

Features

Regulated Converters

Rev.0

- 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 (%)
RZ-xx05S	5, 12, 15, 24	5	100	50
RZ-xx12S	5, 12, 15, 24	12	42	60
RZ-xx15S	5, 12, 15, 24	15	33	62

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

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.
No Load Power Consumption		127mW min. / 155mW typ. / 194mW max.
Maximum Capacitive Load		33 μF
Isolation Voltage	(tested for 1 second)	1000VDC min.
Rated Working Voltage	(long term isolation)	see Application Notes
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		240°C (90 sec) max.
		(for more details see Application Notes)
Relative Humidity		95% RH
Package Weight		1.9g
MTBF (+25°C)	} Detailed Information see Application Notes chapter "MTBF"	using MIL-HDBK 217F
(+70°C)		using MIL-HDBK 217F
		1632 x 10 ³ hours
		156 x 10 ³ hours

ECONOLINE

DC/DC-Converter

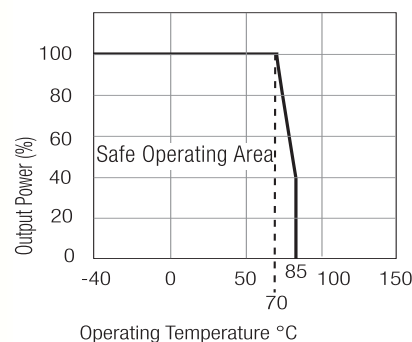
RZ Series

0.5 Watt SMD Isolated Single Output



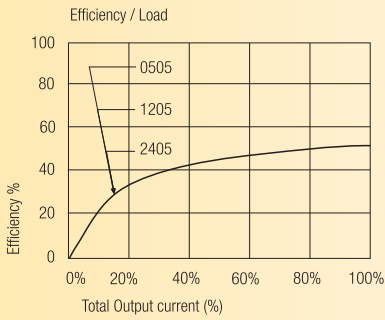
RECOM

Derating-Graph (Ambient Temperature)

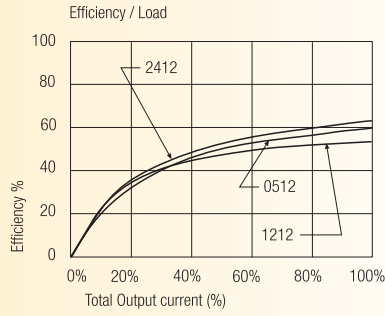


Typical Characteristics

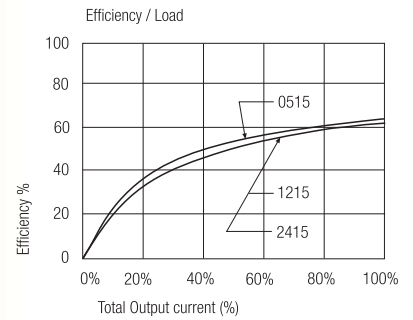
RZ-xx05S



RZ-xx12S



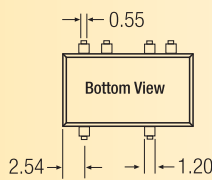
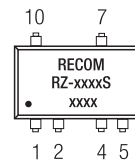
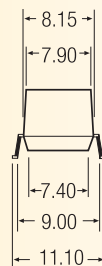
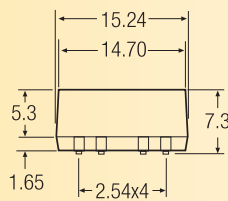
RZ-xx15S



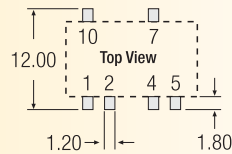
Package Style and Pinning (mm)

10 PIN SMD Package

3rd angle projection



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