

## Features

## Unregulated Converters

Rev.0

- Low Cost 2W Dual Output Converter
- Industry Standard SIP7 and DIP14 Packages
- Power Sharing on Outputs
- Optional Continuous Short Circuit Protected
- 1kVDC & 2kVDC Isolation Options
- UL94V-0 Package Material
- Efficiency to 86 %

## ECONOLINE

DC/DC-Converter

# RD Series

## 2 Watt

## SIP7

## Dual Output

### Description

The RD series have been specifically designed for applications where dual power rails need to be created from a single rail supply and a low cost solution is required.

With efficiencies up to 85%, the full output power is available over the operating temperature range -40°C to +85°C and the converters can be used in ambient temperatures of up to 100°C with derating.

The wide selection of industry standard input voltage and output voltage options plus an I/O-Isolation of 1kVDC or 2kVDC makes these converters suitable for many industrial applications.

### Selection Guide

Part Number	2kV	Input Voltage (VDC)	Output Voltage (VDC)	Output Current (mA)	Efficiency (%)
RD-xx05D	(H)	5, 12, 24	±5	±200	75-82
RD-xx12D	(H)	5, 12, 24	±12	±84	80-84
RD-xx15D	(H)	5, 12, 24	±15	±66	82-86
RD-xx24D	(H)	5, 12, 24	±24	±42	82-86

xx = Input Voltage. Other input and output voltage combinations available on request.

\* add Suffix "P" for Continuous Short Circuit Protection, e.g. RD-0505D/P, RD-0505D/H

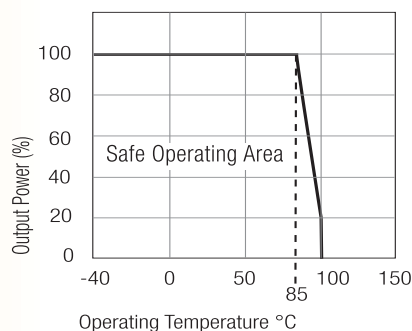


**EN-60950-1 Certified**

### Specifications (measured at $T_A = 25^\circ\text{C}$ , nominal input voltage, full load and after warm-up)

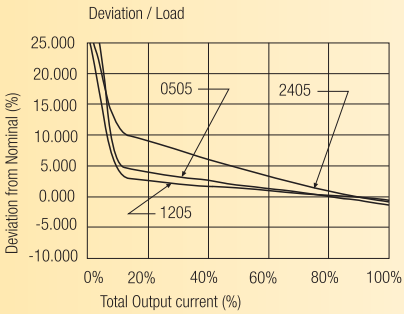
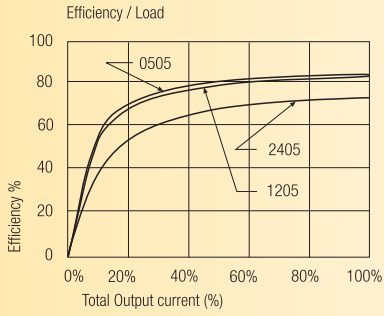
Input Voltage Range		±10%	
Output Voltage Accuracy		±5%	
Line Voltage Regulation		1.2%/1% of $V_{in}$ typ.	
Load Voltage Regulation (10% to 100% full load)	3.3V output types	20% max.	
	5V output type	15% max.	
	9V, 12V, 15V, 24V output types	10% max.	
Output Ripple and Noise (20MHz limited)		150mVp-p max.	
Operating Frequency		34kHz min. / 50kHz typ. / 85kHz max.	
Efficiency at Full Load		70% min. / 80% typ.	
No Load Power Consumption		163mW min. / 223mW typ. / 350mW max.	
Maximum Capacitive Load		±33µF	
Isolation Voltage	(tested for 1 second)	1000VDC min.	
Rated Working Voltage	(long term isolation)	see Application Notes.	
Isolation Voltage	H-Suffix (tested for 1 second)	2000VDC min.	
Rated Working Voltage	H-Suffix (long term isolation)	see Application Notes	
Isolation Capacitance		40pF min. / 115pF max.	
Isolation Resistance		10 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	
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

## Derating-Graph (Ambient Temperature)

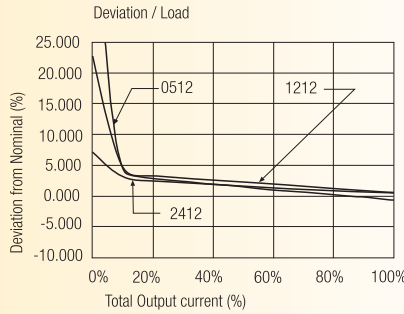
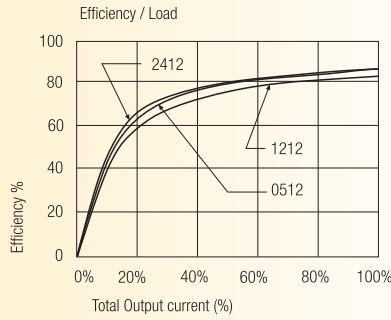


**Typical Characteristics**

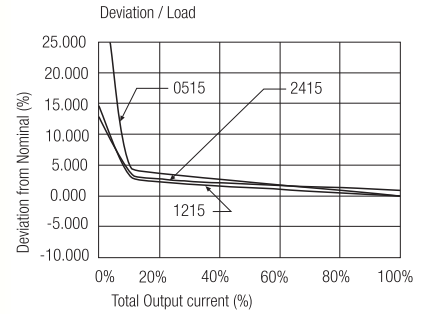
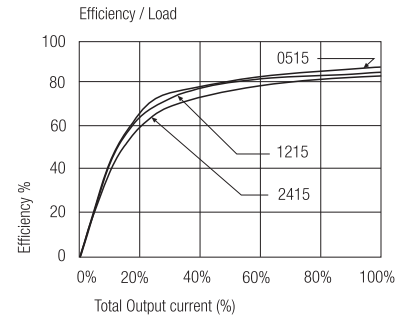
**RD-xx05D**



**RD-xx12D**

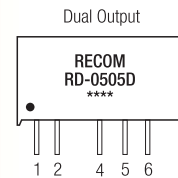
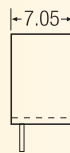
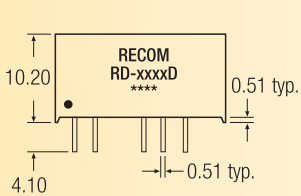


**RD-xx15D**

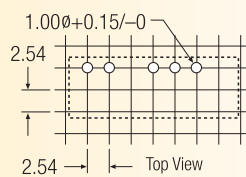
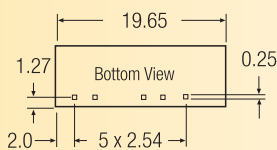


**Package Style and Pinning (mm)**

**7 PIN SIP Package**



**Recommended Footprint Details**



**Pin Connections**

Pin #	RD
1	+Vin
2	-Vin
4	-Vout
5	Com
6	+Vout

XX.X ± 0.5 mm  
XX.XX ± 0.25 mm