

## LDO06C Series

### 30 Watts

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

### 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 @ Io max.
Start-up time	Power up Remote ON/OFF	3 ms 2 ms

### General

Efficiency (high input)	Vin=5 V, Vo=2.5 V, Io=6 A	92%
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 <sup>(3,5)</sup>
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
<b>LDO</b>	<b>06</b>	<b>C</b>	<b>00</b>	<b>5W</b>	<b>05</b>	<b>V</b>	<b>X</b>	<b>J</b>
<b>Product Family</b> LDO = LDO Series	<b>Rated Output Current</b> 06 = 6 Amp	<b>Performance</b> C = Cost Optimized	<b>Input Voltage</b> 00 = 3-13.8 V	<b>Type of Output</b> 5W = 5 Pins and Wide Output	<b>Output Voltage</b> 05 = 0.59-5.1 V	<b>Mounting Option</b> V = Vertical H = Horizontal S = Horizontal SMT VS = Vertical SMT	<b>Custom Option</b>	<b>RoHS Compliance</b> 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.

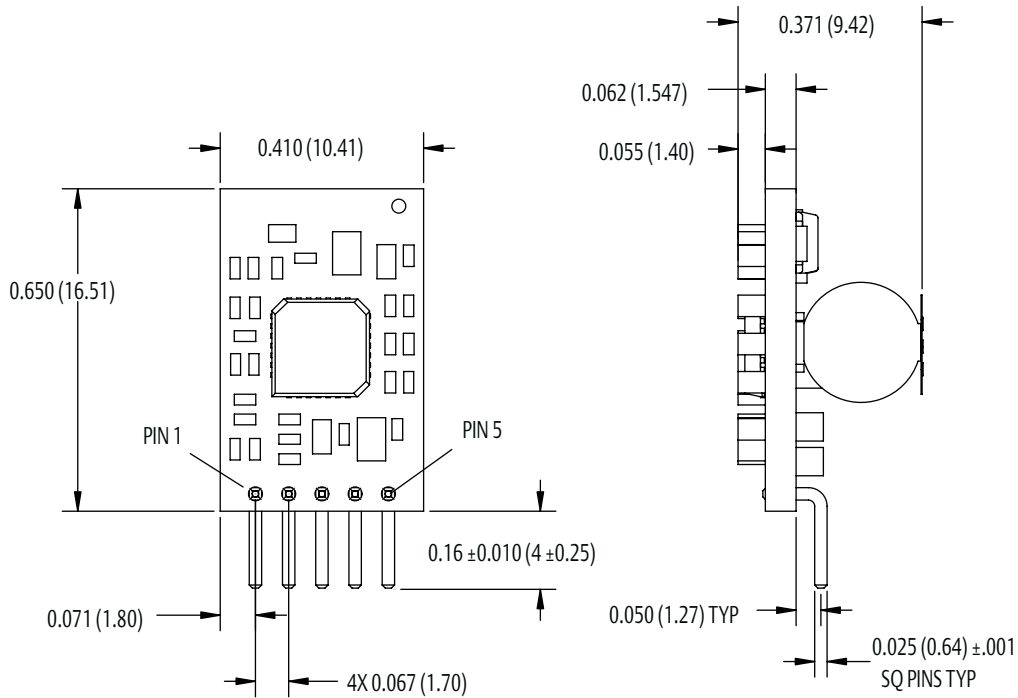
#### Notes:

- 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<sub>o</sub> to full I<sub>o</sub> and full I<sub>o</sub> to 0.50 I<sub>o</sub>.
- 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.

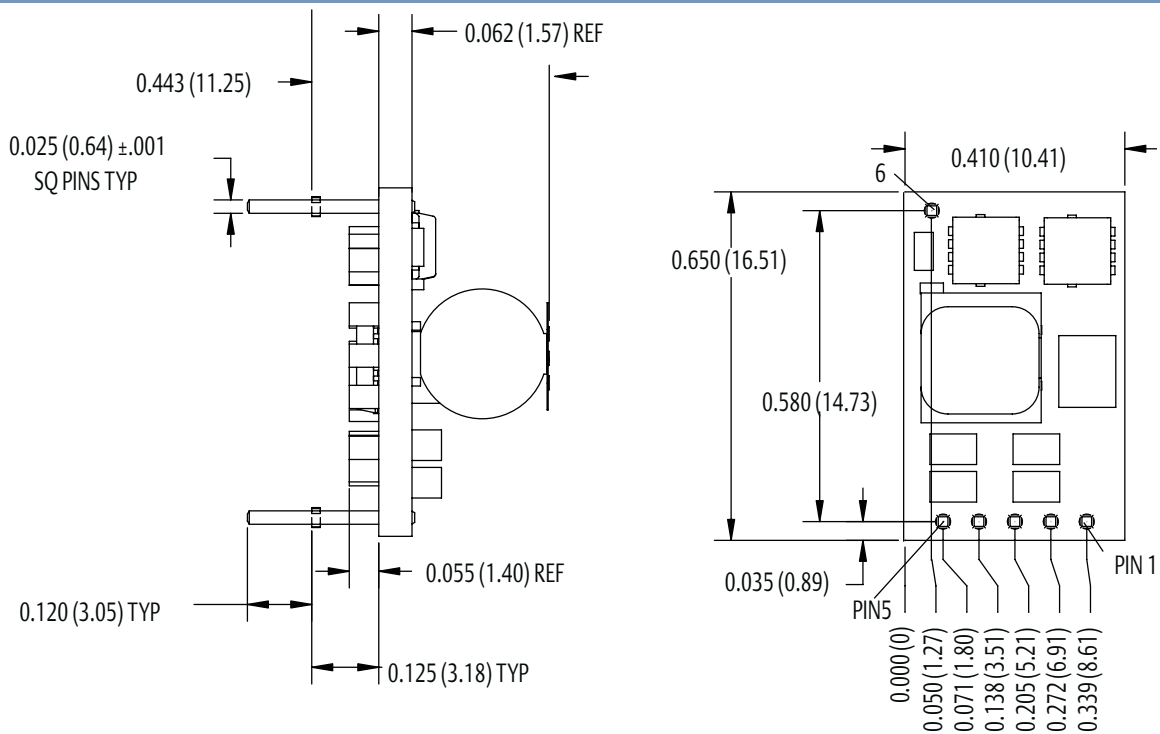
# Mechanical Drawings

## Vertical Mount

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

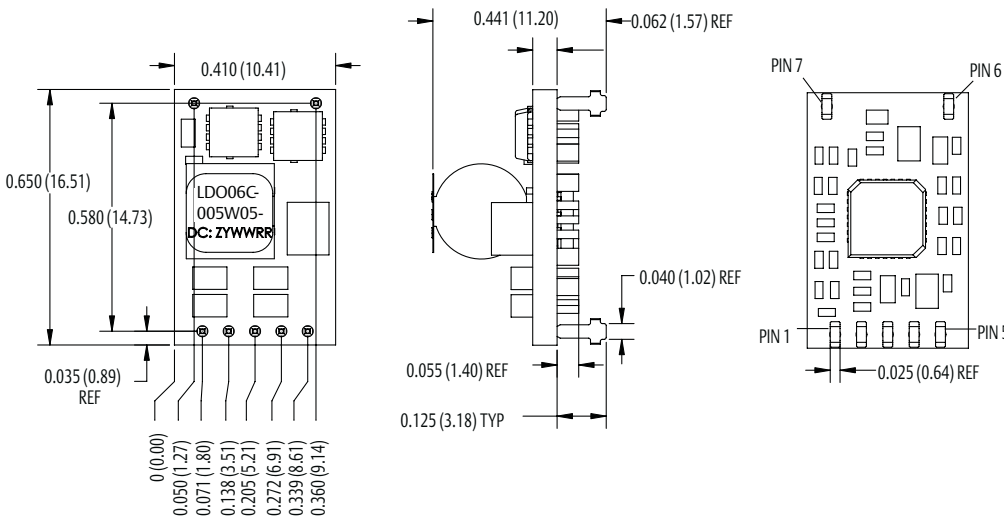


## Horizontal Mount



## 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)

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