

# 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 (%)
RKZ-xx05S	(H)	5, 12	5	400	82-84
RKZ-xx12S	(H)	5, 12	12	168	82-84
RKZ-xx15S	(H)	5, 12	15	132	82-84
RKZ-xx05D	(H)	5, 12	±5	±200	70-82
RKZ-xx12D	(H)	5, 12	±12	±84	82-84
RKZ-xx15D	(H)	5, 12	±15	±66	82-84

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 $T_A = 25^\circ\text{C}$ , 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)	5V output type	15% max.	
	12V, 15V output 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.	
No Load Power Consumption		134mW min. / 212mW typ. / 350mW max.	
Maximun Capacitive Load		47µF / ±33µF	
Isolation Voltage		(tested for 1 second) 3000VDC min.	
Rated Working Voltage		(long term isolation) see Application Notes	
Isolation Voltage	H-Suffix	(tested for 1 second) 4000VDC min.	
Rated Working Voltage	H-Suffix	(long term isolation) see Application Notes	
Isolation Capacitance		30pF min. / 110pF max.	
Isolation Resistance		15 GΩ min.	
Short Circuit Protection		1 Second	
P-Suffix		Continuous	
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

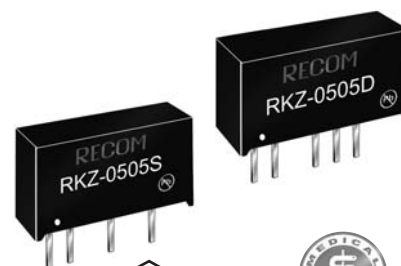
DC/DC-Converter



## 2 Watt

## SIP7

## Single & Dual Output

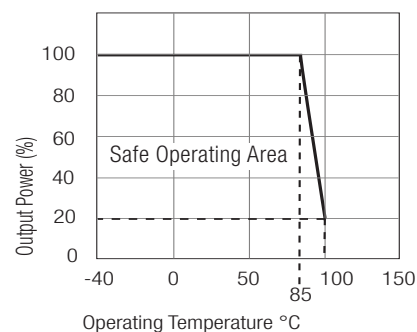


**EN-60950-1 Certified**

**EN-60601-1 Certified**

# RKZ

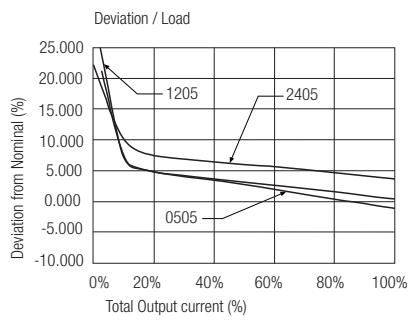
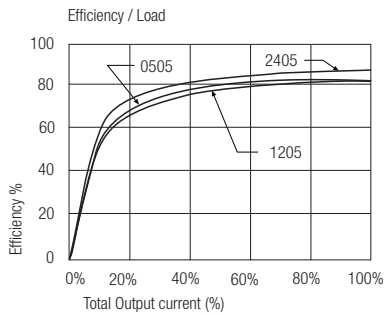
## Derating-Graph (Ambient Temperature)



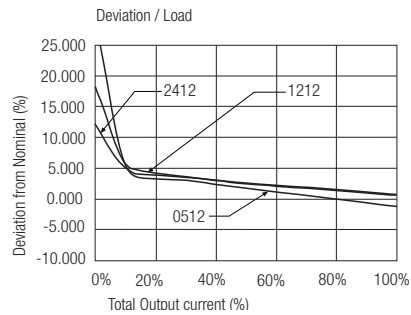
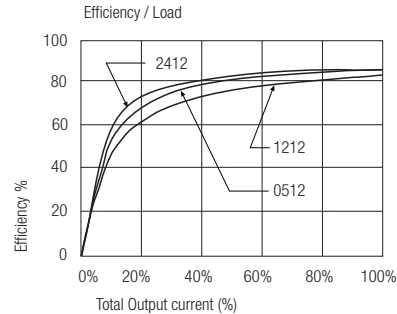
Refer to Application Notes

Typical Characteristics

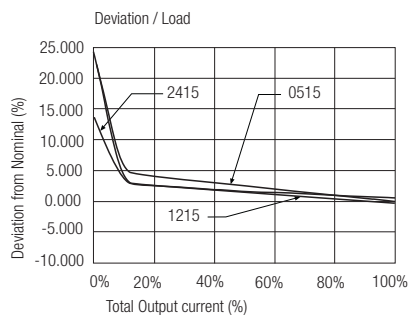
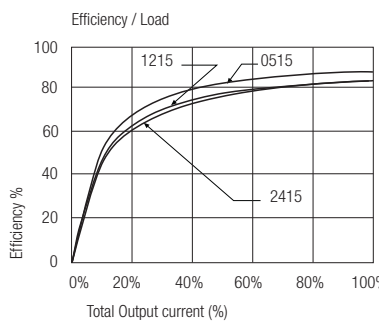
**RKZ-xx05S**



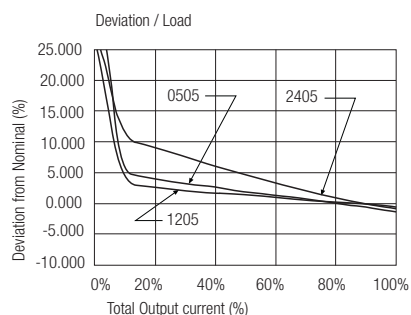
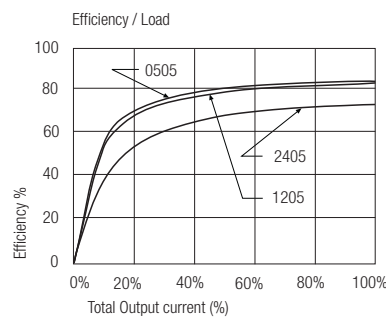
**RKZ-xx12S**



**RKZ-xx15S**

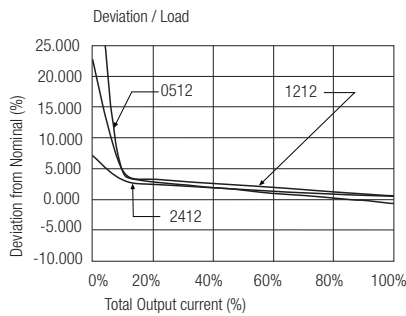
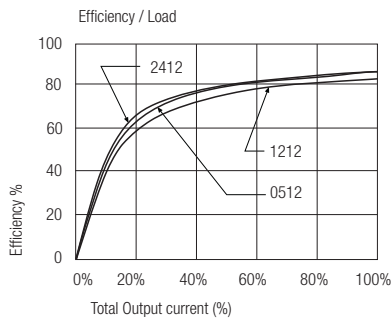


**RKZ-xx05D**

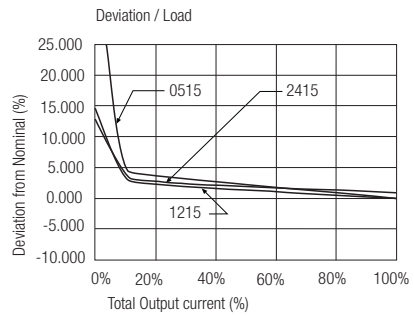
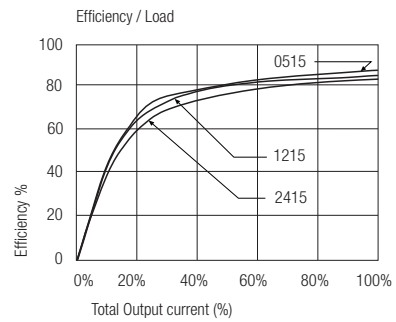


Typical Characteristics

**RKZ-xx12D**



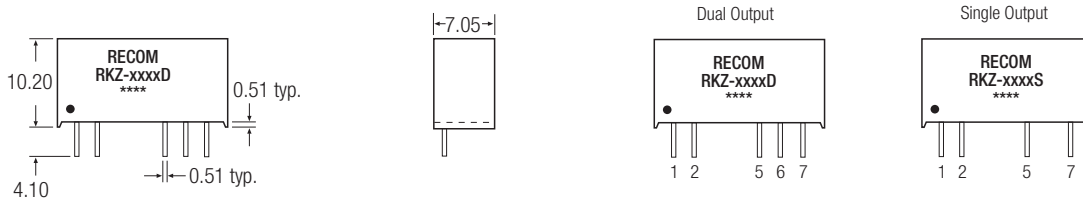
**RKZ-xx15D**



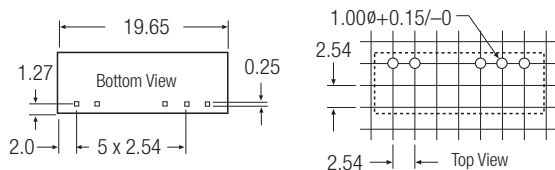
Package Style and Pinning (mm)

RKZ

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