

## 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 <sup>(1)</sup>
RZ-xx05S	5, 12, 15, 24	5	100	50	1000 $\mu\text{F}$
RZ-xx12S	5, 12, 15, 24	12	42	60	470 $\mu\text{F}$
RZ-xx15S	5, 12, 15, 24	15	33	62	470 $\mu\text{F}$

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 $\Omega$ min.	
Short Circuit Protection		1 Second	
P-Suffix		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	1632 x 10 <sup>3</sup> hours
(+70°C)		using MIL-HDBK 217F	156 x 10 <sup>3</sup> hours

## ECONOLINE

DC/DC-Converter

with 3 year Warranty

RECOM

## 0.5 Watt

## SMD

## Isolated

## Single Output

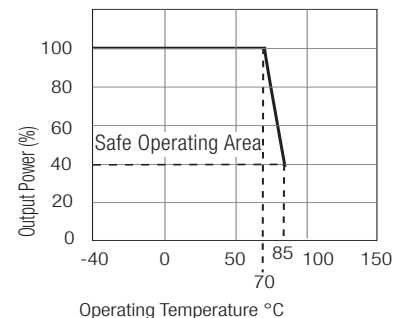


EN-60950-1 Certified

# RZ

## Derating-Graph

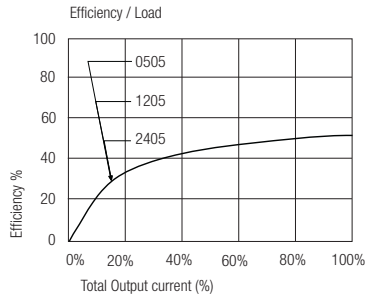
(Ambient Temperature)



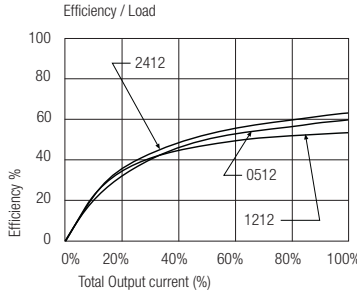
Refer to Application Notes

Typical Characteristics

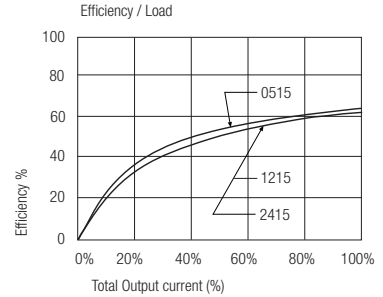
**RZ-xx05S**



**RZ-xx12S**



**RZ-xx15S**

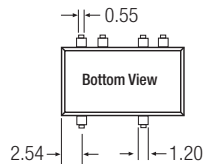
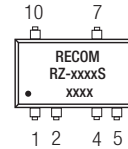
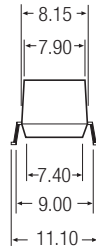
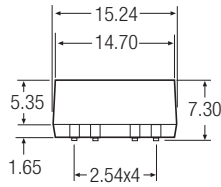


Notes

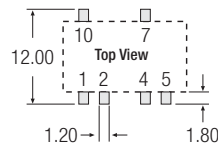
Note 1 Maximum capacitive load is defined as the capacitive load that will allow start up in under 1 second without damage to the converter

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