

Features

Unregulated Converters

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

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 SIP 7	2kV	Input Voltage (VDC)	Output Voltage (VDC)	Output Current (mA)	Efficiency (%)	Max Capacitive Load ⁽¹⁾
RD-xx05D	(H)	5, 12, 24	±5	±200	75-82	±470µF
RD-xx12D	(H)	5, 12, 24	±12	±84	80-84	±330µF
RD-xx15D	(H)	5, 12, 24	±15	±66	82-86	±330µF
RD-xx24D	(H)	5, 12, 24	±24	±42	82-86	±100µF

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/HP

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	3.3V output types	20% max.
(10% to 100% full load)	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.	
Minimum Load = 0%	Specifications valid for 10% minimum load only.	
Isolation Voltage	(tested for 1 second)	1000VDC
	(rated for 1 minute)	500VAC / 60Hz
Isolation Voltage	H-Suffix (tested for 1 second)	2000VDC
	H-Suffix (rated for 1 minute)	1000VAC / 60Hz
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	
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

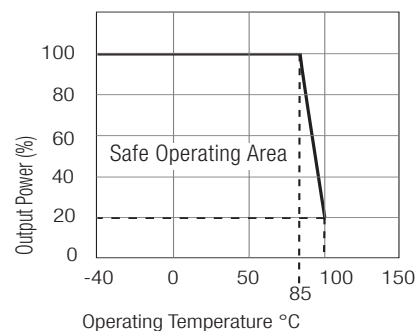
Dual Output



EN-60950-1 Certified

RD

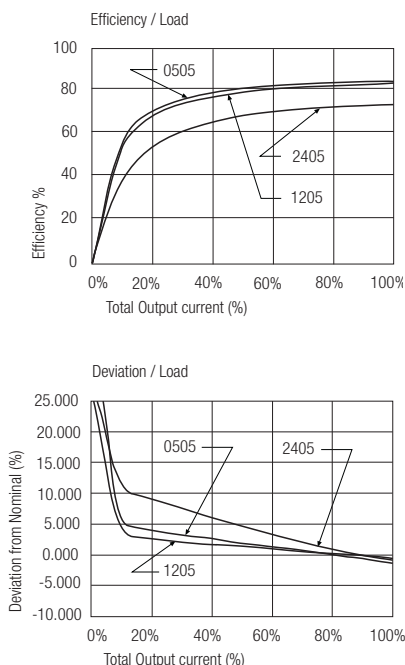
Derating-Graph (Ambient Temperature)



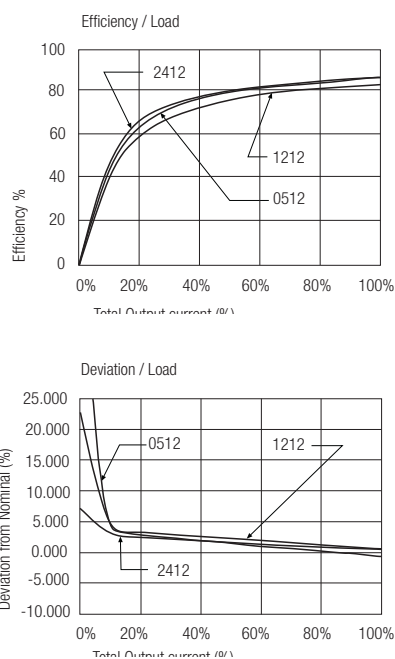
Refer to Application Notes

Typical Characteristics

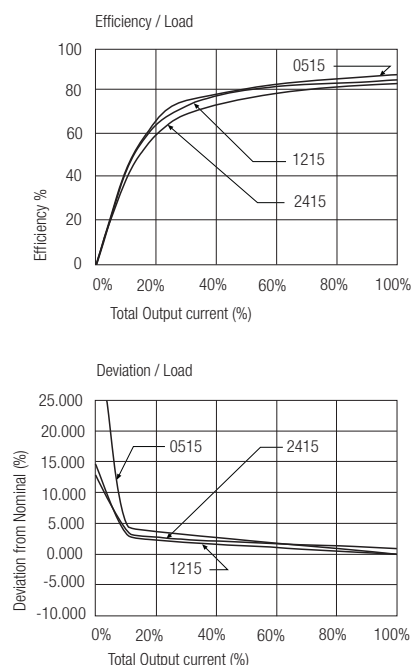
RD-xx05D



RD-xx12D



RD-xx15D



Notes

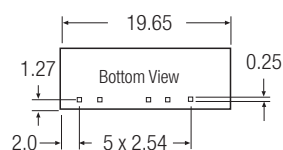
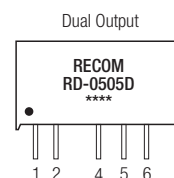
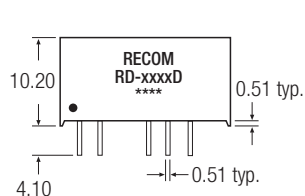
Note 1 Maximum capacitive load is defined as the capacitive load that will allow start up in under 1 second without damage to the converter.

Certifications

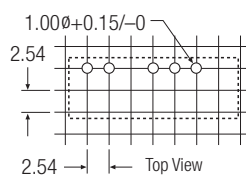
EN General Safety Report: SPCLVD1109103 EN60950-1:2001 + A11:2004

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