

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%
- Suitable for IGBT Applications

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 ⁽¹⁾
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
RKZ-xx1509D*	(H)	5, 12, 24	+15/-9	+67/-111	70-81	±330µF

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 $T_A = 25^\circ\text{C}$, 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% load)	5V type		15% max.
	Other types, RKZ-xx1509D		10% max.
Output Ripple and Noise (20MHz limited)			150mVp-p max.
Operating Frequency	35kHz min. / 50kHz typ. / 85kHz max.		
	RKZ-xx1509D		20kHz min. / 51kHz typ.
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, without derating)			-40°C to +90°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 ³ hours
(+85°C)		using MIL-HDBK 217F	135 x 10 ³ hours

ECONOLINE

DC/DC-Converter

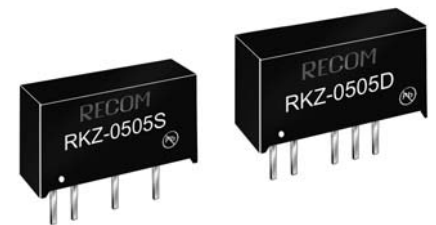
with 3 year Warranty

RECOM

2 Watt

SIP7

Single & Dual Output

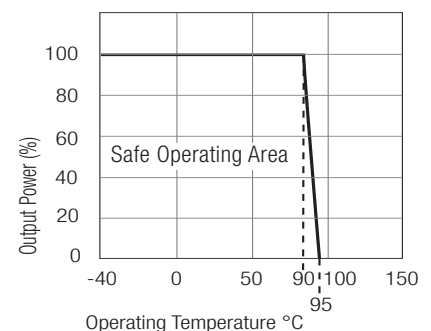


EN-60950-1 Certified
IEC/EN-60601-1 Certified*

* +15/-9 Version excluded

RKZ

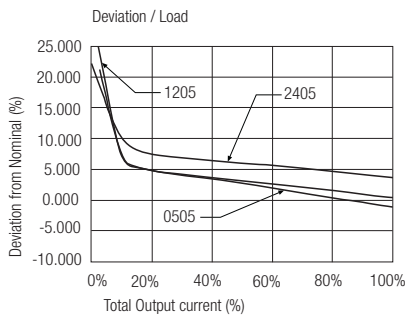
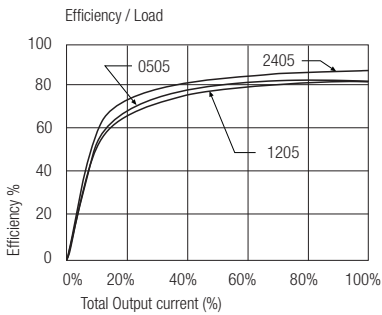
Derating-Graph (Ambient Temperature)



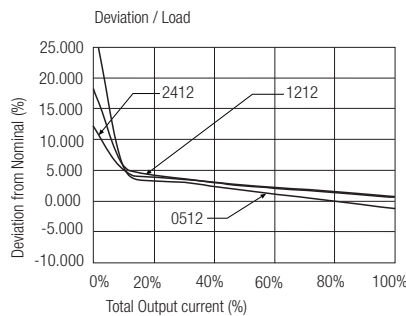
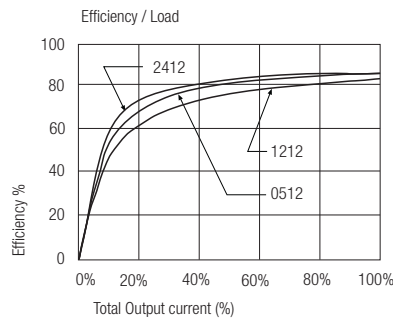
Refer to Application Notes

Typical Characteristics

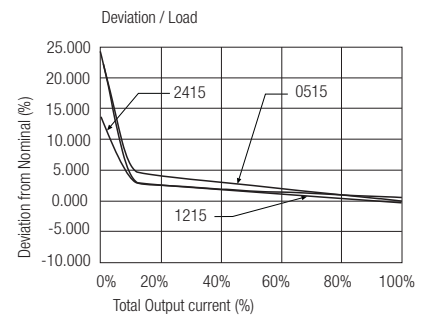
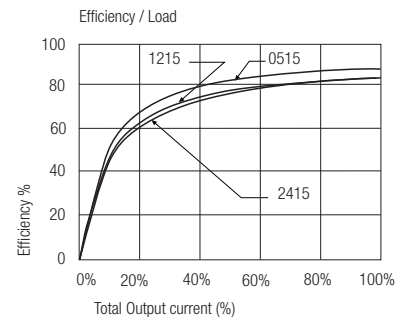
RKZ-xx05S



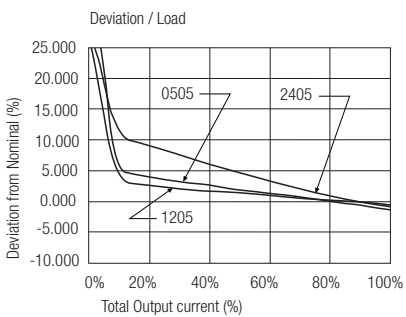
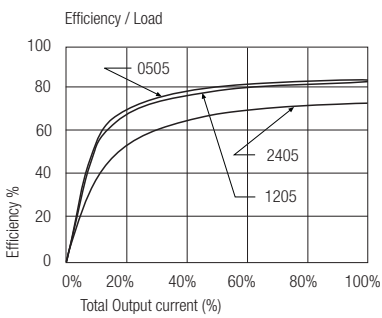
RKZ-xx12S



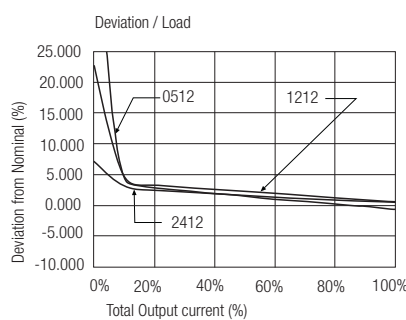
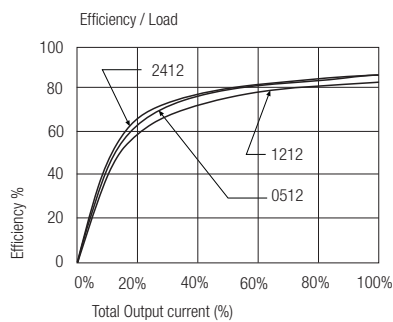
RKZ-xx15S



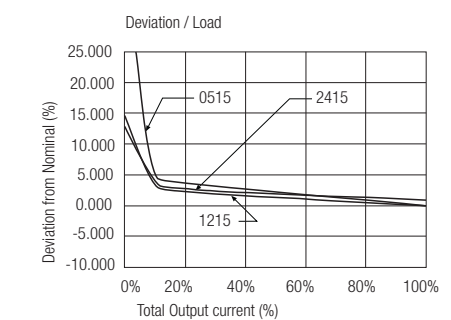
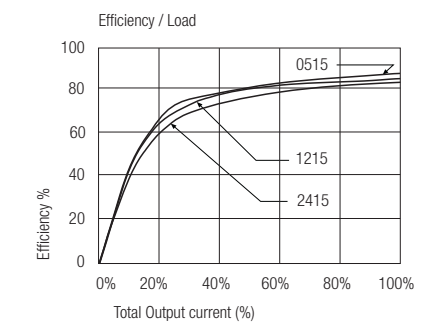
RKZ-xx05D



RKZ-xx12D



RKZ-xx15D



Typical Characteristics

Notes

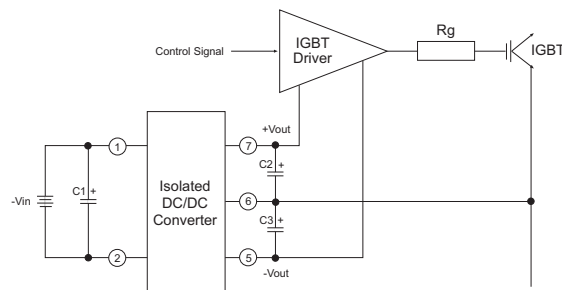
Note 1 Maximum capacitive load is defined as the capacitive load that will allow start up in under 1 second without damage to the converter.

Certifications

EN General Safety	Report: SPCLVD1109103	EN60950-1:2006 + A12:2011
EN Medical safety	Report: SPCMDD1205098-4	IEC/EN 60601-1:2006, 3rd Edition

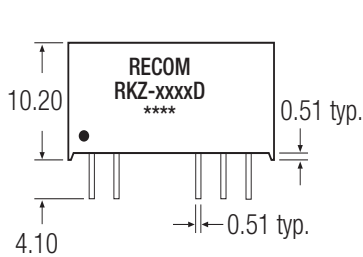
Application

IGBT Application Circuit

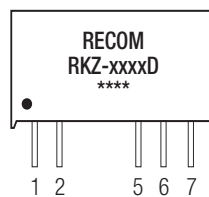


Package Style and Pinning (mm)

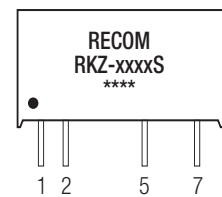
7 PIN SIP Package



Dual Output

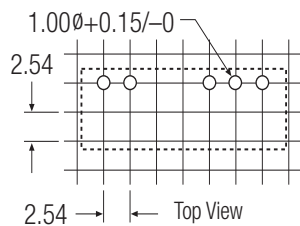
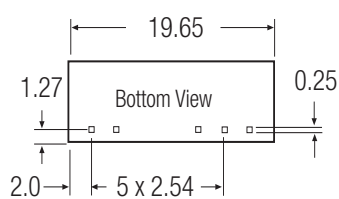


Single Output

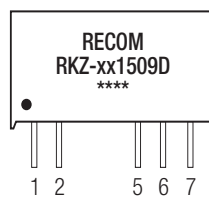


RKZ

Recommended Footprint Details



+15/-9 Output



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