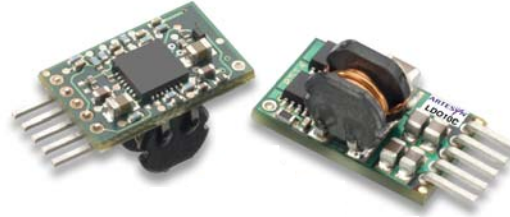


LDO10C Series

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 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 @ 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	150µm

Environmental Specifications

Thermal performance See Note 5	Operating ambient	-40 °C to +85 °C
	Non-operating ambient	-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 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.

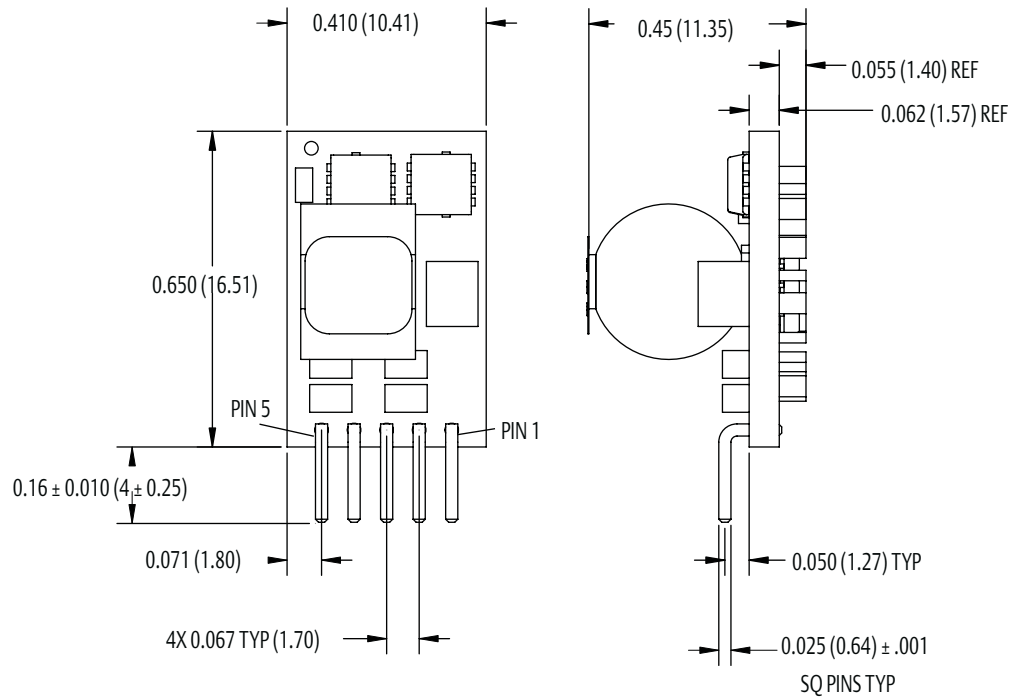
Notes:

- Measured as per recommended system capacitance. See Technical Reference Note.
- $di/dt = 10 \text{ A}/\mu\text{s}$, $V_{in} = \text{Nom}$, $T_c = 25 \text{ }^\circ\text{C}$, load change = 0.50 I_o to full I_o and full I_o to 0.50.
- External input fusing is recommended.
- Additional part numbers may be available with different output voltages.
- Airflow dependent, 100 LFM minimum required.
- No capacitors needed for ripple current stability.
- No capacitors needed for stability.
- TSE RoHS 5/6 (non Pb-free) compliant versions may be available on special request, please consult your local sales representative for details.
- 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.

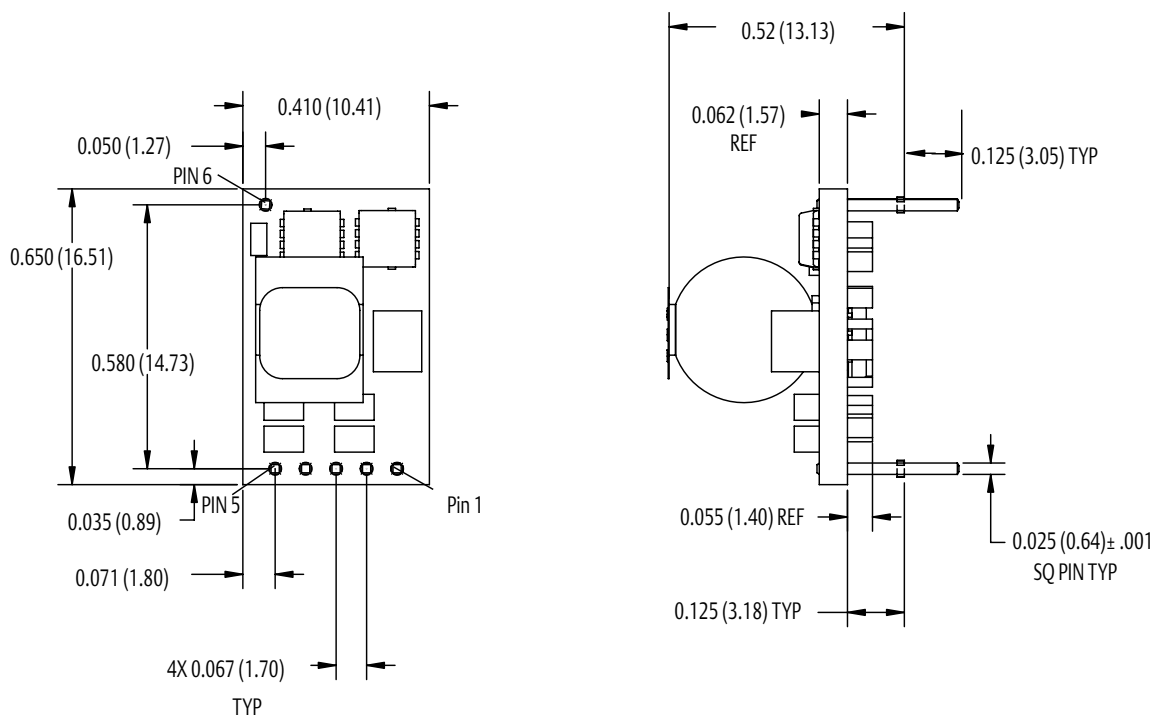
Mechanical Drawings

Vertical Mount

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

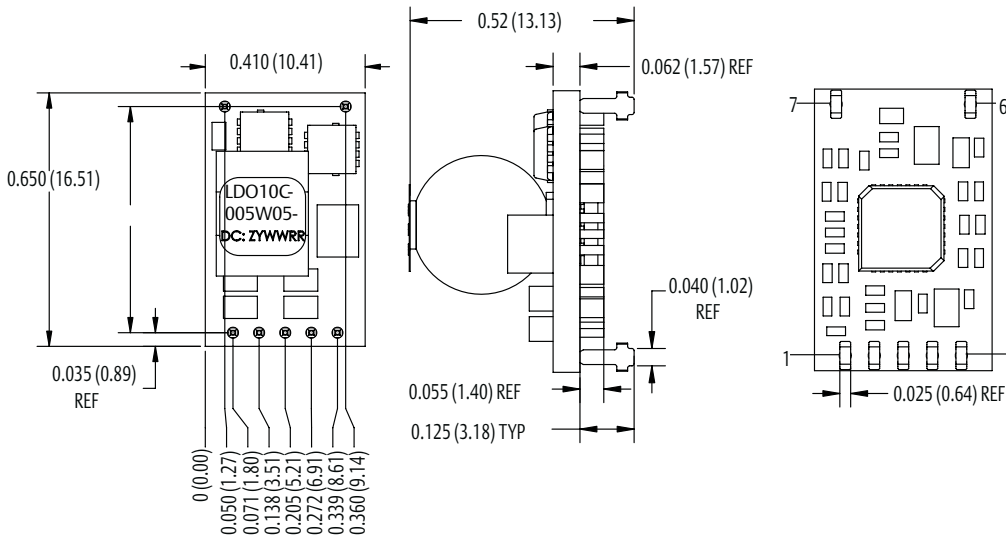


Horizontal Mount



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)

*This is a Preliminary Datasheet. Emerson Network Power reserves the right to make changes to the information contained herein without notice and assumes no liability as a result of its use or application.

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