

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 SMD	2kVDC	Input Voltage (VDC)	Output Voltage (VDC)	Output Current (mA)	Max Capacitive Load ⁽¹⁾
Regulated without short circuit protection					
RSZ-xx05	(H)	3.3, 5, 12, 15, 24	5	200	1200µF
RSZ-xx09	(H)	3.3, 5, 12, 15, 24	9	111	1200µF
RSZ-xx12	(H)	3.3, 5, 12, 15, 24	12	42	680µF
Regulated with short circuit protection					
RSZ-xx3.3/P	(H)	3.3, 5, 12, 15, 24	3.3	200	3300µF
RSZ-xx05/P	(H)	3.3, 5, 12, 15, 24	5	200	1200µF

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°C, nominal input voltage, full load and after warm-up)

Input Voltage Range	±5%	
Output Voltage Accuracy	±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.	
Minimum Load	0%	
No Load Power Consumption	134mW min. / 217mW typ. / 350mW max.	
Isolation Voltage	(tested for 1 second) (rated for 1 minute)	1000VDC 500VAC / 60Hz
Isolation Voltage	H-Suffix H-Suffix	(tested for 1 second) (rated for 1 minute) 2000VDC 1000VAC / 60Hz
Isolation Capacitance	70pF typ.	
Isolation Resistance	10 GΩ 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

with 3 year Warranty



1 Watt SMD Miniature Isolated Single Output



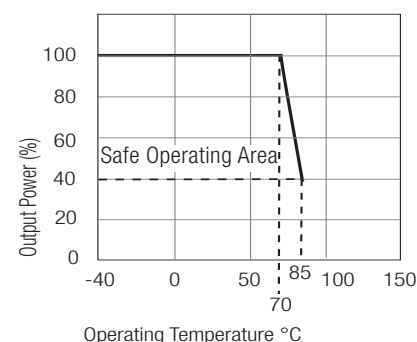
EN-60950-1 Certified

RSZ

EOL Dec.2011

END OF LIFE: Please do not use for new design, replace with new SMD converter R1Z.

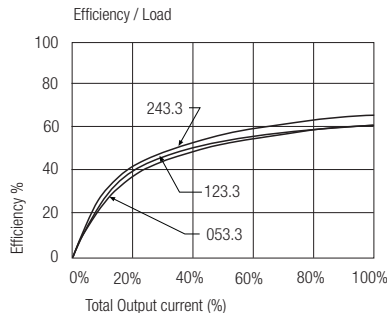
Derating-Graph (Ambient Temperature)



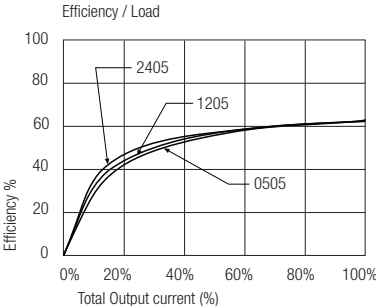
Refer to Application Notes

Typical Characteristics

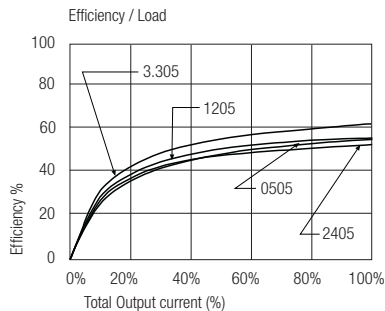
RSZ-xx3.3/P



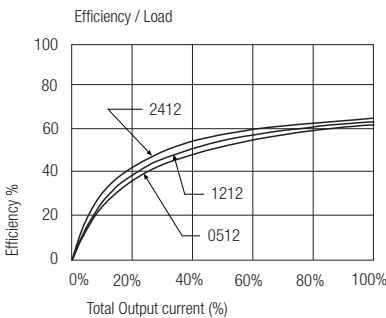
RSZ-xx05/P



RSZ-xx05



RSZ-xx12



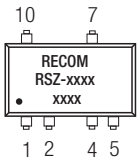
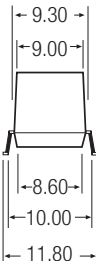
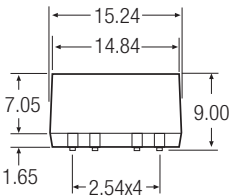
Notes
Note 1 Maximum capacitive load is defined as the capacitive load that will allow start up in under 1 second without damage to the converter

Package Style and Pinning (mm)

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

