

## 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<br>25 μs settling time                              |
| Ripple and noise<br>5 Hz to 20 MHz | See Note 1                              | 20 mV<br>Vin=5 V, Vout=2.5 V   |
| Transient response                 | See Notes 1, 2                          | 130 mV max. deviation<br>15 μs recovery to within<br>regulation band |
| Input                              |   |  |
| Input voltage range                |   | 3-13.8 Vdc   |
| Input current                      | Minimum load<br>Remote OFF              | 50 mA<br>5 mA  |
| Input current (max.)               | See Note 3                              | 6 A @ Io max.  |
| Start-up time                      | Power up<br>Remote ON/OFF               | 3 ms<br>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<br>Bellcore 332 | 8,220,210 hours  |
| Coplanarity                        | Surface mount models                    | 150 μm   |

## Environmental Specifications

|                                   |  |                                       |
|-----------------------------------|--|---------------------------------------|
| Thermal performance<br>See Note 5 | Operating ambient<br>Non-operating ambient | -40 °C to +85 °C<br>-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 <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<br>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><br>LDO = LDO Series | <b>Rated Output Current</b><br>06 = 6 Amp | <b>Performance</b><br>C = Cost Optimized | <b>Input Voltage</b><br>00 = 3-13.8 V | <b>Type of Output</b><br>5W = 5 Pins and Wide Output | <b>Output Voltage</b><br>05 = 0.59-5.1 V | <b>Mounting Option</b><br>V = Vertical<br>H = Horizontal<br>S = Horizontal SMT<br>VS = Vertical SMT | <b>Custom Option</b> | <b>RoHS Compliance</b><br>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.

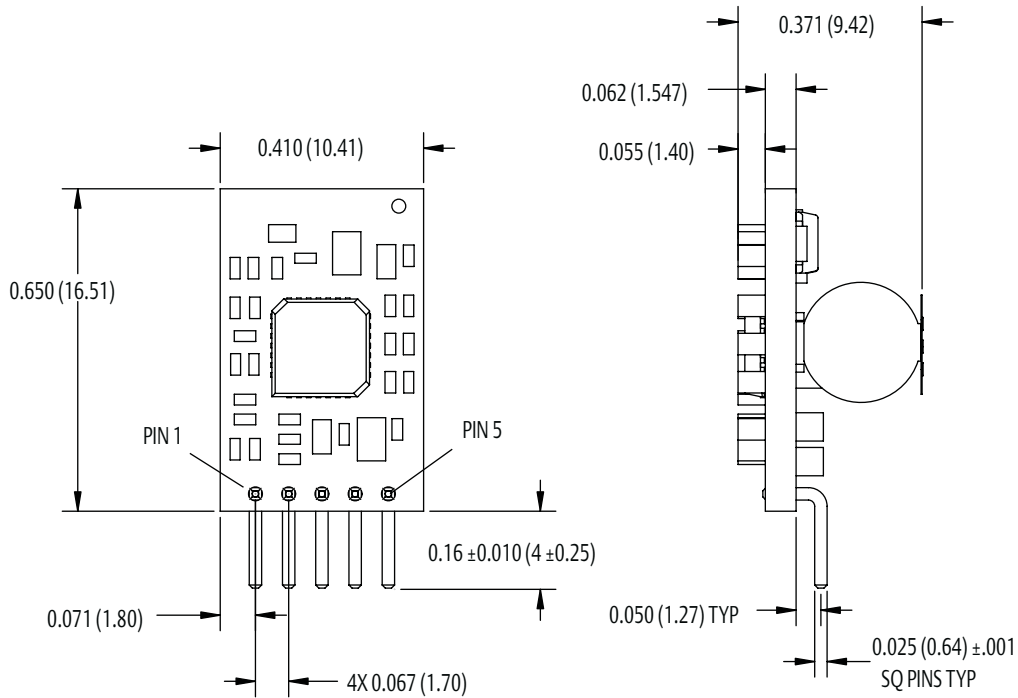
#### Notes:

1. Measured as per recommended system capacitance. See Technical Reference Note.
2.  $di/dt = 10 \text{ A}/\mu\text{s}$ ,  $V_{in} = \text{Nom}$ ,  $T_c = 25 \text{ }^\circ\text{C}$ , 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>.
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.

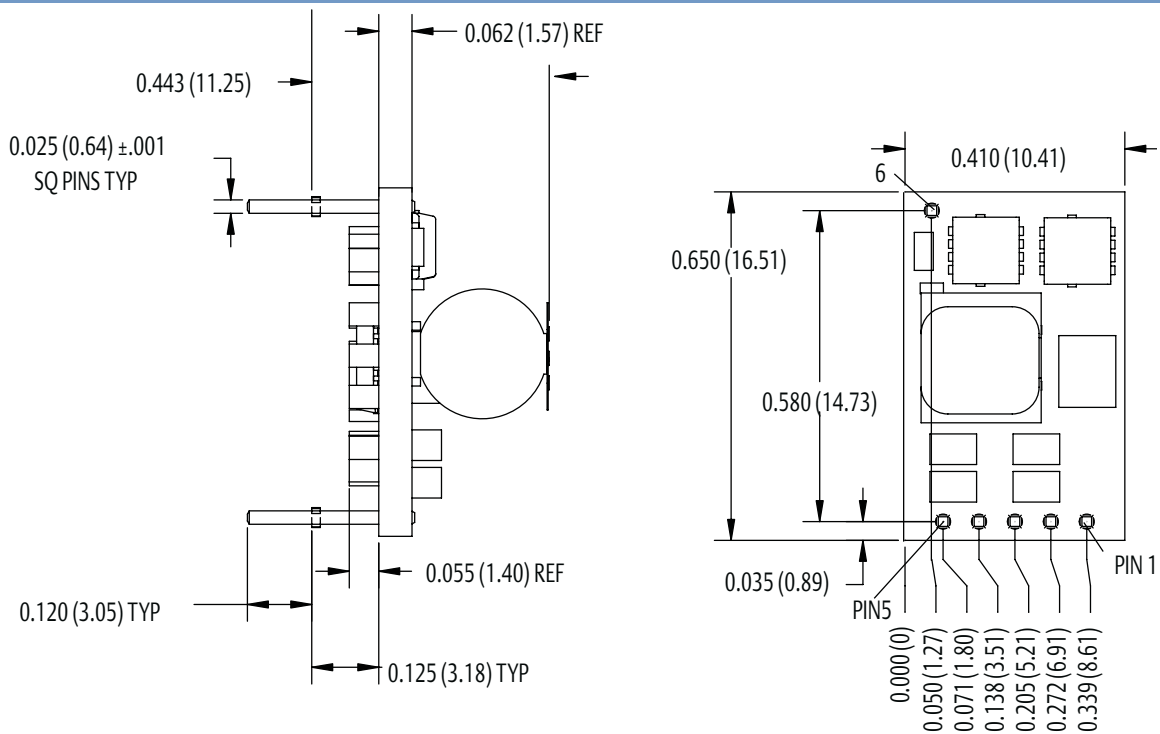
# Mechanical Drawings

## Vertical Mount

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

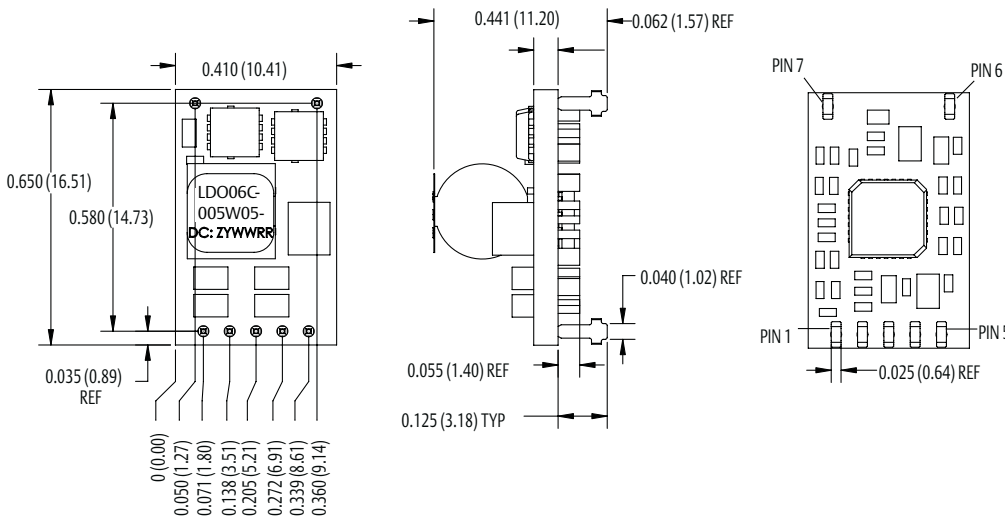


## Horizontal Mount



## 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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