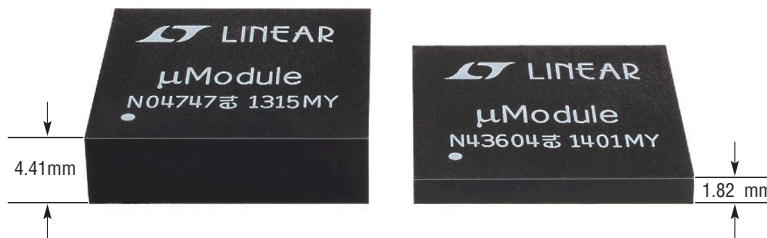


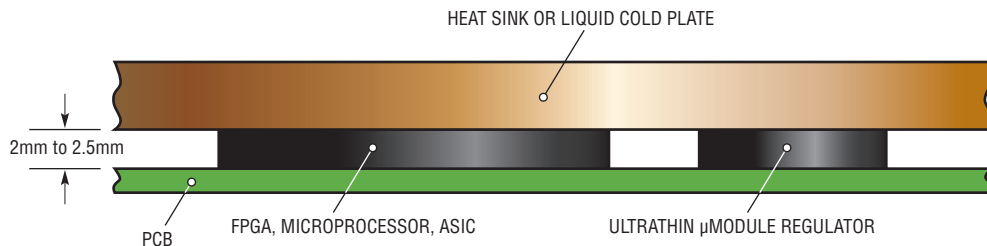
Ultrathin μ Module Power Products

Ultrathin 1.82mm
20V_{IN} μ Module Regulators
(www.linear.com/ultrathin)



The new family of ultrathin μ Module[®] regulators (power modules) are 1.82mm tall and designed to fit on the backside of a PCB or under an FPGA or CPU heat sink.

This family is designed for 3.3V_{IN}, 5V_{IN} and 12V_{IN} power rails used in PCIe and similar cards. The short package profile (height) meets the height restriction of PCIe cards for mounting these devices on the backside of the PCB. Another unique advantage is that Ultrathin μ Module regulators can be placed on a PCB very close to FPGAs or microcontrollers while sharing one heat sink (passive heat sink or liquid cooled cold plate) covering both the digital IC and the μ Module regulator.



An ultrathin μ Module regulator's package height is 1.8mm or <2mm, including PCB solder paste thickness. These compact DC/DC regulators can be placed very close to an FPGA, ASIC or microprocessor under a common heat sink.

Function	Output Channels	Input Voltage (V)		Output Voltage (V)		Output Current (A)	Clock Sync Range (MHz)	Parallelable Outputs (Total I _{OUT})	Package Dimensions (mm)	Package	Part Number
		Min	Max	Min	Max						
Step Down	2	3.3*	20	0.6	5.5	Dual: 2.5	0.56 to 4	× 8 (20A)	6.25 × 6.25 × 1.82	LGA	LTM4622
	1	3.3*	20	0.6	5.5	3	0.56 to 4	× 12 (36A)	6.25 × 6.25 × 1.82	LGA	LTM4623

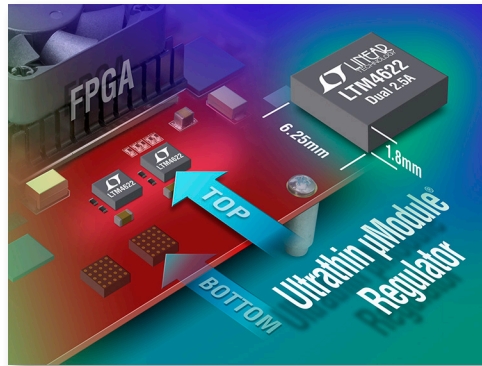
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*Please see data sheet for $\leq 3.3V_{IN}$ operation.

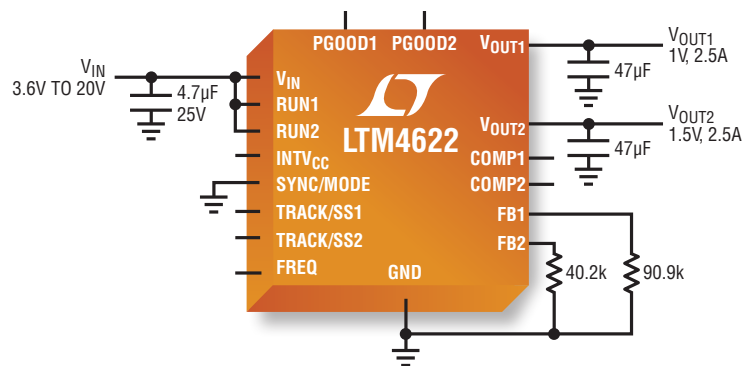


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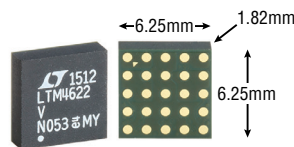
Ultrathin μ Module Power Products



LTM4622 Ultrathin Dual 2.5A or Single 5A Step-Down μ Module Regulator

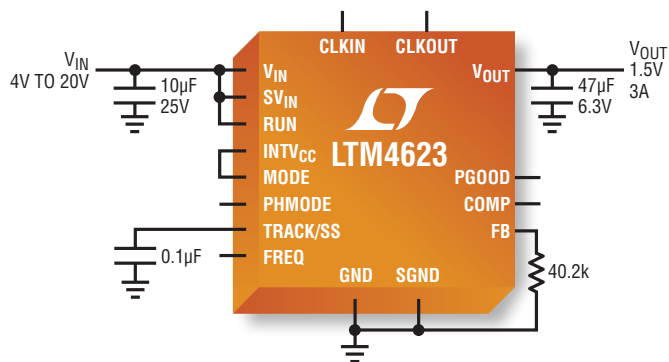


- Top or Bottom Side PCB Placement
- PCB Area: $< 1\text{cm}^2$ Single-Sided
- $3.6\text{V} \leq V_{\text{IN}} \leq 20\text{V}$ $3.3V_{\text{IN}}$ with V_{IN} Tied to INTV_{CC}
- $0.6 \leq V_{\text{OUT}} \leq 5.5\text{V}$
- $\pm 1.5\%$ Maximum Total Output Voltage Regulation Error over Load, Line and Temperature (-40°C to 125°C)

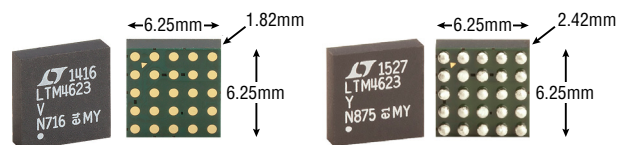


(Available in BGA package January 2016)

LTM4623 Ultrathin Single 3A Step-Down μ Module Regulator



- Top or Bottom Side PCB Placement
- PCB Area: $< 1\text{cm}^2$ Single-Sided and 0.5cm^2 Double-Sided
- $4\text{V} \leq V_{\text{IN}} \leq 20\text{V}$ $2.375V_{\text{IN}}$ with External Bias
- $0.6 \leq V_{\text{OUT}} \leq 5.5\text{V}$
- $\pm 1.5\%$ Maximum Total Output Voltage Regulation Error over Load, Line and Temperature (-40°C to 125°C)



Download μ Module Power Products Brochure: www.linear.com/umodule