LDO06C Series

30 Watts

Total Power: 30 Watts
Input Voltage: 3 - 13.8 Vdc
No. of Outputs: Single

RoHS 2002/95/EC

Special Features

- 6 A output current rating
- Input voltage range: 3 - 13.8 Vdc
- Adjustable out voltage: 0.59 - 5.1 V
- Optional factory setting 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/6 A
Overshoot	At turn-on	0.5% max.
Undershoot	At turn-off	100 mV max.
Load transient response	2.5 A/µs	200 mV deviation 25 µs settling time
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	6 A @ lo max.
Start-up time	Power up Remote ON/OFF	3 ms 2 ms
General		
Efficiency (high input)	Vin=5 V, Vo=2.5 V, lo=6 A	92%
Switching frequency	Fixed	750 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 Information

Output Power (Max.)	Input Voltage	Output Voltage	Output Current (Min.)	Output Current (Max.)	Efficiency (Typical)	Regulation Line	Regulation Load	Model Number (3,5)
30W	3 - 13.8 Vdc	0.59 - 5.1 V	0 A	6 A	92%	± 0.2%	± 0.5%	LDO06C-005W05-VJ
30W	3 - 13.8 Vdc	0.59 - 5.1 V	0 A	6 A	92%	± 0.2%	± 0.5%	LDO06C-005W05-HJ
30W	3 - 13.8 Vdc	0.59 - 5.1 V	0 A	6 A	92%	± 0.2%	± 0.5%	LDO06C-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	**06**	**C**	**00**	**5W**	**05**	**V**	**X**	**J**
Product Family LDO = LDO Series	**Rated Output Current** 06 = 6 Amp	**Performance** C = Cost Optimized	**Input Voltage** 00 = 3 - 13.8 V	**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 LDO06C Series

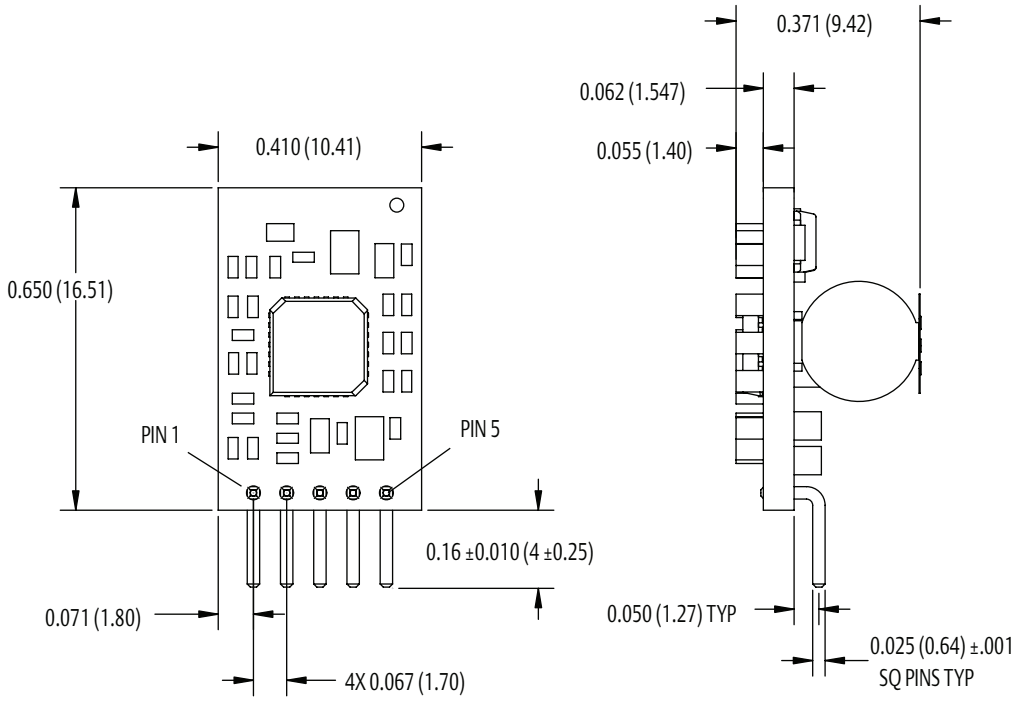
The ultra-wide output voltage trim range offers major advantages to users who select the LDO06C series. It is no longer necessary to purchase a variety of modules in order to cover different output voltages. The output voltage can be trimmed in a range of 0.59 - 5.1 Vdc. When the LDO06C converter leaves 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 to find a suitable alternative.

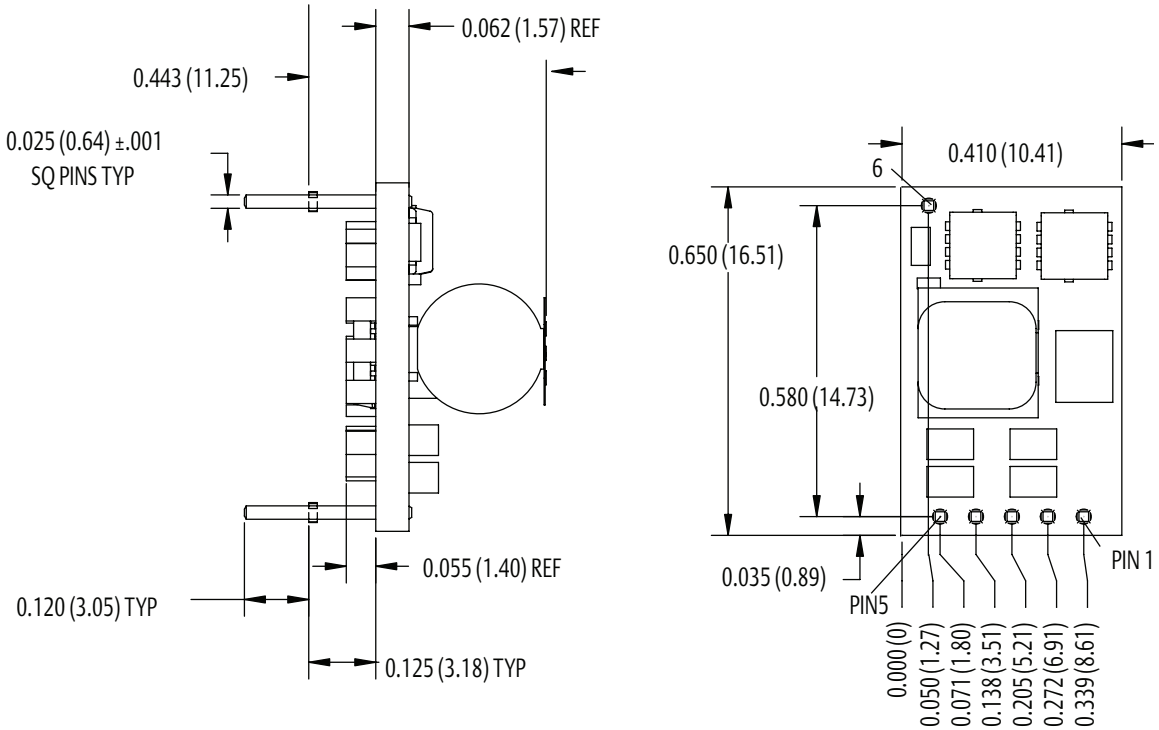
Mechanical Drawings

Vertical Mount

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

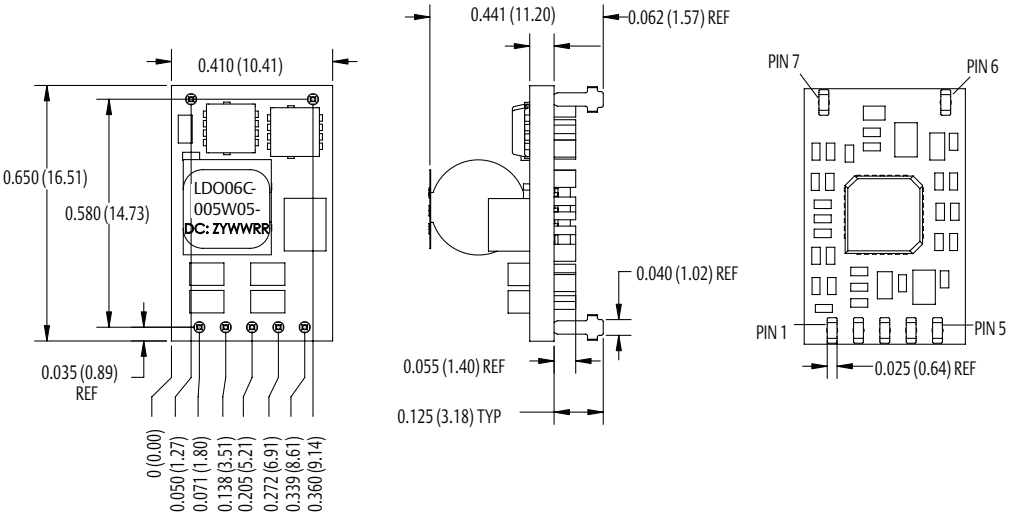


Horizontal Mount



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)
7. 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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