

Features

Regulated Converter

- 1kVDC Isolation
- SMD Package Styles
- Single Regulated Output (Internal Linear Regulator)
- UL94V-0 Package Material
- Optional Continuous Short Circuit Protected
- Fully Encapsulated
- Efficiency to 62 %

Description

The RZ series DC/DC converter has been designed for isolating or converting DC power rails where board space is at a premium. Although no larger than a standard unregulated SMD converter, the RZ series also incorporates an internal linear regulator to deliver a stable output voltage which makes it ideal for powering logic level or supply voltage sensitive circuitry.

Specifications (measured at $T_A = 25^\circ\text{C}$, nominal input voltage, full load and after warm-up)

| Part Number SMD | Input Voltage (VDC) | Output Voltage (VDC) | Output Current (mA) | Efficiency (%) | Max Capacitive Load ⁽¹⁾ |
|-----------------|---------------------|----------------------|---------------------|----------------|------------------------------------|
| RZ-xx05S | 5, 12, 15, 24 | 5 | 100 | 50 | 1000 μF |
| RZ-xx12S | 5, 12, 15, 24 | 12 | 42 | 60 | 470 μF |
| RZ-xx15S | 5, 12, 15, 24 | 15 | 33 | 62 | 470 μF |

xx = Input Voltage

* add Suffix "P" for Continuous Short Circuit Protection, e.g. RZ-0505/P

* add suffix -R for tape & reel packing e.g. RZ-0505-R, RZ.0505/P-R

For more details and dimensions of the tapes and reels see Application Notes

Specifications (Core Operating Area)

| | | |
|---|---|---|
| Input Voltage Range | | $\pm 5\%$ |
| Output Voltage Accuracy | | $\pm 5\%$ |
| Line Voltage Regulation | | 1% max. |
| Load Voltage Regulation (10% to 100% full load) | | 1% max. |
| Output Ripple and Noise (20MHz limited) | | 100mVp-p max. |
| Operating Frequency | 50kHz min. / 100kHz typ. / 105kHz max. | |
| Efficiency at Full Load | | 50% min. / 60% typ. |
| Minimum Load | | 0% |
| No Load Power Consumption | 127mW min. / 155mW typ. / 320mW max. | |
| Isolation Voltage | (tested for 1 second) (rated for 1 minute) | 1000VDC 500VAC / 60Hz |
| Isolation Capacitance | | 25pF min. / 75pF max. |
| Isolation Resistance | | 10 G Ω min. |
| Short Circuit Protection P-Suffix | | 1 Second Continuous |
| Operating Temperature Range (free air convection) | | -40°C to +70°C (see Graph) |
| Storage Temperature Range | | -55°C to +125°C |
| Reflow Temperature | ROHS compliant | 245°C (30 sec) max. |
| Vapour Phase Process | | 230°C (90 sec) max. (for more details see Application Notes) |
| Relative Humidity | | 95% RH |
| Package Weight | | 1.9g |
| Packing Quantity | | 33 pcs per tube 500 pcs per Reel |
| MTBF (+25°C) | } Detailed Information see Application Notes chapter "MTBF" | using MIL-HDBK 217F |
| (+70°C) | | using MIL-HDBK 217F |

ECONOLINE

DC/DC-Converter

with 3 year Warranty



0.5 Watt SMD

Isolated Single Output



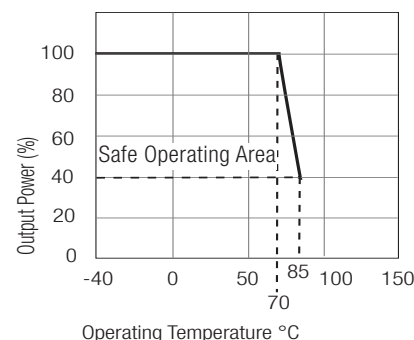
EN-60950-1 Certified

RZ

EOL Dec.2011

END OF LIFE: Please do not use for new design, replace with new SMD converter R0.5Z.

Derating-Graph (Ambient Temperature)



Refer to Application Notes

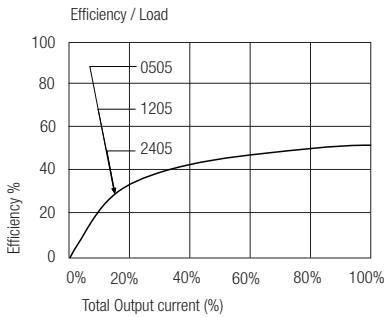
ECONOLINE

DC/DC-Converter

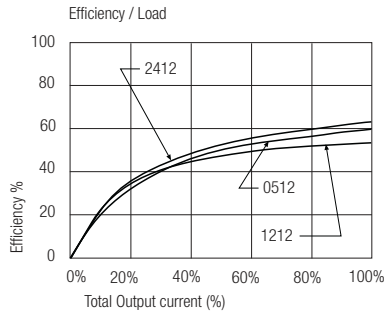
RZ Series

Typical Characteristics

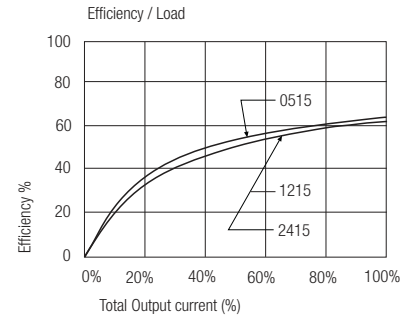
RZ-xx05S



RZ-xx12S



RZ-xx15S

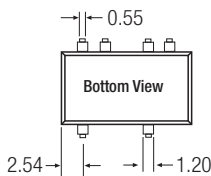
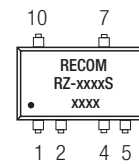
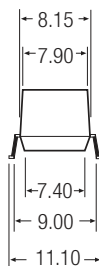
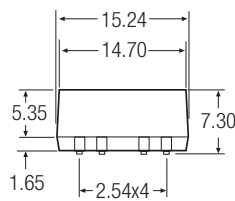


Notes

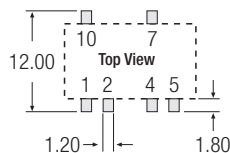
Note 1 Maximum capacitive load is defined as the capacitive load that will allow start up in under 1 second without damage to the converter

Package Style and Pinning (mm)

10 PIN SMD Package



Recommended Footprint Details



Pin Connections

| Pin # | Single |
|-------|--------|
| 1 | -Vin |
| 2 | +Vin |
| 4 | -Vout |
| 5 | -Vout |
| 7 | +Vout |
| 10NC | |

NC= No Connection

XX.X ± 0.5 mm
XX.XX ± 0.25 mm