

Features

Unregulated Converters

- 2W Single and Dual Outputs in DIP14
- 3kVDC and 4kVDC Isolation
- Optional Continuous Short Circuit Protected
- Custom Solutions Available
- UL94V-0 Package Material
- Efficiency up to 85 %

Description

The RJZ and RGZ series converters are available in DIP14 packages, so can be used for applications where component height is restricted.

The wide selection of input voltage and output voltage options plus an I/O-Isolation of 3kVDC or 4kVDC as standard makes these converters suitable for many industrial and medical applications.

Selection Guide

Part Number	4kV	Input Voltage (VDC)	Output Voltage (VDC)	Output Current (mA)	Efficiency (%)	Max Capacitive Load ⁽¹⁾
RJZ-xx3.3S	(H)	3.3,5,9,12,15,24	3.3	606	70-75	3300µF
RJZ-xx05S	(H)	3.3,5,9,12,15,24	5	400	78-85	1200µF
RJZ-xx09S	(H)	3.3,5,9,12,15,24	9	222	78-84	1200µF
RJZ-xx12S	(H)	3.3,5,9,12,15,24	12	166	80-85	680µF
RJZ-xx15S	(H)	3.3,5,9,12,15,24	15	133	82-85	680µF
RJZ-xx24S	(H)	3.3,5,9,12,15,24	24	83	80-85	220µF
RGZ-xx3.3D	(H)	3.3,5,9,12,15,24	±3.3	±303	75	±1500µF
RGZ-xx05D	(H)	3.3,5,9,12,15,24	±5	±200	75-82	±470µF
RGZ-xx09D	(H)	3.3,5,9,12,15,24	±9	±111	75-80	±470µF
RGZ-xx12D	(H)	3.3,5,9,12,15,24	±12	±84	78-82	±220µF
RGZ-xx15D	(H)	3.3,5,9,12,15,24	±15	±66	80-84	±220µF
RGZ-xx24D	(H)	3.3,5,9,12,15,24	±24	±42	82-84	±100µF

xx = Input Voltage. Other input and output voltage combinations available on request.

* add Suffix "P" for Continuous Short Circuit Protection, e.g. RGZ-0524D/P, RJZ-0505S/HP

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

Input Voltage Range	±10%
Output Voltage Accuracy	±5%
Line Voltage Regulation	1.2%/1% of V_{in} typ.
Load Voltage Regulation	3.3V Types ±20% max.
(10% to 100% full load)	5V Types ±15% max.
	All other Types ±10% max.
Output Ripple and Noise (20MHz limited)	±150mVp-p max.
Temperature Coefficient	0.02%/°C max.
Operating Frequency	20kHz min. / 50kHz typ. / 90kHz max.
Efficiency at Full Load	70% min. / 80% typ.
Minimum Load = 0%	Specifications valid for 10% minimum load only.
Isolation Voltage	(tested for 1 second) 3000VDC
	(rated for 1 minute) 1500VAC / 60Hz
Isolation Voltage	H-Suffix (tested for 1 second) 4000VDC min.
	H-Suffix (rated for 1 minute) 2000VAC / 60Hz
Isolation Capacitance	120pF max.
Isolation Resistance	15GΩ min.
Short Circuit Protection	1 Second
P-Suffix	Continuous
Operating Temperature Range (free air convection)	-40°C to +85°C (see Graph)

cont.

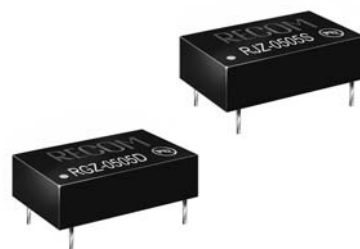
ECONOLINE

DC/DC-Converter

with 3 year Warranty

RECOM

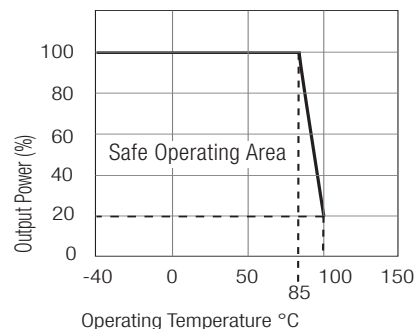
2 Watt DIP14 Single & Dual Output



EN-60950-1 Certified
EN-60601-1 Certified

RJZ & RGZ

Derating-Graph (Ambient Temperature)



Refer to Application Notes

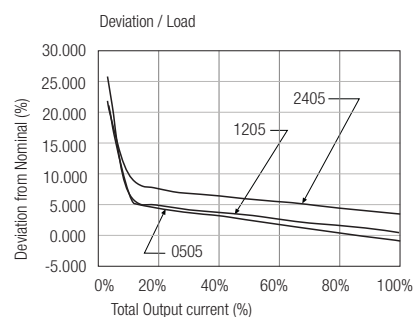
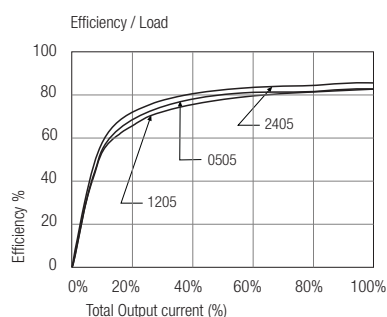
www.recom-electronic.com

Specifications - continued

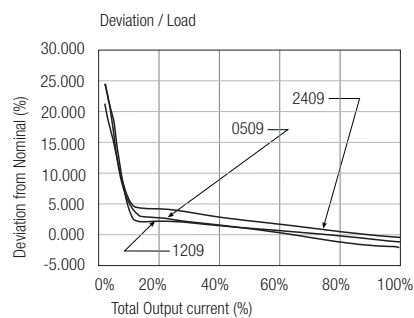
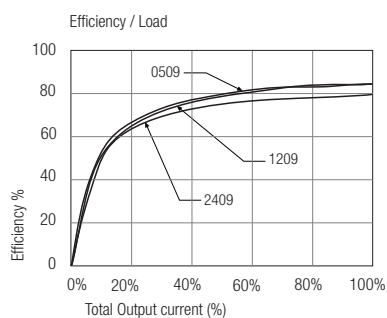
Storage Temperature Range			-55°C to +125°C	
Relative Humidity			95% RH	
Package Weight			2.8g	
Packing Quantity			24 pcs per Tube	
MTBF (+25°C)	} <i>Detailed Information see Application Notes chapter "MTBF"</i>	using MIL-HDBK 217F	RJZ types	893 x 10 ³ hours
			RGZtypes	810 x 10 ³ hours
(+85°C)		using MIL-HDBK 217F	RJZ types	208 x 10 ³ hours
			RGZ types	151 x 10 ³ hours

Typical Characteristics

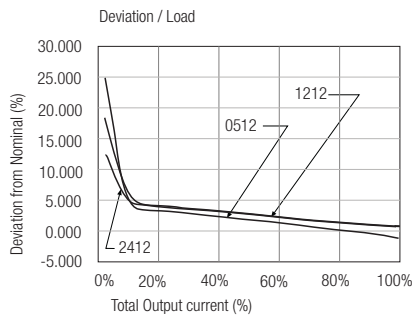
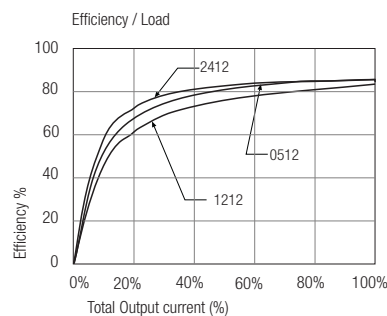
RJZ-xx05S



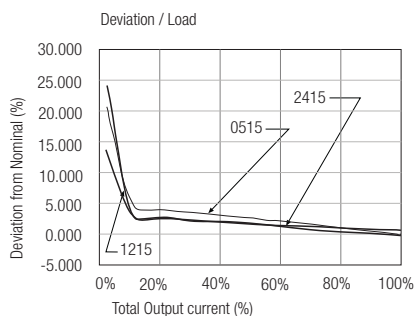
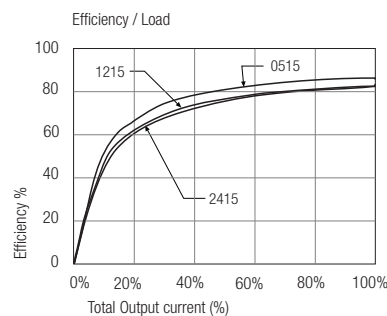
RJZ-xx09S



RJZ-xx12S

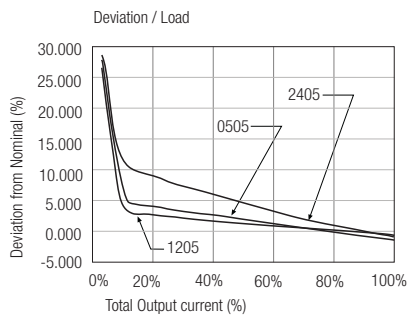
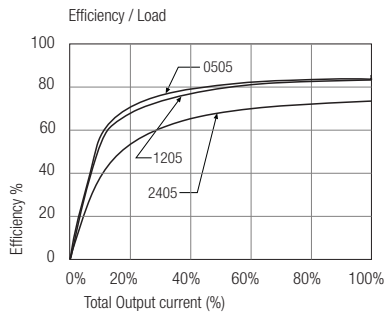


RJZ-xx15S

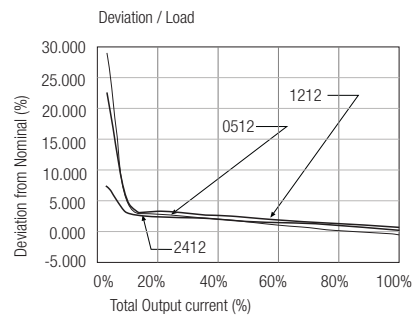
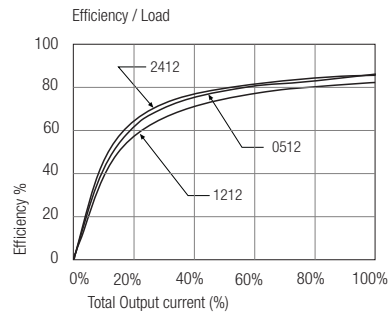


Typical Characteristics

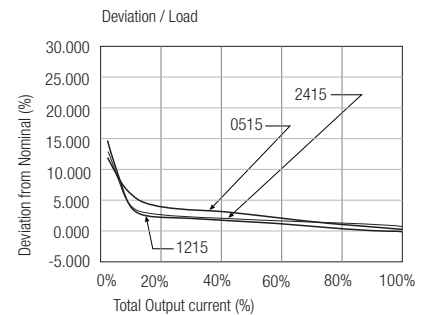
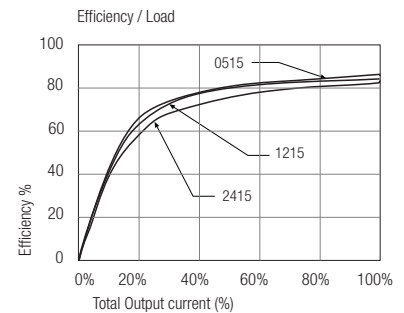
RGZ-xx05D



RGZ-xx12D



RGZ-xx15D



Notes

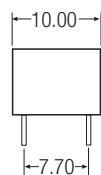
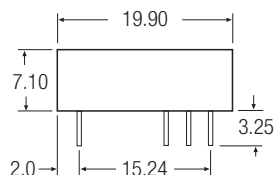
Note 1 Maximum capacitive load is defined as the capacitive load that will allow start up in under 1 second without damage to the converter.

Certifications

EN General Safety	Report: PS-R7219C1	EN60950-1:2001 + A11:2004
EN Medical Safety	Report: MDD1205098-4 + RM1205098-4	IEC/EN 60601-1 3rd Edition Medical Report + ISO14971 Risk Assessment

Package Style and Pinning (mm)

14 PIN DIP Package



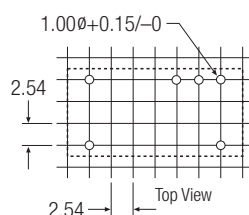
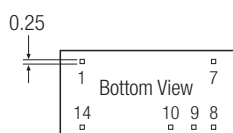
Single Output



Dual Output



Recommended Footprint Details



Pin Connections

Pin #	RJZ	RGZ
1	-Vin	-Vin
7	NC	NC
8	+Vout	+Vout
9	No Pin	Com
10	-Vout	-Vout
14	+Vin	+Vin

NC = No Connection
XX.X ± 0.5 mm
XX.XX ± 0.25 mm