

# Features

## Unregulated Converters

- High Isolation 2W Converter
- Approved for Medical Applications
- Custom Solutions Available
- 3kVDC and 4kVDC Isolation Options
- UL94V-0 Package Material
- Optional Continuous Short Circuit Protected
- Efficiency to 84%

### Description

The RKZ Series of 2W DC/DC Converters are certified to EN 60950-1 and to the medical standard EN-60601-1. This makes them suitable for high end industrial applications such as IGBT driver circuitry as well as standard medical applications. The RUZ converters are pin-compatible with the RK and RH converter series, offering a simple way to upgrade a 1W high isolation supply to 2W.

### Selection Guide

Part Number	4kV	Input Voltage (VDC)	Output Voltage (VDC)	Output Current (mA)	Efficiency (%)	Max Capacitive Load <sup>(1)</sup>
RKZ-xx05S	(H)	5, 12	5	400	82-84	1200µF
RKZ-xx12S	(H)	5, 12	12	168	82-84	680µF
RKZ-xx15S	(H)	5, 12	15	132	82-84	680µF
RKZ-xx05D	(H)	5, 12	±5	±200	70-82	±470µF
RKZ-xx12D	(H)	5, 12	±12	±84	82-84	±220µF
RKZ-xx15D	(H)	5, 12	±15	±66	82-84	±220µF

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

\* add Suffix "P" for Continuous Short Circuit Protection, e.g. RKZ-0524D/P,

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

### Specifications (measured at T<sub>A</sub> = 25°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 Vin typ.	
Load Voltage Regulation	5V type	15% max.
(10% to 100% load)	Other types	10% max.
Output Ripple and Noise (20MHz limited)	150mVp-p max.	
Operating Frequency	35kHz min. / 50kHz typ. / 85kHz 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
	H-Suffix (rated for 1 minute)	2000VAC / 60Hz
Isolation Capacitance	30pF min. / 110pF max.	
Isolation Resistance	15 GΩ min.	
Short Circuit Protection	1 sec	
Operating Temperature Range (free air convection)	-40°C to +85°C (see Graph)	
Storage Temperature Range	-55°C to +125°C	
Relative Humidity	95% RH	
Package Weight	2.8g	
Packing Quantity	25 pcs per Tube	
MTBF (+25°C)	} Detailed Information see Application Notes chapter "MTBF"	using MIL-HDBK 217F
(+85°C)		using MIL-HDBK 217F
		988 x 10 <sup>3</sup> hours
		135 x 10 <sup>3</sup> hours

# ECONOLINE

## DC/DC-Converter

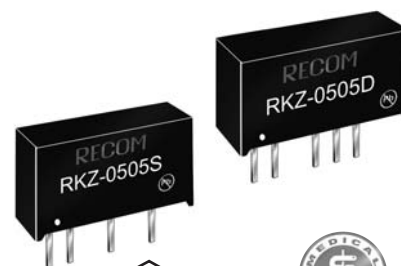
with 3 year Warranty



## 2 Watt

## SIP7

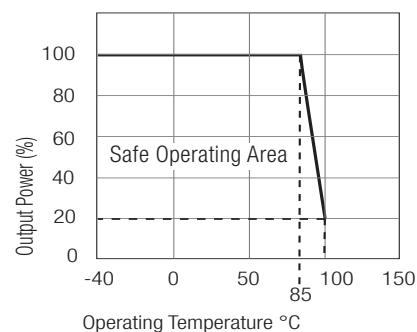
## Single & Dual Output



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

# RKZ

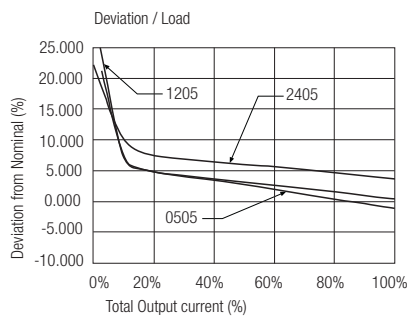
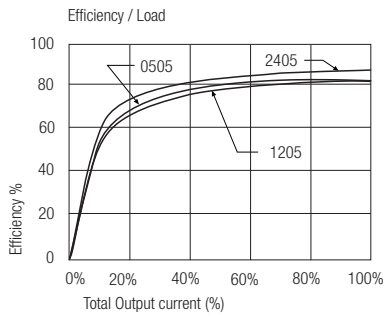
## Derating-Graph (Ambient Temperature)



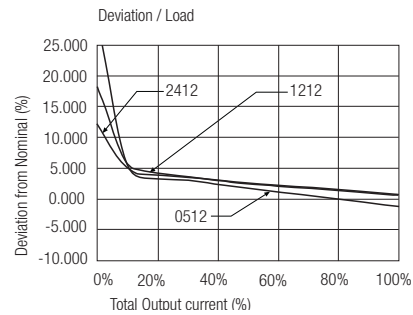
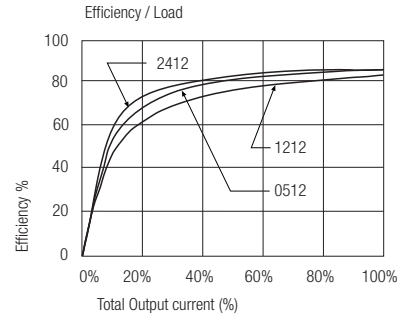
Refer to Application Notes

Typical Characteristics

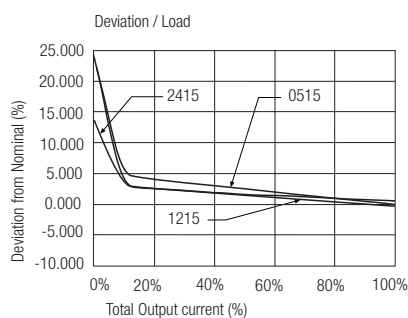
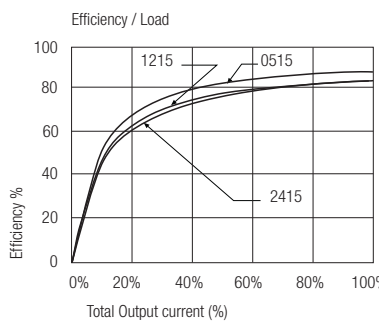
**RKZ-xx05S**



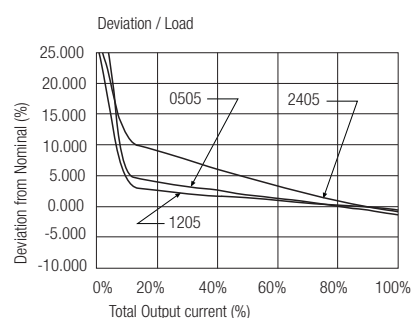
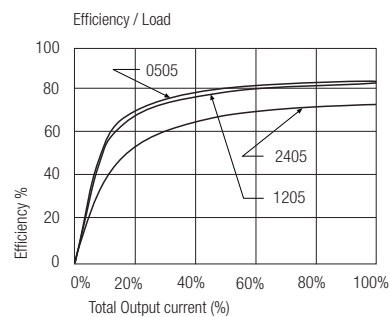
**RKZ-xx12S**



**RKZ-xx15S**

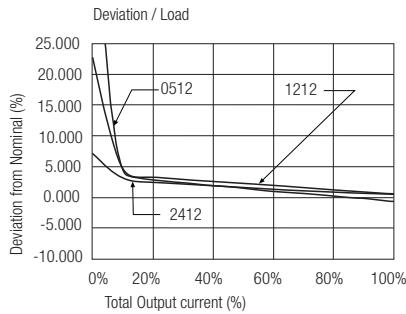
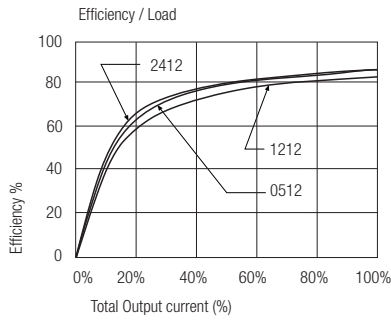


**RKZ-xx05D**

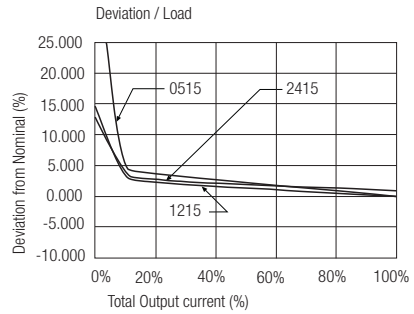
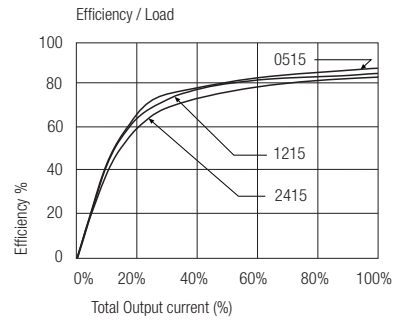


Typical Characteristics

**RKZ-xx12D**



**RKZ-xx15D**



Notes

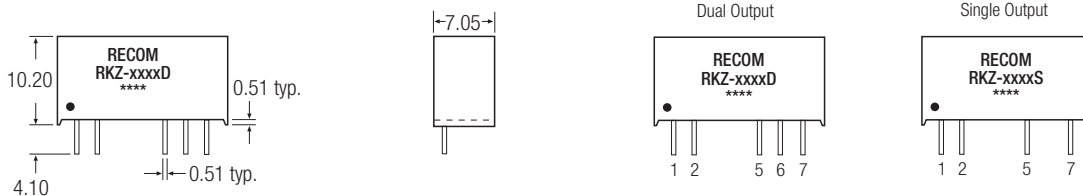
Note 1 Maximum capacitive load is defined as the capacitive load that will allow start up in under 1 second without damage to the converter.

Certifications

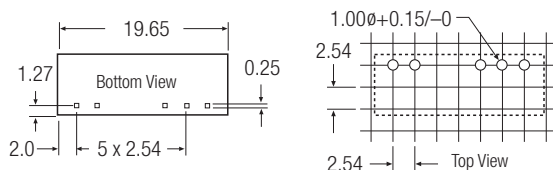
EN General Safety	Report: PS-R7219C1	EN60950-1:2001 + A11:2004
EN Medical safety	Report: PS090301601	EN 60601-1

Package Style and Pinning (mm)

7 PIN SIP Package



Recommended Footprint Details



Pin Connections

Pin #	Single	Dual
1	+Vin	+Vin
2	-Vin	-Vin
5	-Vout	-Vout
6	No Pin	Com
7	+Vout	+Vout

NC = No Connection

XX.X ± 0.5 mm  
XX.XX ± 0.25 mm