

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.

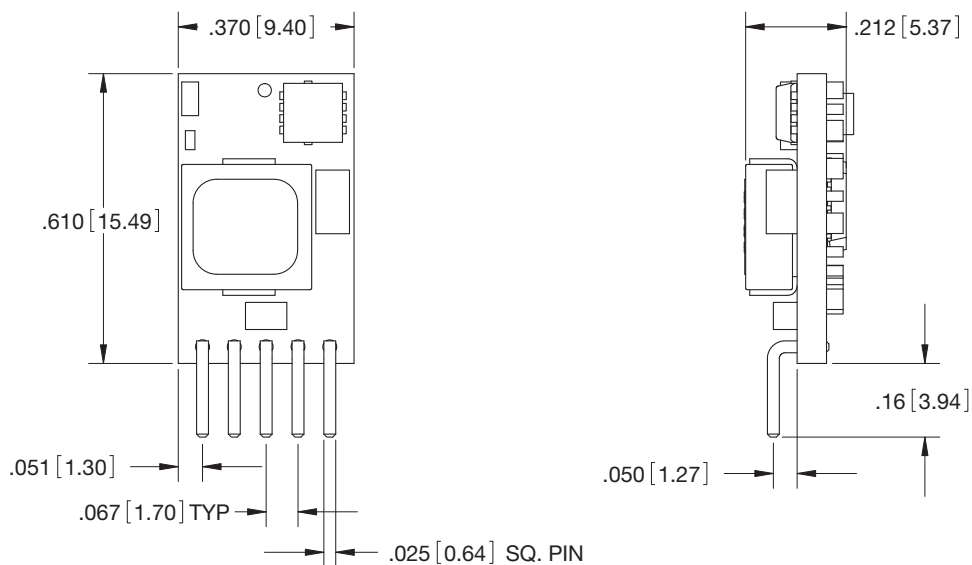
Notes:

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

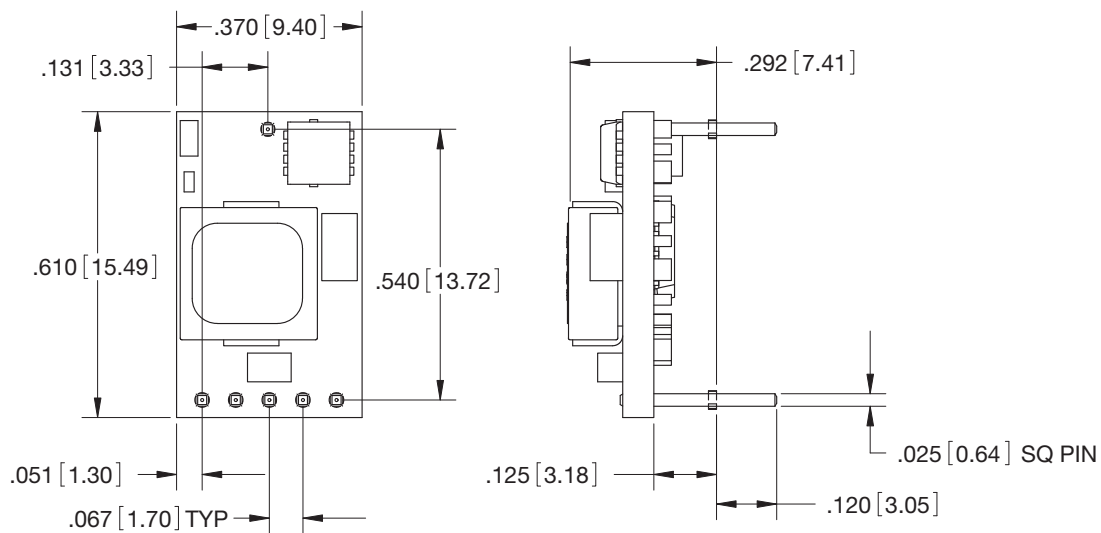
Mechanical Drawings

Vertical Mount

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

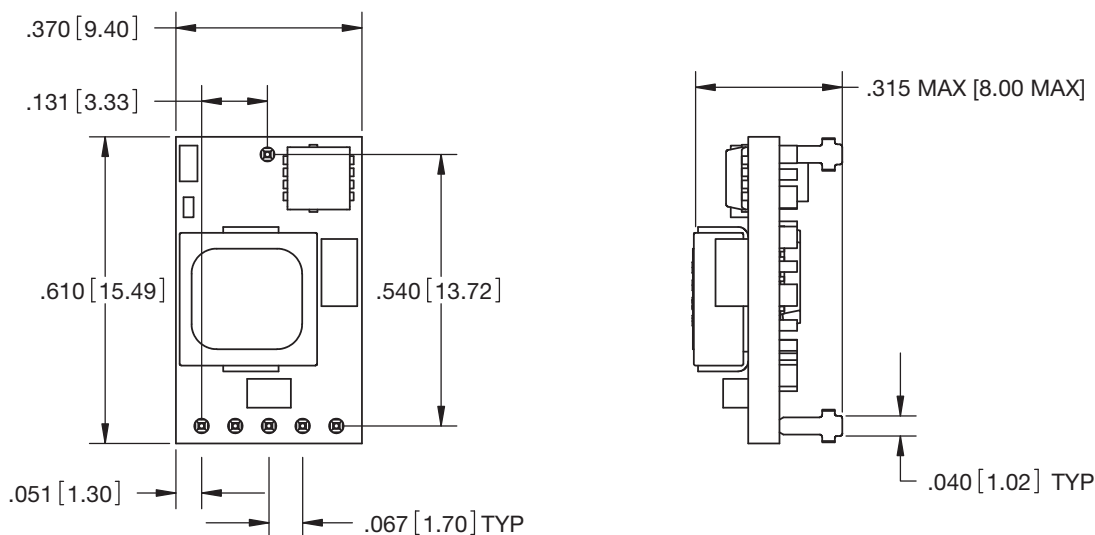


Horizontal Mount



Mechanical Drawings

Horizontal Mount



| Pin Assignments | |
|----------------------|--------------------------|
| <i>Single Output</i> | |
| 1 | Enable |
| 2 | Vin |
| 3 | Common/RTN |
| 4 | Vout |
| 5 | PG/Trim |
| 6 | Mech Pin (Horz/SMT only) |

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