

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 $+70^\circ\text{C}$ (see Graph)	
Storage Temperature Range	-55°C to $+125^\circ\text{C}$	
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 ($+25^\circ\text{C}$)	} Detailed Information see Application Notes chapter "MTBF"	using MIL-HDBK 217F 1632 x 10^3 hours
($+70^\circ\text{C}$)		using MIL-HDBK 217F 156 x 10^3 hours

ECONOLINE

DC/DC-Converter

with 3 year Warranty

RECOM

0.5 Watt SMD

Isolated Single Output



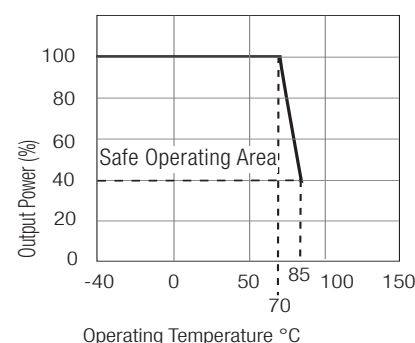
EN-60950-1 Certified

RZ

EOL Dec.2011

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

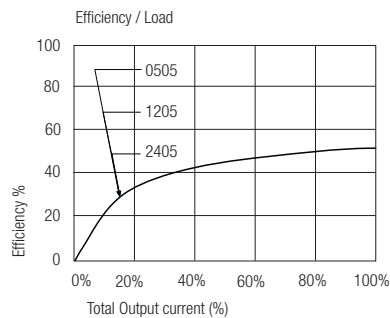
Derating-Graph (Ambient Temperature)



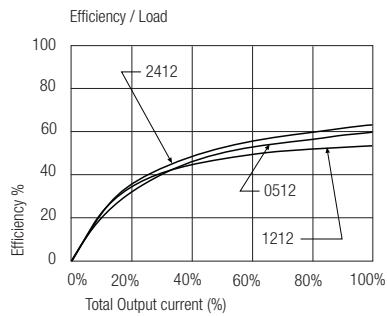
Refer to Application Notes

Typical Characteristics

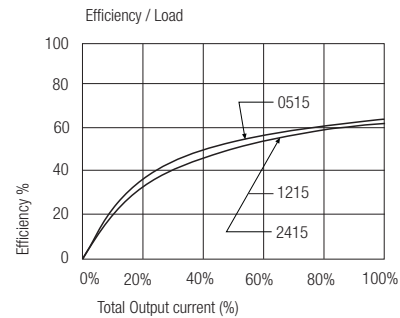
RZ-xx05S



RZ-xx12S



RZ-xx15S

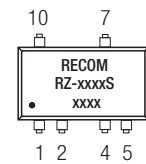
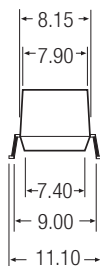
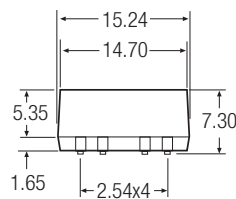


Notes

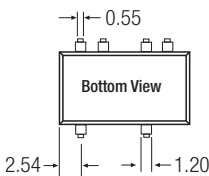
Note 1 Maximum capacitive load is defined as the capacitive load that will allow start up in under 1 second without damage to the converter

Package Style and Pinning (mm)

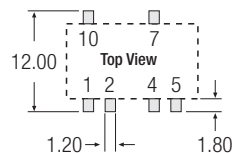
10 PIN SMD Package



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

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

RECOM:

[RZ-0505S](#) [RZ-0505S/P](#) [RZ-0505S/P-R](#) [RZ-0505S-R](#) [RZ-0512S](#) [RZ-0512S/P](#) [RZ-0512S/P-R](#) [RZ-0512S-R](#) [RZ-0515S](#) [RZ-0515S/P](#) [RZ-0515S/P-R](#) [RZ-0515S-R](#) [RZ-1205S](#) [RZ-1205S/P](#) [RZ-1205S/P-R](#) [RZ-1205S-R](#) [RZ-1212S](#) [RZ-1212S/P](#) [RZ-1212S/P-R](#) [RZ-1212S-R](#) [RZ-1215S](#) [RZ-1215S/P](#) [RZ-1215S/P-R](#) [RZ-1215S-R](#) [RZ-1505S](#) [RZ-1505S/P](#) [RZ-1505S/P-R](#) [RZ-1505S-R](#) [RZ-1512S](#) [RZ-1512S/P](#) [RZ-1512S/P-R](#) [RZ-1512S-R](#) [RZ-1515S](#) [RZ-1515S/P](#) [RZ-1515S/P-R](#) [RZ-1515S-R](#) [RZ-2405S](#) [RZ-2405S/P](#) [RZ-2405S/P-R](#) [RZ-2405S-R](#) [RZ-2412S](#) [RZ-2412S/P](#) [RZ-2412S/P-R](#) [RZ-2412S-R](#) [RZ-2415S](#) [RZ-2415S/P](#) [RZ-2415S/P-R](#) [RZ-2415S-R](#)