LDO10C Series 50 Watts

Total Power: Input Voltage: 3-13.8 Vdc No. of Outputs: Single

50 Watts

Special Features

- 10 A output current rating
- Input voltage range: 3-13.8 Vdc
- Adjustable out voltage: 0.59-5.1 V
- Factory set with power good option
- Excellent transient response

- Power enable
- Minimum airflow
- Small package
- Termination voltage capability
- RoHS compliant

Safety

UL, cUL 60950-1 TÜV Product Service (EN60950) Certificate No. TBD CB Report and Certificate to IEC60950



Electrical Specifications



Output				
Output voltage	See Note 5	0.59-5.1 V		
Output setpoint accuracy	0.1% trim resistors	±1.0%		
Line regulation	Low line to high line	±0.2%		
Load regulation	Full load to min. load	±0.5%		
Min./max. load		0 A/10 A		
Overshoot	At turn-on	0.5% max.		
Undershoot	At turn-off	100 mV max.		
Ripple and noise 5 Hz to 20 MHz	See Note 1	20 mV Vin=5 V, Vout=2.5 V		
Transient response	See Notes 1, 2	130 mV max. deviation 15 μs recovery to within regulation band		
Input				
Input voltage range		3-13.8 Vdc		
Input current	Minimum load Remote OFF	50 mA 5 mA		
Input current (max.)	See Note 3	10 A @ lo max.		
Start-up time	Power up Remote ON/OFF	3 ms 2 ms		
General				
Efficiency	Vin=5 V, Vo=2.5 V, lo=10 A	91%		
Switching frequency	Fixed	620 kHz		
Material flammability		UL94V-0		
Weight		1.899 g (0.067 oz.)		
MTBF	12 V @ 40 °C, 100% load Bellcore 332	8,220,210 hours		
Coplanarity	Surface mount models	150µm		



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Environmental Specifications

Thermal performance See Note 5	Operating ambient Non-operating ambient	-40 °C to +85 °C -40 °C to +125 °C					
Protection							
Short-circuit		Hiccup, non-latching					
Overvoltage protection		Hiccup, non-latching					
Recommended System Capacitance							
Input	See Note 6	0 μF					
Output	See Note 7	0 μF					

Ordering I	lering Information								
Output		_	Output	Output		_			
Power	Input Voltage	Output Voltage	Current (Min.)	Current (Max.)	Efficiency	Regulation Line Load		Model Number ^(3,5)	
(Max.)	voltage	voitage	(10111.)	(IVIAX.)	(Typical)	Line	LUAU	Number (****	
50W	3-13.8 Vdc	0.59-5.1 V	0 A	10 A	94%	±0.2%	±0.5%	LDO10C-005W05-VJ	
50W	3-13.8 Vdc	0.59-5.1 V	0 A	10 A	94%	±0.2%	±0.5%	LDO10C-005W05-HJ	
50W	3-13.8 Vdc	0.59-5.1 V	0 A	10 A	94%	±0.2%	±0.5%	LDO10C-005W05-SJ	

Part Number System with Options

Product Family	Rated Output Current	Performance	Input Voltage	Number of Pins Type of Output	Output Voltage	Mounting Option	Custom Option	RoHS Compliance
LDO	10	С	00	5W	05	V	Х	J
Product Family LDO = LDO Series	Rated Output Current 10 = 10 Amp	Performance C = Cost Optimized	Input Voltage 00 = 3-13.8 V 01 = 4.5-13.8V	Type of Output 5W = 5 Pins and Wide Output	Output Voltage 05 = 0.59-5.1 V	Mounting Option V = Vertical H = Horizontal S = Horizontal SMT VS = Vertical SMT	Custom Option	RoHS Compliance J = Pb free (RoHS 6/6 compliant)

Output Voltage Adjustment of the LDO10C Series

The ultra-wide output voltage trim range offers major advantages to users who select the LDO1OC series. It is no longer necessary to purchase a variety of modules in order to cover different output voltages. The output voltage can be trimmed in a range of 0.59-5.1 Vdc. When the LDO1OC converter leaves the factory, the output has been adjusted to the default voltage of 0.59 V.

Notes:

- 1. Measured as per recommended system capacitance. See Technical Reference Note.
- 2. $di/dt = 10 A/\mu s$, Vin = Nom, Tc = 25 °C, load change = 0.50 lo to full lo and full lo to 0.50.
- 3. External input fusing is recommended.
- Additional part numbers may be available with different output voltages.
- 5. Airflow dependent, 100 LFM minimum required.
- 6. No capacitors needed for ripple current stability.
- 7. No capacitors needed for stability.
- 8. TSE RoHS 5/6 (non Pb-free) compliant versions may be available on special request, please consult your local sales representative for details.
- 9. NOTICE: Some models do not support all options. Please contact your local Emerson
- Network Power representative or use the on-line model number search tool at http:// www.powerconversion.com/powergroup/products.htm to find a suitable alternative.

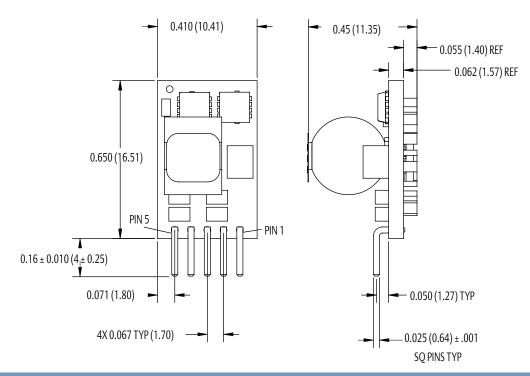
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Mechanical Drawings

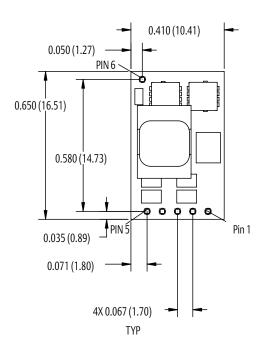
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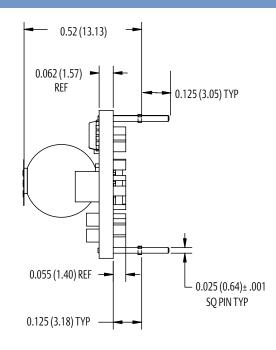
Vertical Mount

Dimensions in inches (mm). Tolerances es (unless otherwise specified) 2 Places ±0.030 (±0.76) 3 Places ±0.010 (±0.25)



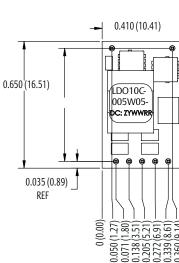
Horizontal Mount

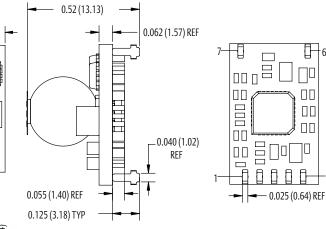




Mechanical Drawings (Cont'd)

Surface Mount





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Pin Assignments

Single Output

- 1. Enable
- 2. Vin
- 3. Common/RTN
- 4. Vout
- 5. PG/Trim
- 6. Mech Pin (Horz/SMT only)

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