

LDO03C Series

15 Watts

Data Sheet

Total Power: 15 Watts
Input Voltage: 3 - 13.8 Vdc
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)
- IEC60950



Electrical Specifications

Input		
Input range:		3 - 13.8 Vdc
Input current:	Minimum load Remote OFF	50 mA 5 mA
Input current (max.):	See Note 3	3 A @ I _o max.
Start-up time	Power up Remote ON/OFF	3 ms 2 ms
Output		
Maximum power:	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 V _{in} = 5 V, V _{out} = 2.5 V
Transient response:	See Note 1, 2	235 mV max. deviation 20 μs recovery to within regulation band
General		
Efficiency (high input):	V _{in} = 5 V, V _o = 2.5 V, I _o = 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	50 μm

Environmental Specifications

Thermal performance:	Operating ambient	-40 °C to +85 °C
See Note 5	Non-operating ambient	-40 °C to +125 °C
Protection		
Short-circuit:		Hiccup, non-latching
Overvoltage protection:	IEC68-2-6 to the levels of IEC721-3-2	Hiccup, non-latching
Recommended System Capacitance		
Input:	See Note 6	0 μ F
Output:	See Note 7	0 μ F

Ordering Information

Model Number ^(3,5)	Input Voltage	Output Voltage	Output Current (Min.)	Output Current (Max.)	Efficiency (Typical)	Regulation	
						Line	Load
LDO03C-005W05-VJ	3 - 13.8 Vdc	0.59 - 5.1 V	0 A	3 A	90%	$\pm 0.2\%$	$\pm 0.5\%$
LDO03C-005W05-HJ	3 - 13.8 Vdc	0.59 - 5.1 V	0 A	3 A	90%	$\pm 0.2\%$	$\pm 0.5\%$
LDO03C-005W05-SJ	3 - 13.8 Vdc	0.59 - 5.1 V	0 A	3 A	90%	$\pm 0.2\%$	$\pm 0.5\%$

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 5 W = 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.

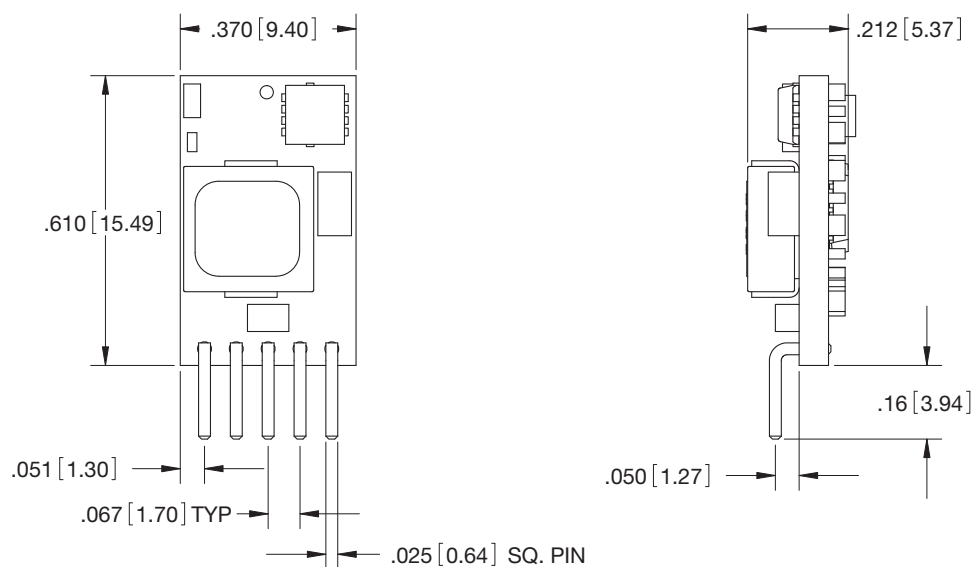
Notes:

1. Measured as per recommended system capacitance. See Technical Reference Note.
2. $di/dt = 10 \text{ A}/\mu\text{s}$, $V_{in} = \text{Nom}$, $T_c = 25^\circ\text{C}$, 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. 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 Artesyn Embedded Technologies representative or use the on-line model number search tool at <http://www.Artesyn.com/power> to find a suitable alternative.

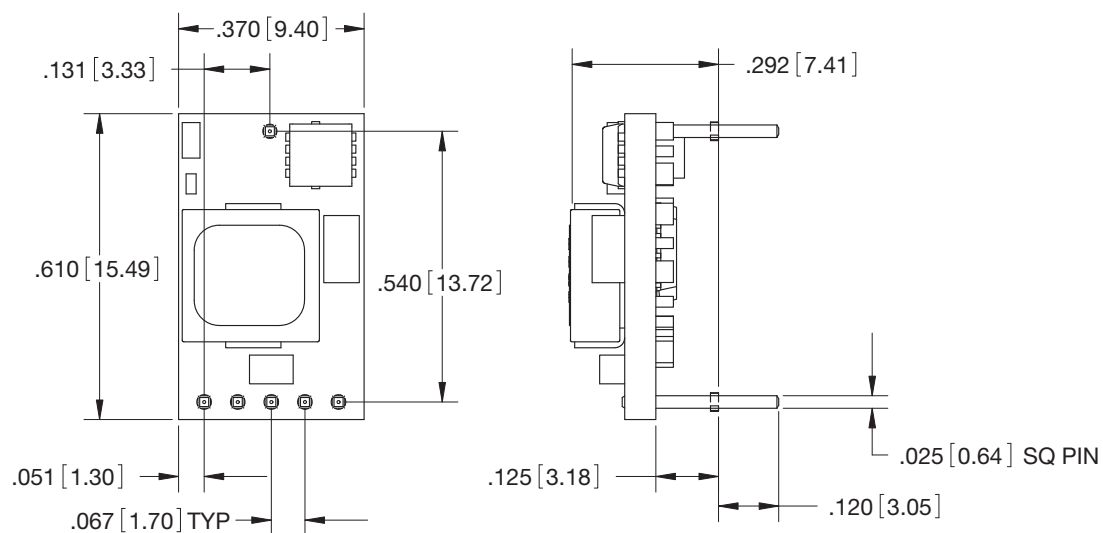
Mechanical Drawings

Vertical Mount

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

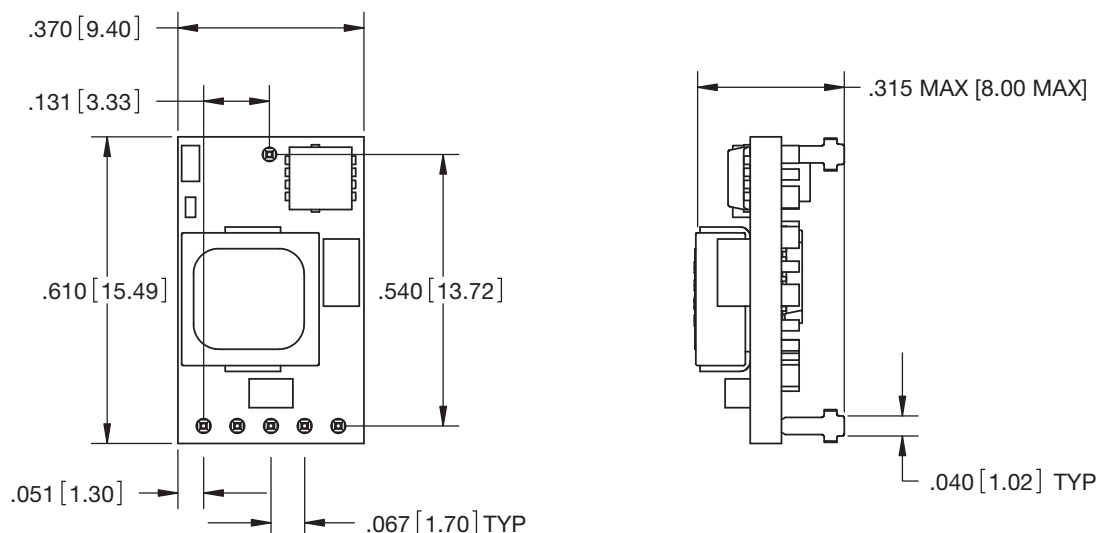


Horizontal Mount



Mechanical Drawings

Horizontal 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. Artesyn Embedded Technologies 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.

WORLDWIDE OFFICES

Americas

2900 S.Diablo Way
Tempe, AZ 85282
USA
+1 888 412 7832

Europe (UK)

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

Asia (HK)

14/F, Lu Plaza
2 Wing Yip Street
Kwun Tong, Kowloon
Hong Kong
+852 2176 3333

ARTESYN[™]
EMBEDDED TECHNOLOGIES

www.artesyn.com

While every precaution has been taken to ensure accuracy and completeness in this literature, Artesyn Embedded Technologies assumes no responsibility, and disclaims all liability for damages resulting from use of this information or for any errors or omissions. Artesyn Embedded Technologies, Artesyn and the Artesyn Embedded Technologies logo are trademarks and service marks of Artesyn Embedded Technologies, Inc. All other names and logos referred to are trade names, trademarks, or registered trademarks of their respective owners. © 2014 Artesyn Embedded Technologies, Inc.

For more information: www.artesyn.com/power
For support: productsupport.ep@artesyn.com