

Features

Regulated Converters

- 1kVDC & 2kVDC Isolation
- UL94V-0 Package Material
- No Heatsink Required
- No External Components Required
- Toroidal Magnetics
- Optional Continuous Short Circuit Protected

Description

The RSZ series DC/DC converter has been designed for isolating or converting DC power rails where an SMD format with regulated output is required, although it is no larger than a standard unregulated SMD converter.

Selection Guide

Part Number		Input Voltage (VDC)	Output Voltage (VDC)	Output Current (mA)
Regulated without short circuit protection				
RSZ-xx05	(H)	3.3, 5, 12, 15, 24	5	200
RSZ-xx09	(H)	3.3, 5, 12, 15, 24	9	111
RSZ-xx12	(H)	3.3, 5, 12, 15, 24	12	42
Regulated with short circuit protection				
RSZ-xx3.3/P	(H)	3.3, 5, 12, 15, 24	3.3	200
RSZ-xx05/P	(H)	3.3, 5, 12, 15, 24	5	200

xx= Input Voltage (other input and output voltage combinations available on request add suffix -R for tape & reel packing e.g. RSZ-0505-R)

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

Input Voltage Range		$\pm 5\%$	
Output Voltage Accuracy		$\pm 2\%$	
Line Voltage Regulation		1% max.	
Load Voltage Regulation		1% max.	
Output Ripple and Noise (at 20MHz BW)		100mVp-p max.	
Operating Frequency		20kHz min. / 50kHz typ. / 85kHz max.	
Efficiency at Full Load		50% min. / 60% typ.	
No Load Power Consumption		134mW min. / 217mW typ. / 350mW max.	
Maximum Capacitive Load		47 μF	
Isolation Voltage	(tested for 1 second)	1000VDC min.	
Rated Working Voltage	(long term isolation)	see Application Notes	
Isolation Voltage	H-Suffix (tested for 1 second)	2000VDC min.	
Rated Working Voltage	H-Suffix (long term isolation)	see Application Notes	
Isolation Capacitance		70pF typ.	
Isolation Resistance		10 $\text{G}\Omega$ min.	
Short Circuit Protection		1 Second	
P-Suffix		Continuous	
Operating Temperature Range (free air)		-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		2.7g	
P-Suffix		2.6g	
Packing Quantity		33 pcs per tube	
		500 pcs per Reel	
MTBF (+25°C)	} For detailed information see Application Notes chapter "MTBF"	RSZ types	1210 x 10 ³ hours
		RSZ/P types	1688 x 10 ³ hours
(+70°C)		RSZ types	149 x 10 ³ hours
using MIL-HDBK 217F		RSZ/P types	418 x 10 ³ hours

ECONOLINE

DC/DC-Converter

RECOM

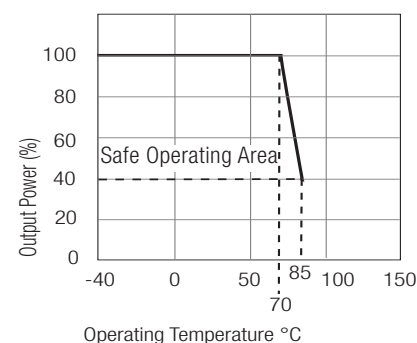
1 Watt SMD Miniature Isolated Single Output



EN-60950-1 Certified

RSZ

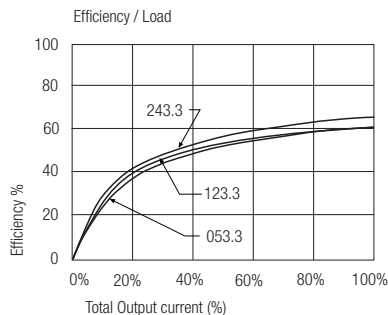
Derating-Graph (Ambient Temperature)



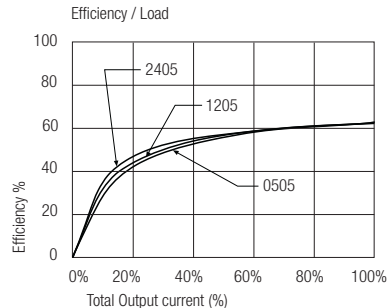
Refer to Application Notes

Typical Characteristics

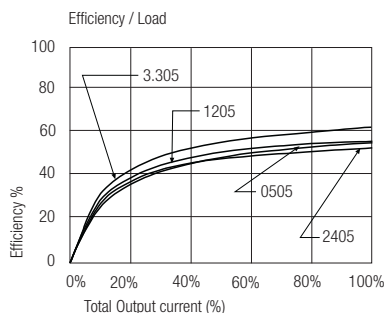
RSZ-xx3.3/P



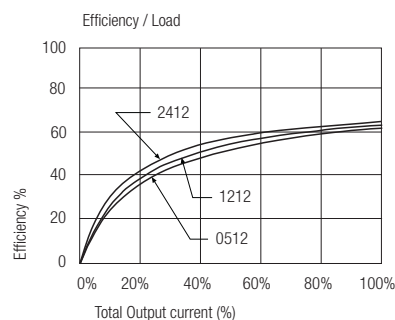
RSZ-xx05/P



RSZ-xx05



RSZ-xx12

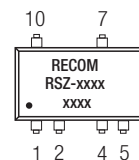
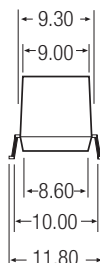
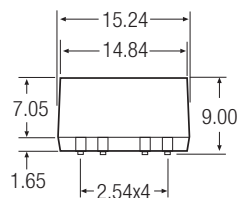


Package Style and Pinning (mm)

Ordering Example: RSZ-0505 (5V Input, 5V Output, not short circuit protected)
 RSZ-0505/HP (5V Input, 5V Output, 2kVDC Isolation and short circuit protection)

3rd angle projection

10 PIN Single SMD Package



Pin Connections

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

NC= No Connection

XX.X ± 0.5 mm

XX.XX ± 0.25 mm

Recommended Footprint Details

