

LDO03C Series

15 Watts

Total Power: 15 Watts
Input Voltage: 3-13.8 Vdc
No. of Outputs: Single

Special Features

- 3 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
- 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	±0.5%
Load regulation	Full load to min. load	±0.5%
Min./max. load		0 A/3 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	25 mV Vin=5 V, Vout=2.5 V
Transient response	See Notes 1, 2	235 mV max. deviation 20 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	3 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=3 A	90%
Switching frequency	Fixed	1.5 MHz
Material flammability		UL94V-0
Weight		1.7 g (0.06 oz.)
MTBF	12 V @ 40 °C, 100% load Bellcore 332	10,000,000 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)
15W	3-13.8 Vdc	0.59-5.1 V	0 A	3 A	90%	±0.2%	±0.5%	LDO03C-005W05-VJ
15W	3-13.8 Vdc	0.59-5.1 V	0 A	3 A	90%	±0.2%	±0.5%	LDO03C-005W05-HJ
15W	3-13.8 Vdc	0.59-5.1 V	0 A	3 A	90%	±0.2%	±0.5%	LDO03C-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	03	C	- 00	5W	05	- V	X	J
Product Family LDO = LDO Series	Rated Output Current 03 = 3 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 LDO03C Series

The ultra-wide output voltage trim range offers major advantages to users who select the LDO03C 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 LDO03C converter leaves the factory, the output has been adjusted to the default voltage of 0.59 V.

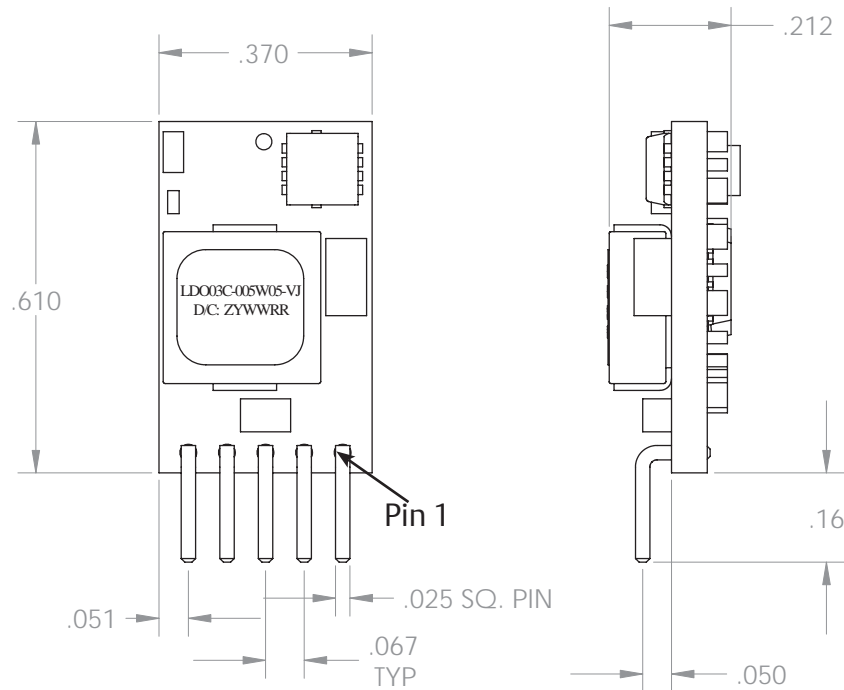
Notes:

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/powergroup/products.htm> to find a suitable alternative.

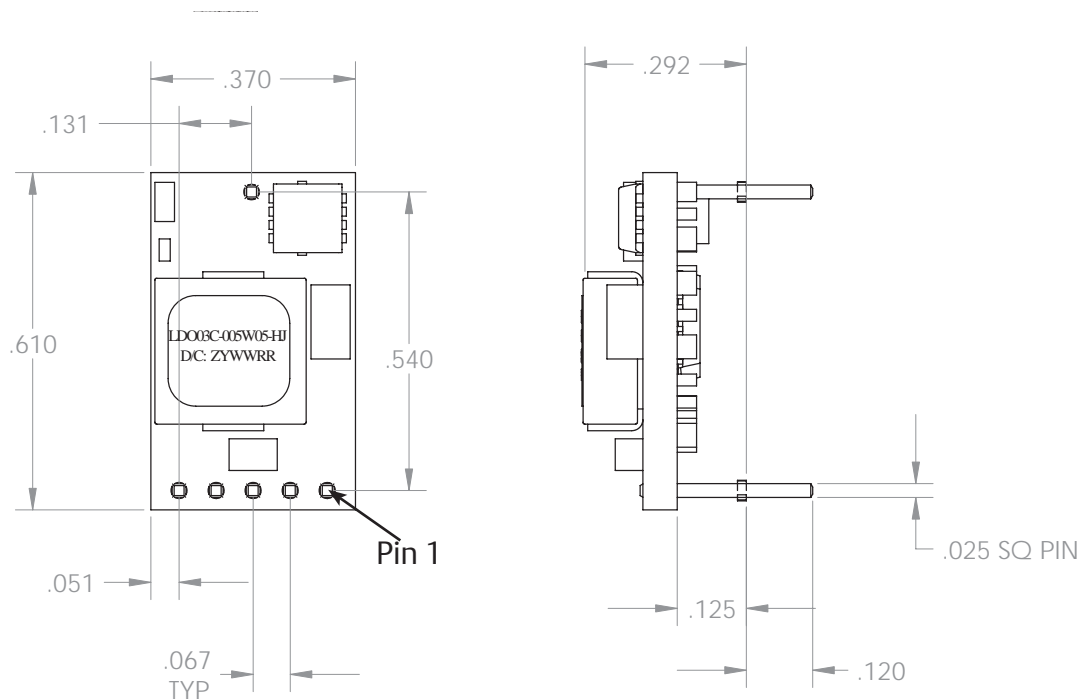
Mechanical Drawings

Vertical Mount

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

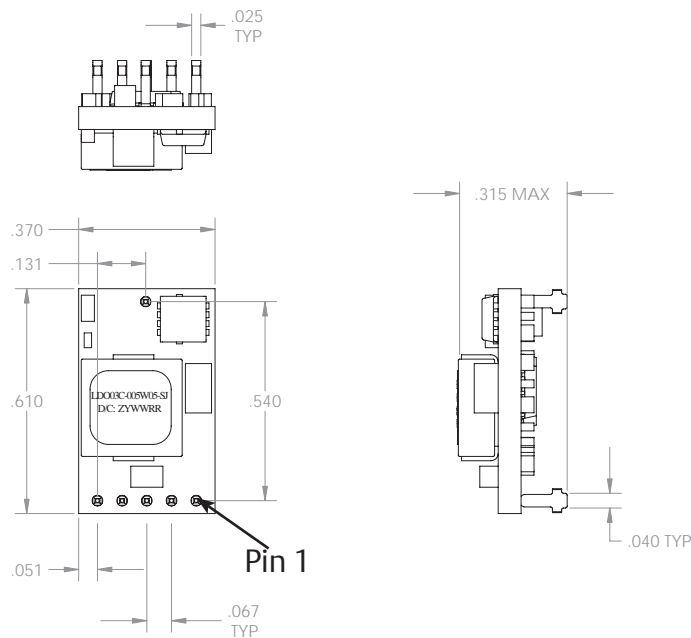


Horizontal Mount



Mechanical Drawings (Cont'd)

Horizontal Surface Mount



Pin Assignments

Single Output

1. Enable
2. Vin
3. Common/RTN
4. Vout
5. PG/Trim
6. 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.

Americas

5810 Van Allen Way
Carlsbad, CA 92008
USA
Telephone: +1 760 930 4600
Facsimile: +1 760 930 0698

Europe (UK)

Waterfront Business Park
Merry Hill, Dudley
West Midlands, DY5 1LX
United Kingdom
Telephone: +44 (0) 1384 842 211
Facsimile: +44 (0) 1384 843 355

Asia (HK)

16th - 17th Floors, Lu Plaza
2 Wing Yip Street, Kwun Tong
Kowloon, Hong Kong
Telephone: +852 2176 3333
Facsimile: +852 2176 3888

For global contact, visit:

www.powerconversion.com

For technical support, visit:

<http://www.powerconversion.com/support/product/technical-support.php>

While every precaution has been taken to ensure accuracy and completeness in this literature, Emerson Network Power assumes no responsibility, and disclaims all liability for damages resulting from use of this information or for any errors or omissions.

Printed in U.S.A.
Issue 5F3

Emerson Network Power.
The global leader in enabling
business-critical continuity.

- AC Power
- Connectivity
- DC Power
- Embedded Power**
- Inbound Power
- Integrated Cabinet Solutions
- Outside Plant
- Precision Cooling
- Site Monitoring and Services

EmersonNetworkPower.com

Emerson Network Power and the Emerson Network Power logo are trademarks and service marks of Emerson Electric Co.
©2008 Emerson Electric Co.