

## Features

### Unregulated Converters

- Safety standards and approvals: EN 60950, EN 60601 certified, rated for 250VAC
- Custom Solutions Available
- 3kVDC & 4kVDC Isolation
- UL94V-0 Package Material
- Optional Continuous Short Circuit Protected
- Efficiency to 84%

### Selection Guide

Part Number	Input Voltage	Output Voltage	Output Current	Efficiency
SIP7	4kV (VDC)	(VDC)	(mA)	(%)
RKZ-xx3.3S (H)	5, 9, 12, 15, 24	3.3	606	70
RKZ-xx05S (H)	5, 9, 12, 15, 24	5	400	82-84
RKZ-xx09S (H)	5, 9, 12, 15, 24	9	222	78-84
RKZ-xx12S (H)	5, 9, 12, 15, 24	12	168	82-84
RKZ-xx15S (H)	5, 9, 12, 15, 24	15	132	82-84
RKZ-xx24S (H)	5, 9, 12, 15, 24	24	83	82-84
RKZ-xx3.3D (H)	5, 9, 12, 15, 24	±3.3	±303	70-82
RKZ-xx05D (H)	5, 9, 12, 15, 24	±5	±200	70-82
RKZ-xx09D (H)	5, 9, 12, 15, 24	±9	±111	82-84
RKZ-xx12D (H)	5, 9, 12, 15, 24	±12	±84	82-84
RKZ-xx15D (H)	5, 9, 12, 15, 24	±15	±66	82-84
RKZ-xx24D (H)	5, 9, 12, 15, 24	±24	±42	82-84

xx = Input Voltage

\* 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.

### Description

The RKZ Series of DC/DC Converters are fully certified to EN 60950-1. This makes them ideal for all Telecom and safety applications where approved isolation is required. EN 60950 is derived from IEC 950 and is equivalent to UL 1950 and CSA 950 standards.

### Specifications (Core Operating Area)

Input Voltage Range		±10%
Output Voltage Accuracy		±5%
Line Voltage Regulation		1.2%/1% of Vin typ.
Load Voltage Regulation (10% to 100% full load)	3.3V output types	20% max.
	5V output type	15% max.
	12V, 15V, 24V 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.
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)

continued on next page

## ECONOLINE DC/DC-Converter

# RKZ Series

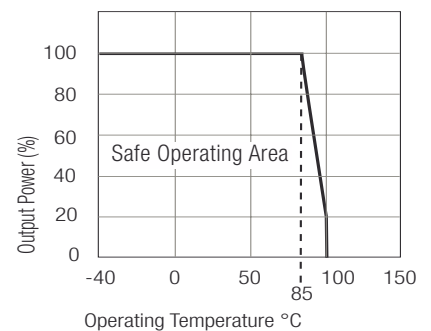
## 2 Watt SIP7 Single & Dual Output



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



## Derating-Graph (Ambient Temperature)

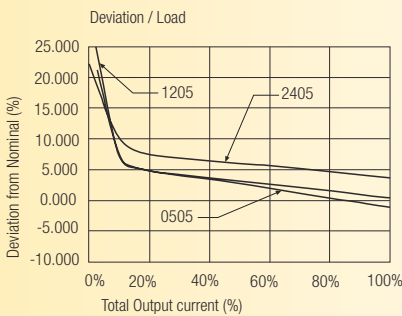
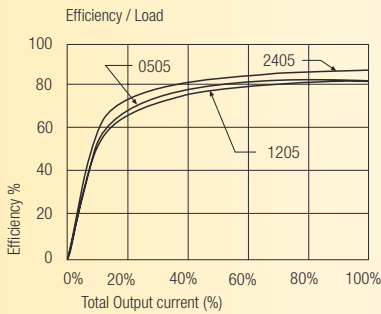


**Specifications (Core Operating Area)**

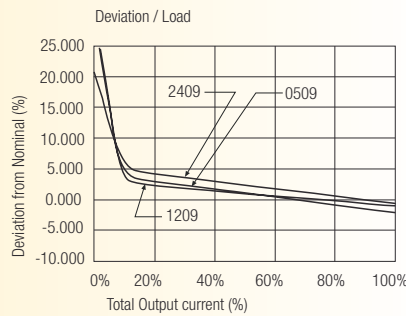
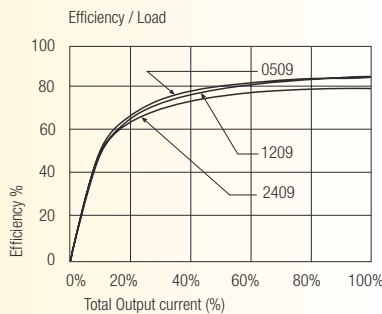
Storage Temperature Range	-55°C to +125°C		
Relative Humidity	95% RH		
Package Weight	2.8g		
MTBF (+25°C)	} Detailed Information see Application Notes chapter "MTBF"	using MIL-HDBK 217F	988 x 10 <sup>3</sup> hours
(+85°C)		using MIL-HDBK 217F	135 x 10 <sup>3</sup> hours

**Typical Characteristics**

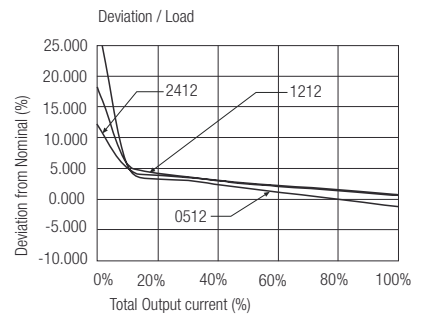
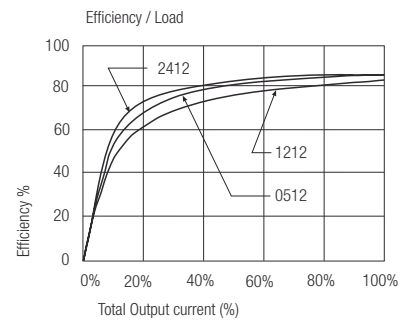
**RKZ-xx05S**



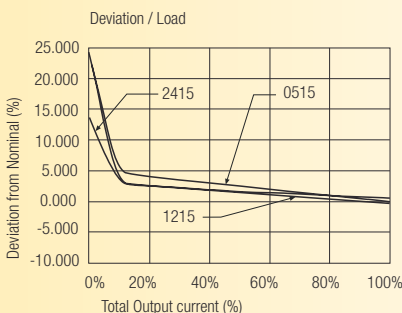
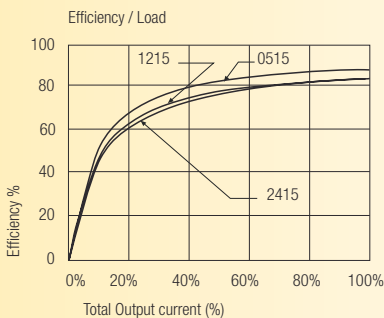
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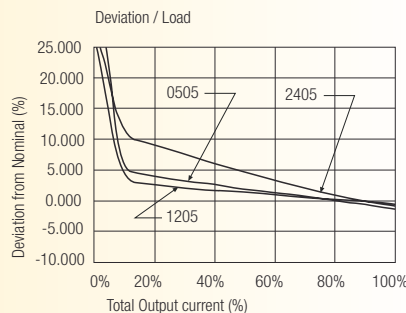
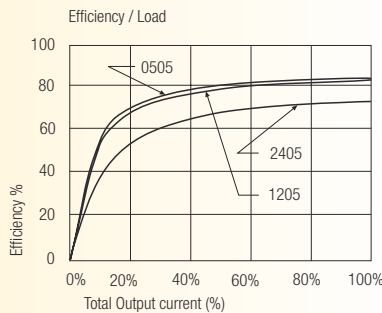
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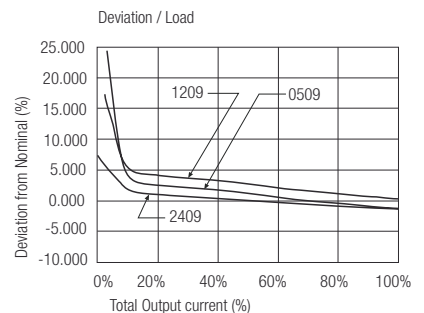
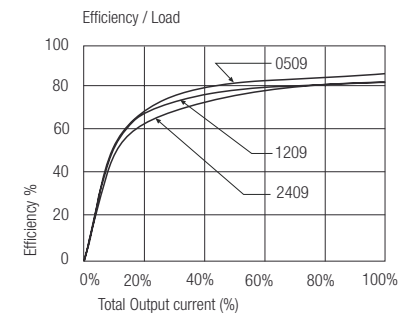
**RKZ-xx15S**



**RKZ-xx05D**

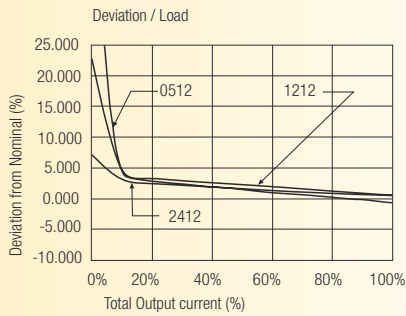
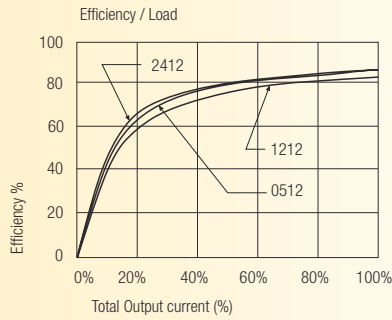


**RKZ-xx09D**

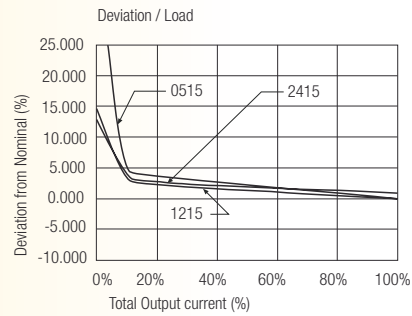
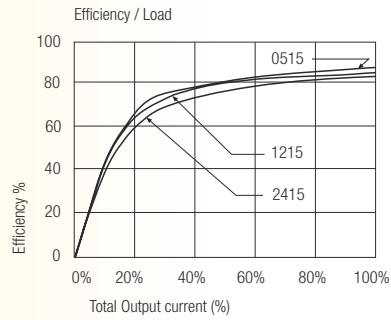


**Typical Characteristics**

**RKZ-xx12D**

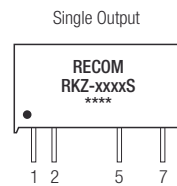
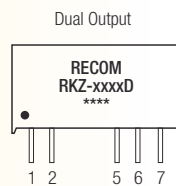
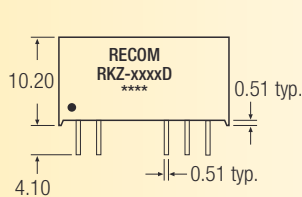


**RKZ-xx15D**

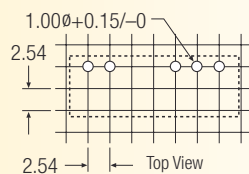
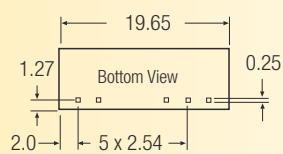


**Package Style and Pinning (mm)**

**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