

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 | 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 | 150 μm |

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.

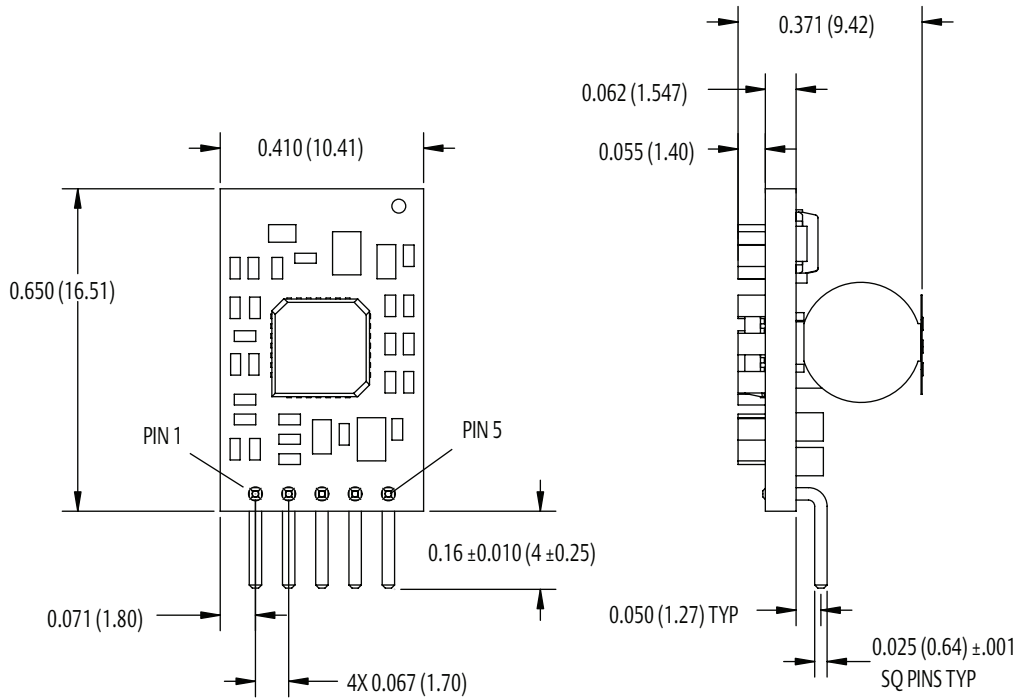
Notes:

1. Measured as per recommended system capacitance. See Technical Reference Note.
2. $di/dt = 10 \text{ A}/\mu\text{s}$, $V_{in} = \text{Nom}$, $T_c = 25 \text{ }^\circ\text{C}$, load change = 0.50 I_o to full I_o and full I_o to 0.50 I_o.
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.

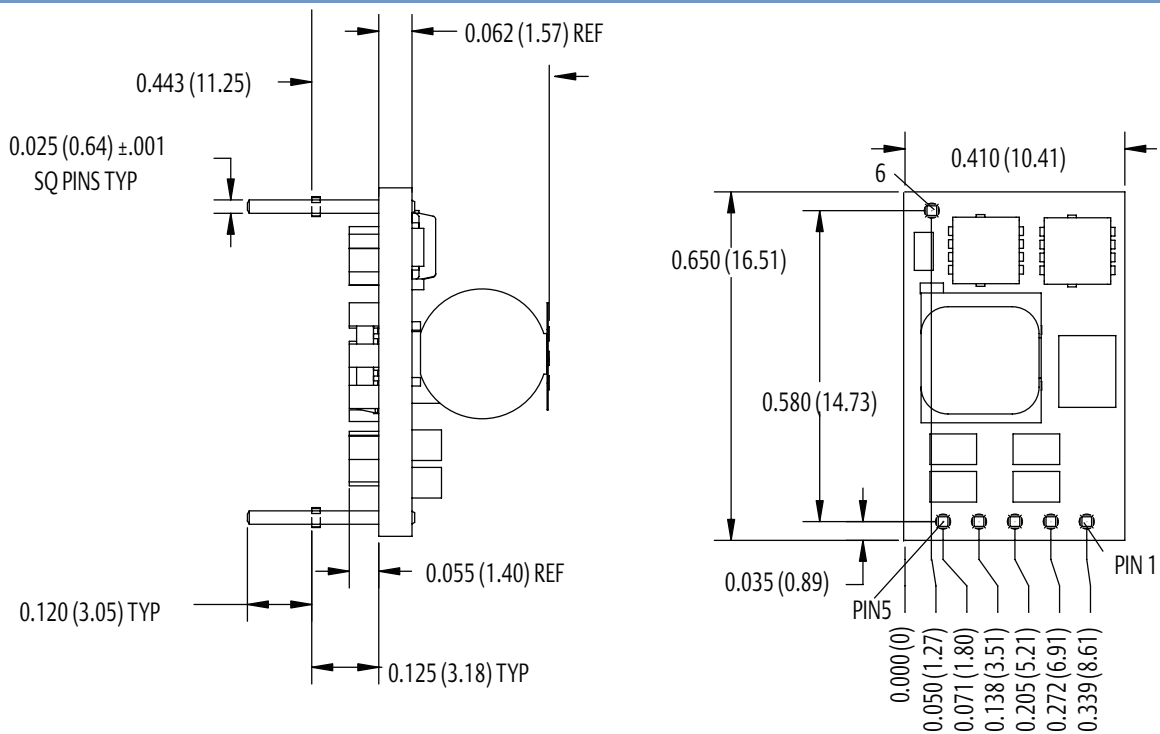
Mechanical Drawings

Vertical Mount

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

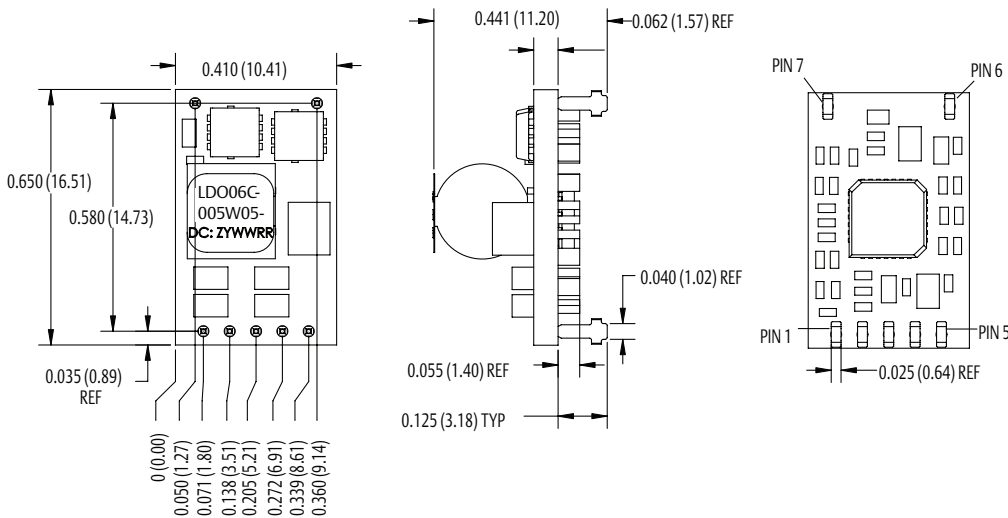


Horizontal Mount



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)

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