

LDO10C Series

50 Watts

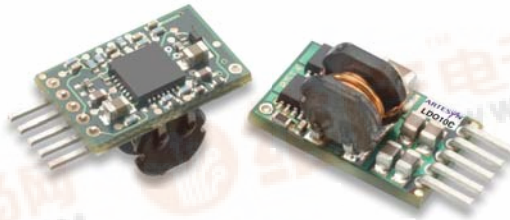
Total Power: 50 Watts
Input Voltage: 3-13.8 Vdc
No. of Outputs: Single

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	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 @ Io max.
Start-up time	Power up Remote ON/OFF	3 ms 2 ms
General		
Efficiency	Vin=5 V, Vo=2.5 V, Io=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	150 μm



Environmental Specifications

Thermal performance See Note 5	Operating ambient Non-operating ambient	-40 °C to +85 °C -40 °C to +125 °C
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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 Information								
Output Power (Max.)	Input Voltage	Output Voltage	Output Current (Min.)	Output Current (Max.)	Efficiency (Typical)	Regulation Line	Regulation Load	Model Number ^(3,5)
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	C	00	5W	05	V	X	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 LDO10C 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 LDO10C converter leaves the factory, the output has been adjusted to the default voltage of 0.59 V.

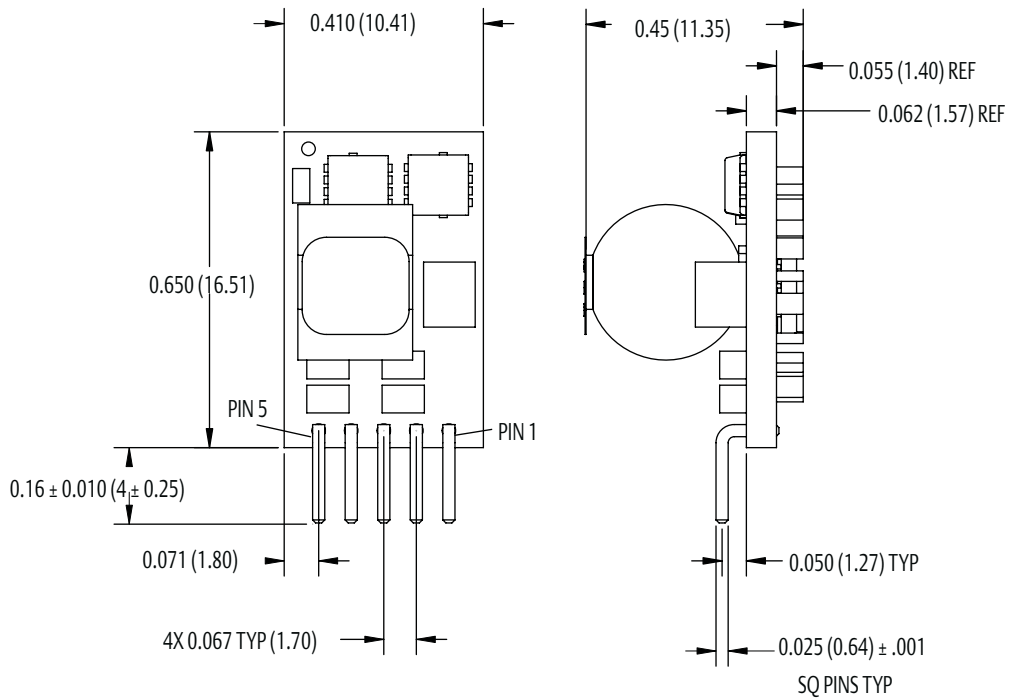
Notes:

1. Measured as per recommended system capacitance. See Technical Reference Note.
2. di/dt = 10 A/μs, Vin = Nom, Tc = 25 °C, load change = 0.50 Io to full Io and full Io to 0.50.
3. External input fusing is recommended.
4. 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.

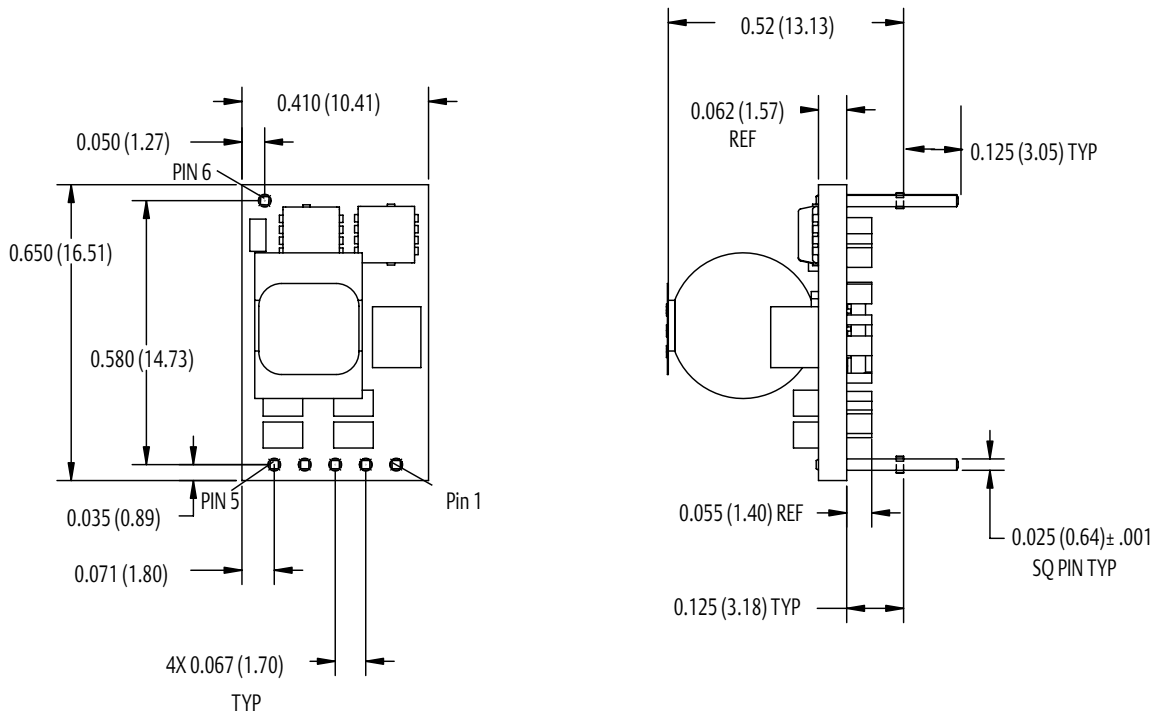
Mechanical Drawings

Vertical Mount

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

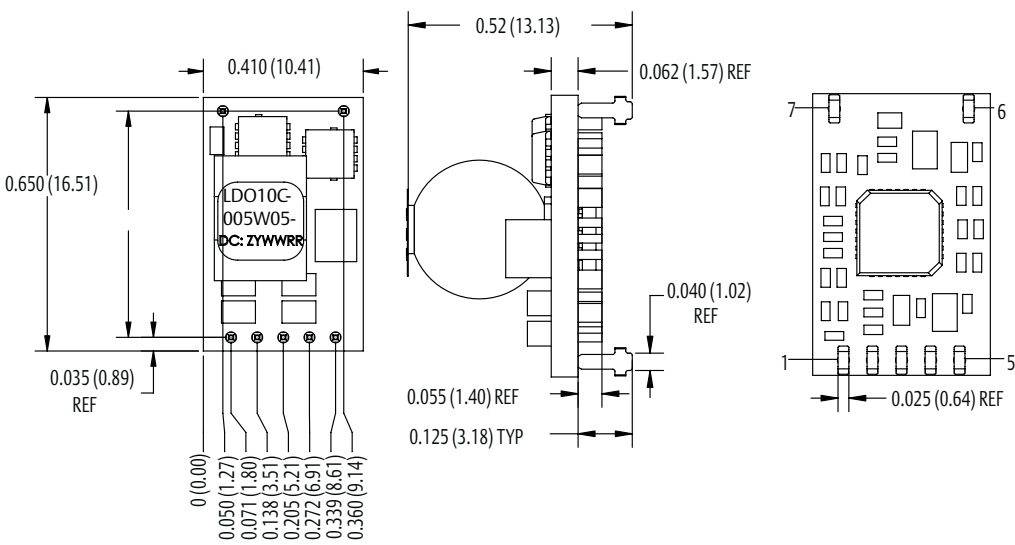


Horizontal Mount



Mechanical Drawings (Cont'd)

Surface Mount



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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