

## Features

### Unregulated Converters

- Dual Output from a Single Input Rail
- Input/Output Isolation 1kVDC
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- Power Sharing on Outputs
- UL94V-0 Package Material
- Optional Continuous Short Circuit Protected
- No External Components Required
- Efficiency to 85%

## ECONOLINE

DC/DC-Converter

# RUZ Series

## 2 Watt SIP7 Isolated Dual Output



### Selection Guide

Part Number	Input Voltage (VDC)	Output Voltage (V1VDC)	Output Voltage (V2VDC)	Output Current (mA)	Efficiency (%)
SIP 7	(VDC)	(V1VDC)	(V2VDC)	(mA)	(%)
RUZ-xx3.33.3	5, 9, 12, 24	3.3	3.3	303/303	70
RUZ-xx0505	5, 9, 12, 24	5	5	200/200	70-82
RUZ-xx0509	5, 9, 12, 24	5	9	200/111	70-82
RUZ-xx0512	5, 9, 12, 24	5	12	200/84	70-82
RUZ-xx0515	5, 9, 12, 24	5	15	200/66	70-82
RUZ-xx0909	5, 9, 12, 24	9	9	111/111	82-84
RUZ-xx1212	5, 9, 12, 24	12	12	84/84	82-84
RUZ-xx1515	5, 9, 12, 24	15	15	66/66	82-84
RUZ-xx2424	5, 9, 12, 24	24	24	42/42	80-85

xx = Input Voltage

\* add Suffix "P" for Continuous Short Circuit Protection, e.g. RUZ-050505S/P

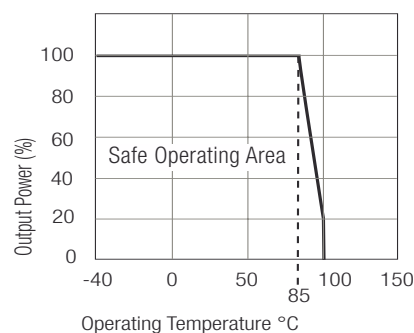
### Specifications (Core Operating Area)

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)	.3V output types	20% max.	
	5V output type	15% max.	
	9V, 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	163mW min. / 223mW typ. / 350mW max.		
Isolation Voltage <sup>1)</sup>	(tested for 1 second)	1000VDC min.	
Rated Working Voltage <sup>1)</sup>	(long term isolation)	see Application Notes	
Isolation Capacitance	40pF min. / 120pF max.		
Isolation Resistance	10 GΩ min.		
Short Circuit Protection P-Suffix	1 Second 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		
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

<sup>1)</sup> Input/Output and Output V1/Output V2

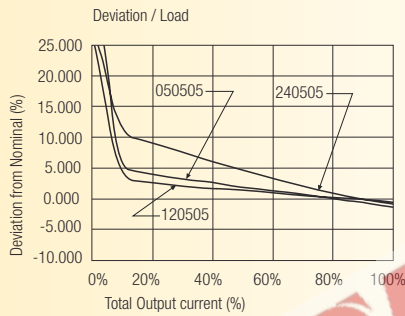
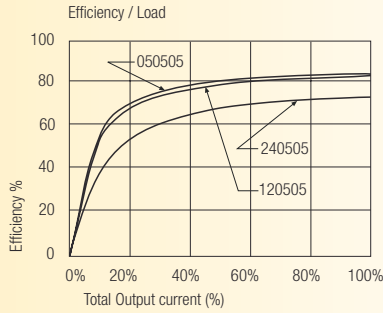


## Derating-Graph (Ambient Temperature)

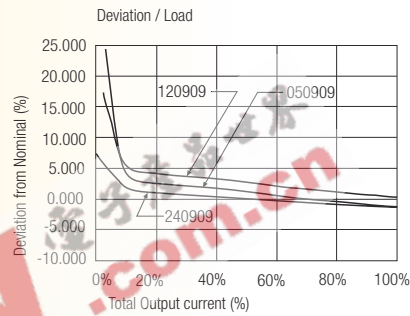
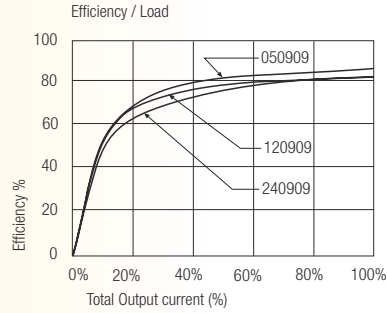


**Typical Characteristics**

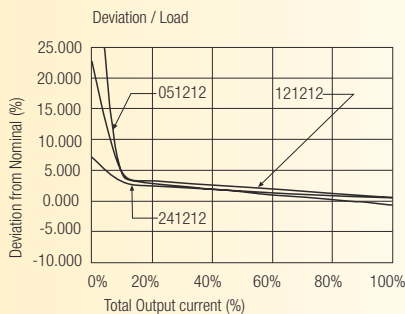
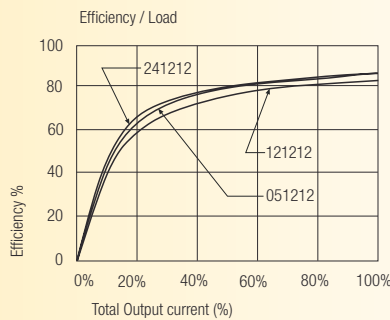
**RUZ-xx0505**



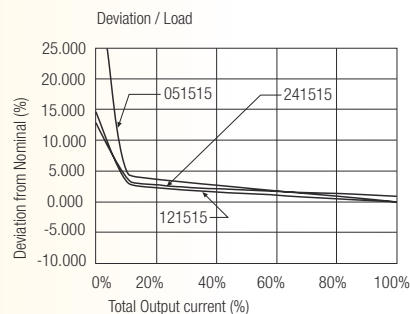
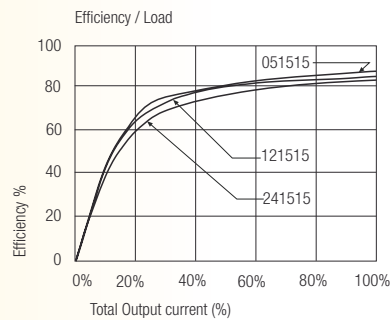
**RUZ-xx0909**



**RUZ-xx1212**

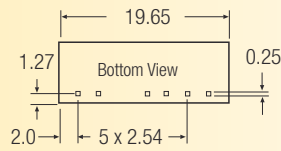
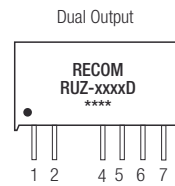
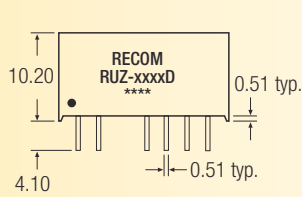


**RUZ-xx1515**

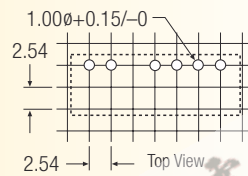


**Package Style and Pinning (mm)**

7 PIN SIP Package



Recommended Footprint Details



Pin Connections

Pin #	Single
1	+Vin
2	-Vin
4	+Vout 1
5	-Vout 1
6	+Vout 2
7	-Vout 2

XX.X ± 0.5 mm  
XX.XX ± 0.25 mm