

# 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 RKZ 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-0515D/P,

e.g. RKZ-0515D/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	988 x 10 <sup>3</sup> hours
(+85°C)		using MIL-HDBK 217F	135 x 10 <sup>3</sup> hours

# ECONOLINE

## DC/DC-Converter

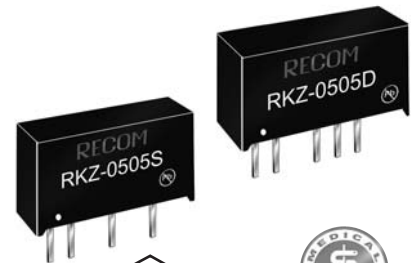
with 3 year Warranty

# RECOM

## 2 Watt

## SIP7

## Single & Dual Output

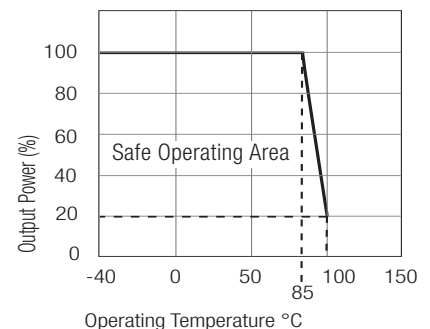


**EN-60950-1 Certified**

**EN-60601-1 Certified**

# RKZ

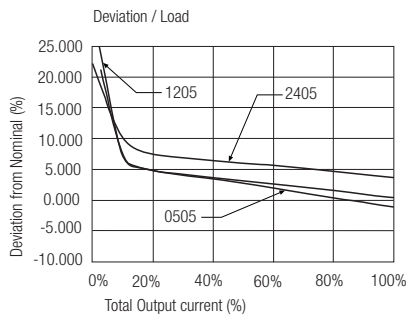
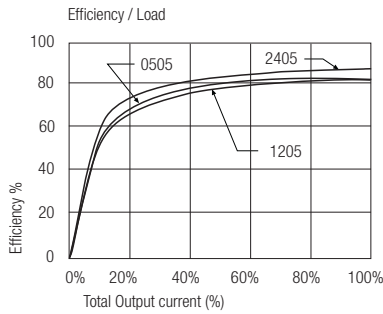
## Derating-Graph (Ambient Temperature)



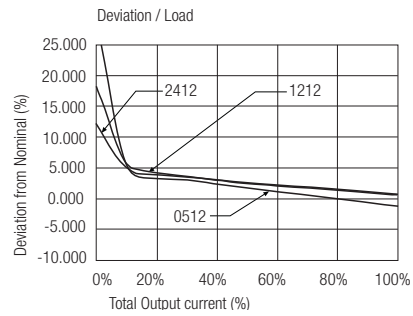
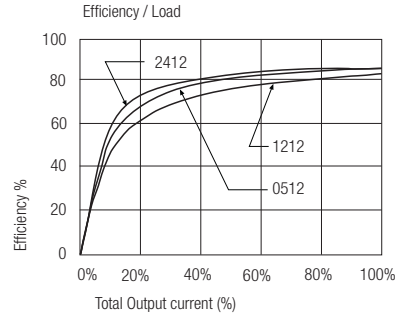
Refer to Application Notes

Typical Characteristics

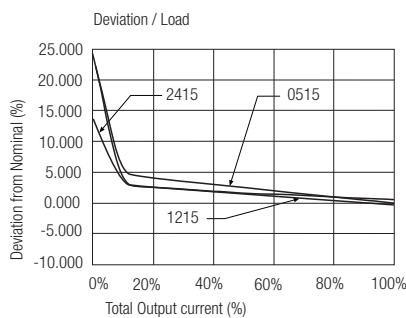
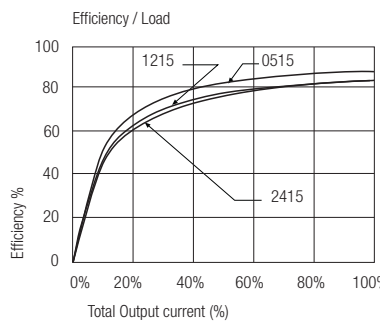
**RKZ-xx05S**



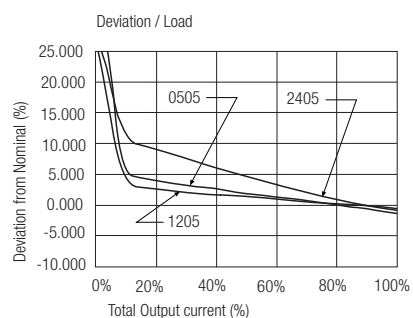
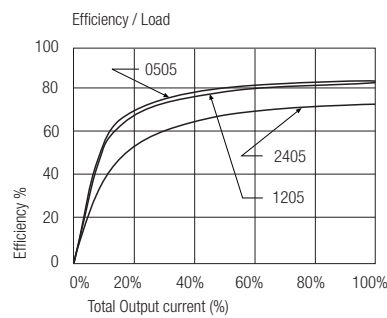
**RKZ-xx12S**



**RKZ-xx15S**

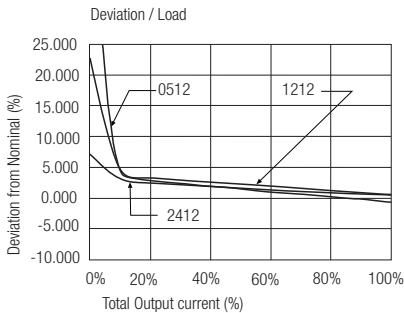
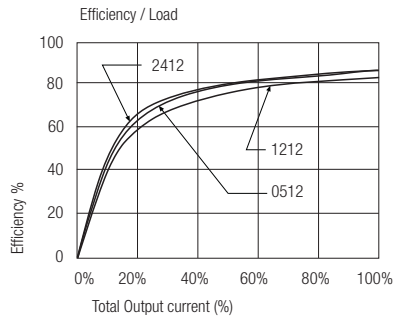


**RKZ-xx05D**

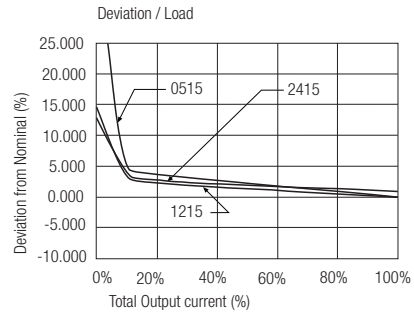
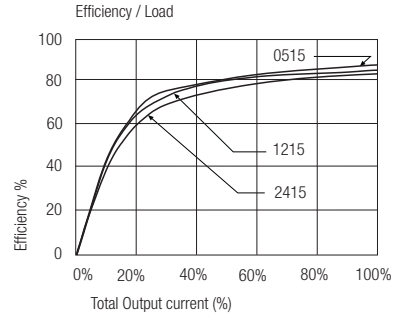


**Typical Characteristics**

**RKZ-xx12D**



**RKZ-xx15D**



Notes

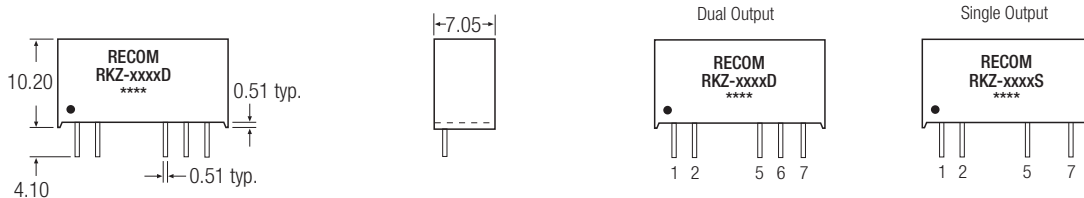
Note 1 Maximum capacitive load is defined as the capacitive load that will allow start up in under 1 second without damage to the converter.

Certifications

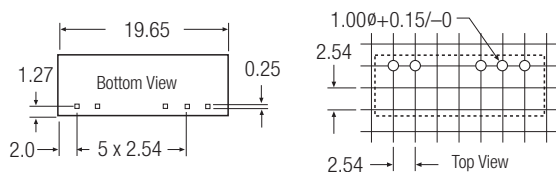
EN General Safety	Report: PS-R7219C1	EN60950-1:2001 + A11:2004
EN Medical safety	Report: PS090301601	EN 60601-1

**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