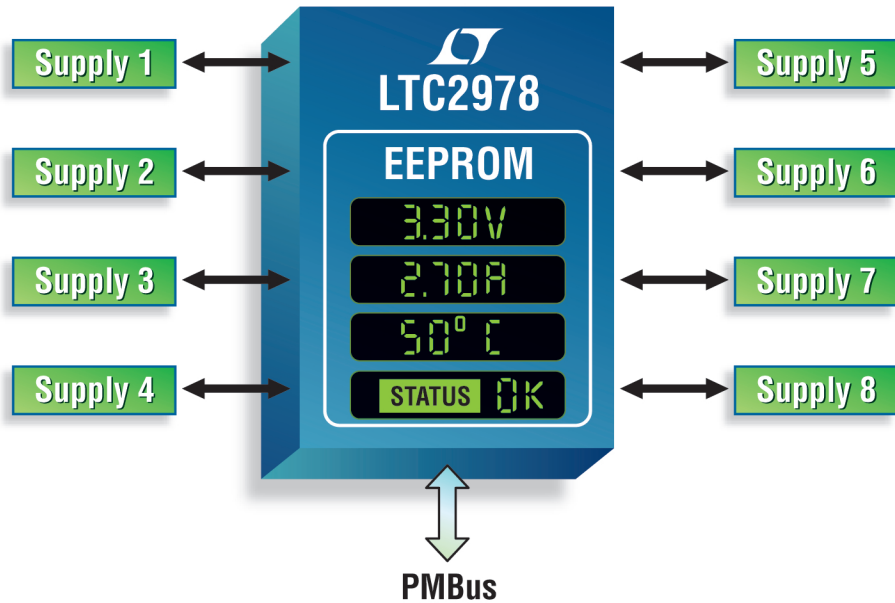
MAX® V				Core Voltage: 1.8V		
Input Supply	≤200mA	≤500mA	≤1A – 1.5A			
1.8V	LT1761 Linear LTC3549 Monolithic	LT3085 Linear LTC3409 Monolithic	LT3022 Linear LT3080 Linear LTC3026 Linear			
2.5V to 5V	LT3020 Linear LTC3544 Monolithic	LT3085 Linear LTC3670 Monolithic LTC3544 Monolithic	LTC3520 Monolithic LTC3417A-2 Monolithic			
≤12V to 24V	LT3502 Monolithic	LT3509 Monolithic LTC3688 Monolithic	LT3503 Monolithic LT3508 Monolithic			

DDR/Active Bus Termination				
Input Supply	<±1.5A	<±3A	<±6A	>±6A
2.25V to 5.5V	LTC3612 Monolithic LTC3615 Dual Monolithic	LTC3614 Monolithic LTC3616 Monolithic LTC3618 Monolithic	LTC3617 Monolithic	LTC3718 Controller
>5.5V		LTC3634 Monolithic		LTC3718 Controller LTC3876 Controller

*Additional products in Linear's μModule family are now available. **New products highlighted in bold.**

PMBus Digital Power Management

To Monitor and Sequence Multiple Rails on **ALTERA** Based Systems



Eight Channels of Power Supply Monitoring & Control

The LTC[®]2978 digital power manager offers accurate fault monitoring thresholds and adjustments, along with a wide array of supervisory features. The PMBus and GUI accesses an onboard EEPROM where user settings, measurements and faults are stored, and later interrogated for diagnostic purposes. With just two connections, the LTC2978 can be cascaded for systems that monitor more than eight supply voltages. A multitude of built-in functions makes the LTC2978 a convenient all-in-one solution for CPUs, FPGAs or ASICs that require uncompromised sequencing and monitoring over up to eight voltage rails.

Features

- PMBus Compliant Interface and Command Set
- Configuration and Fault Logging to Internal EEPROM
- Fast Supervisor Control of V_{IN} for POL Overvoltage Protection
- 15-bit $\Delta\Sigma$ ADC with Less Than $\pm 0.25\%$ of Total Unadjusted Error Using On-Chip Reference
- Programmable Watchdog Timer
- Voltage Servo Adjusts Supply Voltages by Ramping IDAC Outputs Up/Down
- Support for Autonomous, Multichannel Fault Management
- On-Chip Digital Temperature Sensor
- 64-lead 9mm x 9mm QFN Package

User Configurations

File	Edit	User Configurations	Help
		Undervoltage Setting	
		Overvoltage Setting	
		Supervising	
		Sequencing	
		Margining	
		Voltage Programming	
		Voltage Measurement	
		Current Measurement	
		Temperature Measurement	
		Fault Recording & Response	

Info & Samples

www.linear.com/2978

1-800-4-LINEAR



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Industrial Brochure

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LTspice[®] is a SPICE simulator for power supply, amplifier and filter designs

