



Proven Power Solutions for Altera Arria 10 FPGA

MILPITAS, CA – August 27, 2015 – Linear Technology Corporation announces power management solutions for the Altera® Arria® 10 FPGA Development Kit. Technical details of this board can be found at linear.com/altera. Linear Technology’s solutions address key power requirements of the Arria 10 FPGA Development Kit and its supporting system blocks. For example, the LTC3877 VID Controller plus LTC3874 Phase Extender DC/DC Regulator provide 105A at 0.95V for the core rail from a 12V input. To complement the power saving advantages of the Arria 10 FPGA, this solution provides two key advantages:

- 1) 6-bit parallel VID that interfaces directly with the Arria 10’s SmartVID to reduce the FPGA’s static and dynamic power consumption
- 2) Ultralow value and temperature compensated DCR load current sensing, which maximize the efficiency and load current precision


Powering the high speed transceivers is Linear Technology’s 20A μ Module® regulator (LTM4637), which provides the simplest and quickest solution by integrating a shielded inductor, MOSFETs and DC/DC regulator into a small 15mm x 15mm LGA or BGA package.

Rail/Function	Part Number(s)	Description
FPGA core	LTC3877 + LTC3874	105A @ 0.9V regulator interfaces with Arria 10 SmartVID
High speed transceivers	LTM4637	20A μ Module regulator
Power UP/DOWN sequencing, power monitoring, voltage margining and fault management	LTC2977	8-channel PMBus power system manager
PowerPath™ management	LTC4357	High voltage ideal diode controller
3.3V intermediate bus from 12V _{IN}	LTM4620	Dual 13A or single 26A μ Module regulator
Input overvoltage protection	LTC4365	Overvoltage, undervoltage and reverse supply protection controller
Housekeeping system power and power management	LT1965, LT3082, LTC4352, LTC3025-1, LTC2418	Low noise linear regulators, 24-bit ADC; low voltage ideal diode

Photo Caption: Altera Arria 10 FPGA Development Kit Powered by Linear Technology

About Linear Technology

Linear Technology Corporation, a member of the S&P 500, has been designing, manufacturing and marketing a broad line of high performance analog integrated circuits for major companies worldwide for over three decades. The Company's products provide an essential bridge between our analog world and the digital electronics in communications, networking, industrial, automotive, computer, medical, instrumentation, consumer, and military and aerospace systems. Linear Technology produces power management, data conversion, signal conditioning, RF and interface ICs, μ Module[®] subsystems, and wireless sensor network products. For more information, visit www.linear.com

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