

LDO06C Series

30 Watts

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

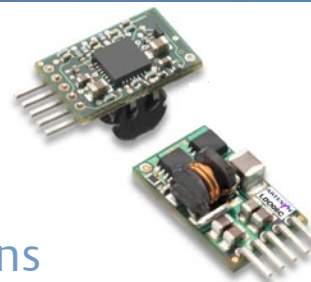
Special Features

- 6 A output current rating
- Input voltage range: 3-13.8 Vdc
- Adjustable out voltage: 0.59-5.1 V
- Excellent transient response
- 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

Rev. 03.19.08
LDO06C
1 of 4



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.
Ripple and noise 5 Hz to 20 MHz	See Note 1	30 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	Vin=5 V, Vo=2.5 V, Io=6 A	92%
Switching frequency	Fixed	620 kHz
Approvals and standards (pending)		EN60950 UL/cUL6950
Material flammability		UL94V-0
Weight		1.899 g (0.067 oz.)
MTBF	12 V @ 40 °C, 100% load Bellcore 332	8,392,808 hours
Coplanarity	Surface mount models	150µm

Environmental Specifications

Thermal performance See Note 5	Operating ambient Non-operating ambient	-40 °C to +70 °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	OVP	Output Voltage	Output Current (Min.)	Output Current (Max.)	Efficiency (Typical)	Regulation Line	Regulation Load	Model Number (3,5)
30W	3-13.8 Vdc	N/A	0.59-5.1 V	0 A	6 A	92%	±0.2%	±0.5%	LDO06C-005W05-VJ
30W	3-13.8 Vdc	N/A	0.59-5.1 V	0 A	6 A	92%	±0.2%	±0.5%	LDO06C-005W05-HJ
30W	3-13.8 Vdc	N/A	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 and Type of Output	Output Voltage	Mounting Option	RoHS Compliance (9)
LDO	06	C	00	5W	05	V	J
Product Family LDO = C Class LDO Series	Rated Output Current 06 = 6 Amp	Performance C = Cost Optimized	Input Voltage 00 = 3-13.8 V	Number of Pins and Type of Output 5W = 5 Pins and Wide Output	Output Voltage 05 = 0.59-5.1 V	Mounting Option V = Vertical H = Horizontal S = Surface	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. $di/dt = 6 \text{ A}/\mu\text{s}$, $V_{in} = \text{Nom}$, $T_c = 25^\circ\text{C}$, 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. NOTICE: The input voltage MUST be greater than the programmed output voltage. The max duty cycle is 95%. These non-isolated dc-dc modules are buck converters.

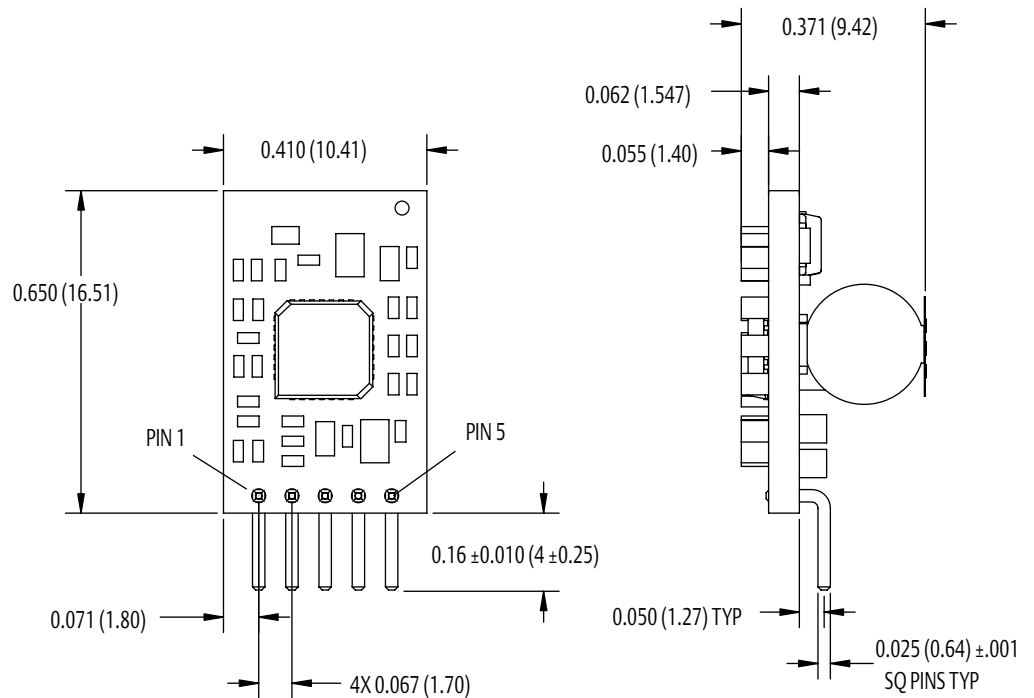
Mechanical Drawings

Vertical Mount

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

Pin Assignments

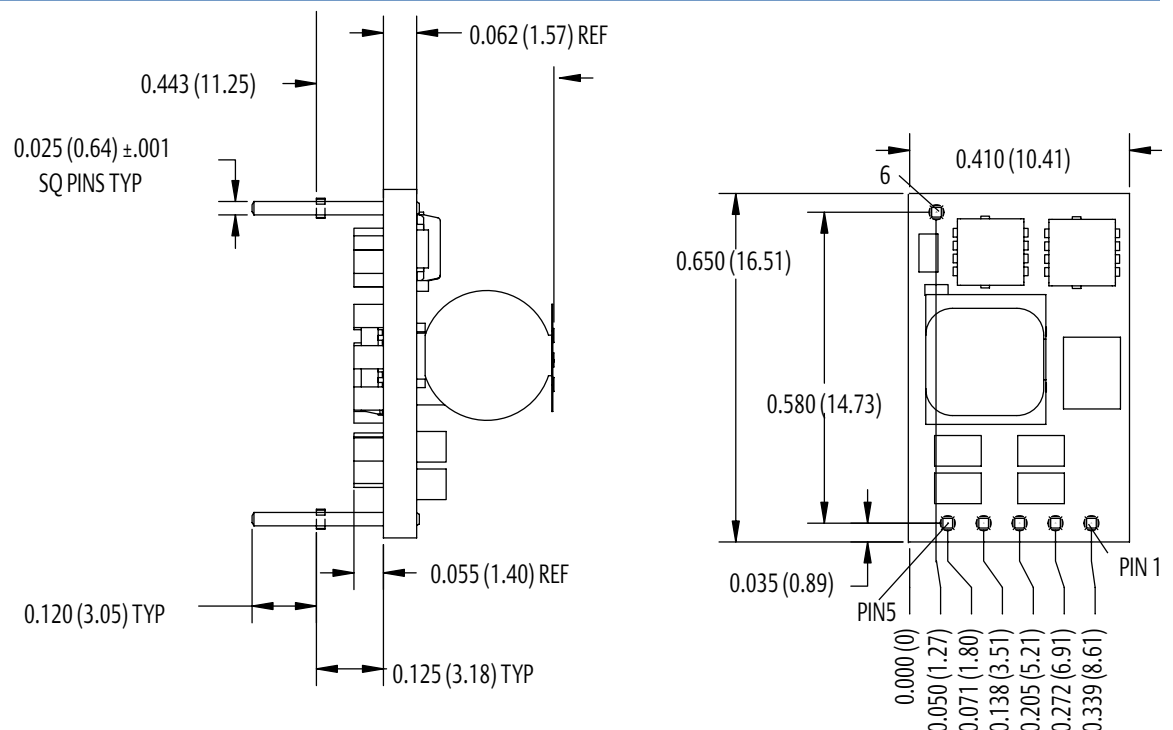
Pin No.	Function
1.	Enable
2.	Vin
3.	Common/RTN
4.	Vout
5.	Trim



Horizontal Mount

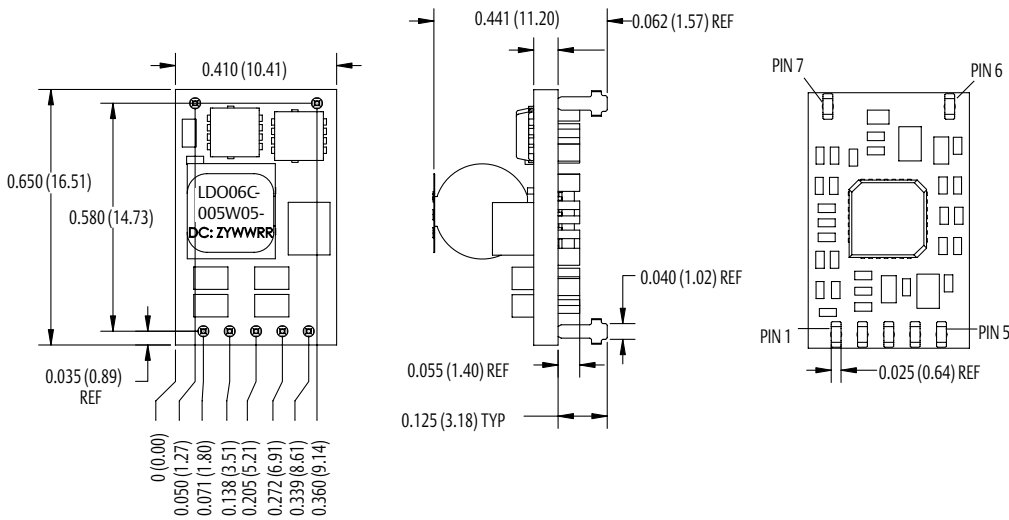
Pin Assignments

Pin No.	Function
1.	Enable
2.	Vin
3.	Common/RTN
4.	Vout
5.	Trim
6.	Mech Pin (Horz/SMT only)



Mechanical Drawings

Surface Mount



Pin Assignments

Single Output

1. Enable
2. Vin
3. Common/RTN
4. Vout
5. Trim
6. Mech Pin (Horz/SMT only)
7. Mech Pin (Horz/SMT only)

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