

## 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 (%)
RJZ-xx3.3S	(H)	3.3,5,9,12,15,24	3.3	606	70-75
RJZ-xx05S	(H)	3.3,5,9,12,15,24	5	400	78-85
RJZ-xx09S	(H)	3.3,5,9,12,15,24	9	222	78-84
RJZ-xx12S	(H)	3.3,5,9,12,15,24	12	166	80-85
RJZ-xx15S	(H)	3.3,5,9,12,15,24	15	133	82-85
RJZ-xx24S	(H)	3.3,5,9,12,15,24	24	83	80-85
RGZ-xx3.3D	(H)	3.3,5,9,12,15,24	±3.3	±303	75
RGZ-xx05D	(H)	3.3,5,9,12,15,24	±5	±200	75-82
RGZ-xx09D	(H)	3.3,5,9,12,15,24	±9	±111	75-80
RGZ-xx12D	(H)	3.3,5,9,12,15,24	±12	±84	78-82
RGZ-xx15D	(H)	3.3,5,9,12,15,24	±15	±66	80-84
RGZ-xx24D	(H)	3.3,5,9,12,15,24	±24	±42	82-84

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,

e.g. RGZ-0524D/HP, has 4kV Isolation and is Short Circuit Protected.

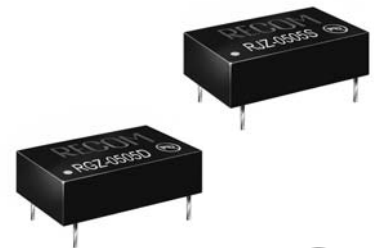
### Specifications (measured at $T_A = 25^\circ\text{C}$ , nominal input voltage, full load and after warm-up)

Input Voltage Range		±10%
Output Voltage Accuracy		±5%
Line Voltage Regulation		1.2%/1% of $V_{in}$ typ.
Load Voltage Regulation (10% to 100% full load)	3.3V Types	±20% max.
	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.
No Load Power Consumption		100mW min. / 210mW typ. / 350mW max.
Maximum Capacitive Load		±33µF
Isolation Voltage (H-Suffix)	(tested for 1 second)	3000VDC min.
Rated Working Voltage	(tested for 1 second)	4000VDC min.
	(long term isolation)	see Application Notes
Isolation Capacitance		120pF max.
Isolation Resistance		15GΩ min.
Short Circuit Protection P-Suffix		1 Second Continuous
Operating Temperature Range (free air convection)		-40°C to +85°C (see Graph)

**ECONOLINE**  
DC/DC-Converter

**RECOM**

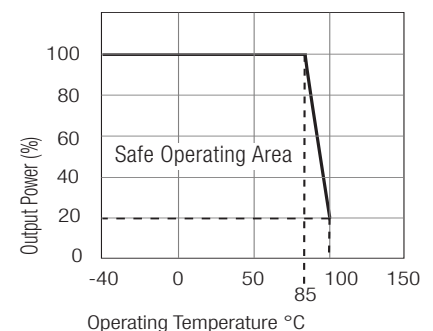
## 2 Watt DIP14 Single & Dual Output



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

**RJZ & RGZ**

## Derating-Graph (Ambient Temperature)



Refer to Application Notes

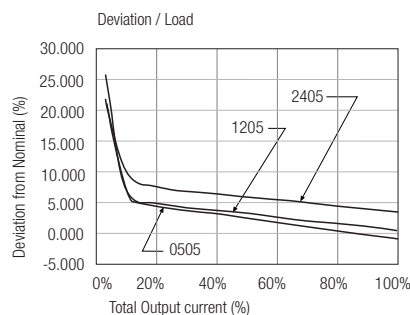
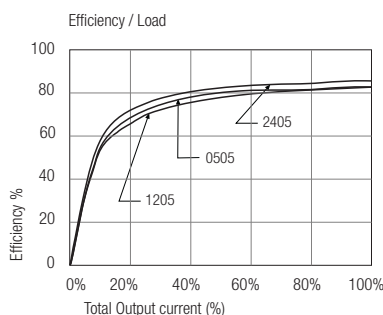
www.recom-electronic.com

## Specifications - continued

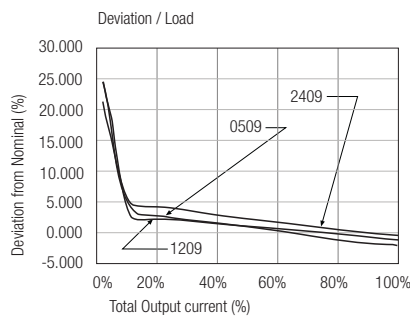
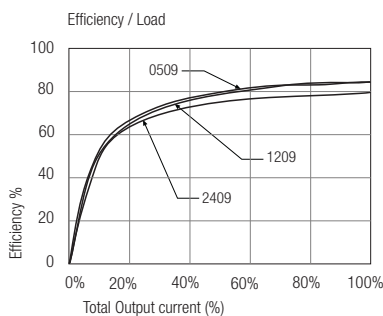
Storage Temperature Range	-55°C to +125°C		
Relative Humidity	95% RH		
Package Weight	2.8g		
Packing Quantity	24 pcs per Tube		
MTBF (+25°C)	using MIL-HDBK 217F	RJZ types	893 x 10 <sup>3</sup> hours
	} Detailed Information see Application Notes chapter "MTBF"	RGZ types	810 x 10 <sup>3</sup> hours
(+85°C)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

## Typical Characteristics

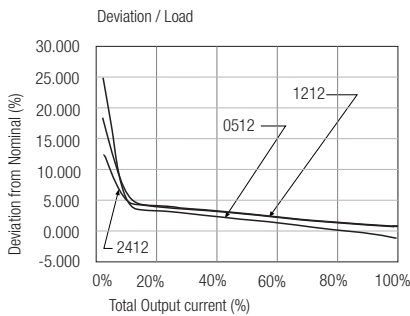
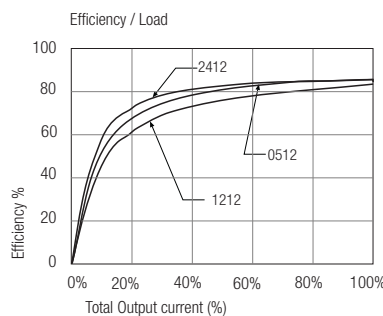
### RJZ-xx05S



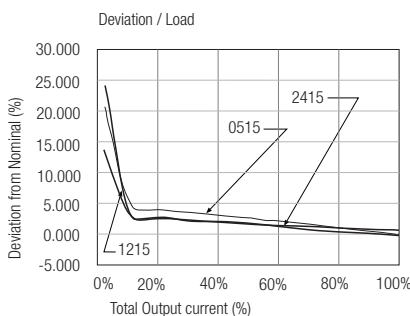
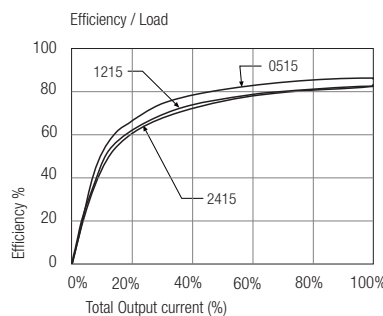
### RJZ-xx09S



### RJZ-xx12S

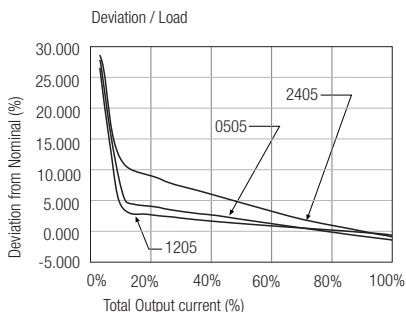
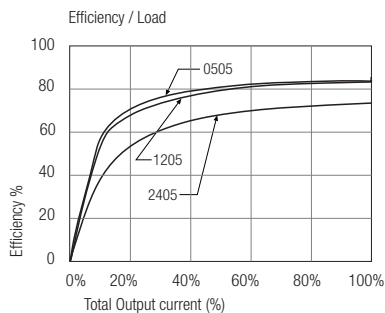


### RJZ-xx15S

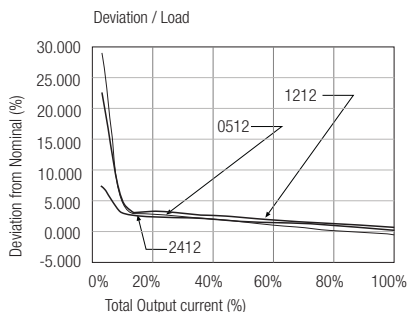
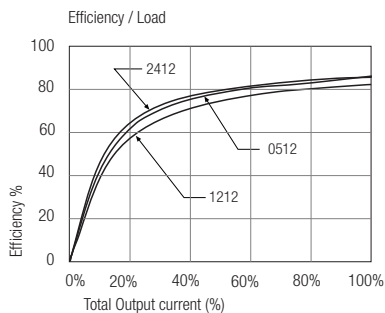


Typical Characteristics

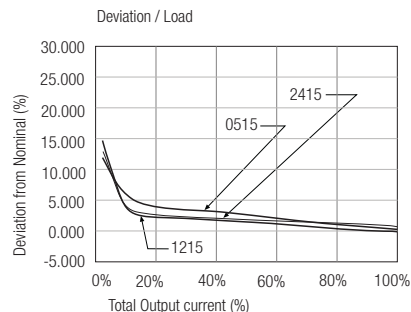
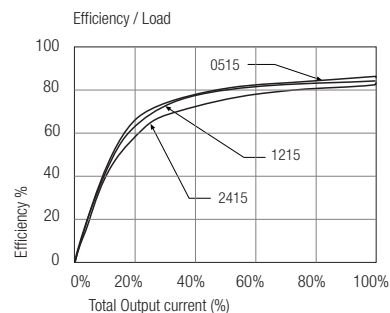
**RGZ-xx05D**



**RGZ-xx12D**

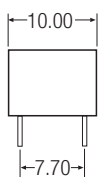
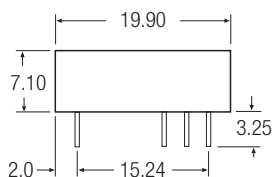


**RGZ-xx15D**



Package Style and Pinning (mm)

14 PIN DIP Package



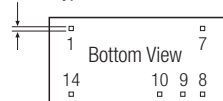
Single Output



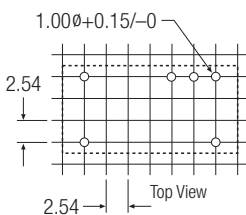
Dual Output



∅ 0.51 typ.



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