



μModule Regulator for DDR & QDR4 SRAM Operates from 3.3V_{IN} to 15V_{IN}, Fits in 0.5cm² PCB

MILPITAS, CA – April 14, 2016 – Linear Technology introduces the [LTM4632](#), a triple output μModule (power module) regulator for powering all three voltage rails of the new QDR4 and older DDR SRAM: VDDQ, VTT and VTTR (or VREF). Housed in a miniature, lightweight, ultrathin LGA package (6.25mm x 6.25mm x 1.82mm), the LTM4632 can be soldered on the backside of the PCB, and with one resistor and three capacitors it occupies only 0.5cm² (dual-sided) or 1cm² (single-sided). Capable of delivering 3A VDDQ and ±3A VTT (=1/2*VDDQ) two LTM4632s in parallel can provide up to 6A per rail for larger memory banks. For more than 6A VDDQ, the LTM4632 can be configured with the LTM4630 to provide between 18A and 36A VDDQ for very large arrays of SRAMs. If VDDQ is already available, the LTM4632 can be configured to supply a two-phase single VTT output up to 6A.

The LTM4632 can operate from a low input supply of 3.3V, as well as standard 5V and 12V inputs (up to 15V). Each of the two output voltages (VDDQ and VTT) range from 0.6V to 2.5V. The third output is a low noise 10mA buffered output for VTTR of the SRAM. Applications include PCIe, cloud-based systems, RAID, video processing and networking using these SRAMs: DDR/DDR-II/DDR-III/DDR4/QDR/QDR-II/QDR-II+ and QDR4.

The LTM4632 contains a triple output DC/DC regulator, divide by 2 circuit, power switches, inductors and support components in a compact, ultrathin package. The LTM4632 is rated for operation from –40°C to 125°C. 1,000-piece pricing starts at \$7.35 each for E-grade and \$8.09 each for I-grade. For more information, visit www.linear.com/product/LTM4632.

Photo Caption: Ultrathin µModule Regulator for DDR-QDR4 Memory Power


Summary of Features: LTM4632

- Complete DDR/QDR4 Memory Power Solution in 1cm² (Single-Sided PCB) or 0.5cm² (Dual-Sided PCB)
- 3A VDDQ + 3A VTT or Dual Phase Single 6A VTT
- Wide Input Voltage Range: 3.6V (With V_{IN} Tied to INTV_{CC}) to 15V
- 0.6V to 2.5V Output Voltage Range
- ±1.5%, ±10mA Buffered VTTR = VDDQ/2 Output
- External Frequency Synchronization
- Ultrathin 6.25mm x 6.25mm x 1.82mm LGA Package

Pricing shown is for budgetary use only and may differ due to local duties, taxes, fees and exchange rates.

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, µModule[®] subsystems, and wireless sensor network products. For more information, visit www.linear.com

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