

Features

Unregulated Converters

- Low Cost 2W Dual Output Converter
- Industry Standard SIP7 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	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

* add Suffix „H“ for 2kV Isolation, e.g. RD-0505D/H, 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 Vin 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		20kHz 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) (+85°C)	Detailed Information see Application Notes chapter "MTBF"	using MIL-HDBK 217F	988 x 10³ hours
		using MIL-HDBK 217F	135 x 10³ hours
Certifications			
EN General Safety	Report: SPCLVD1109103	EN60950-1:2006 + A12:2011	

ECONOLINE

DC/DC-Converter

with 3 year Warranty

RECOM

2 Watt

SIP7

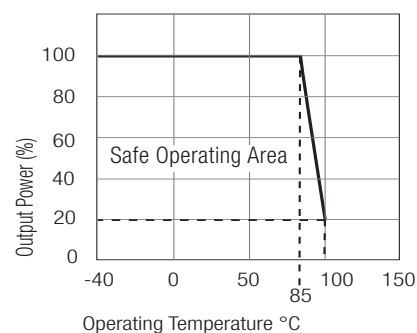
Dual Output



EN-60950-1 Certified

RD

Derating-Graph (Ambient Temperature)

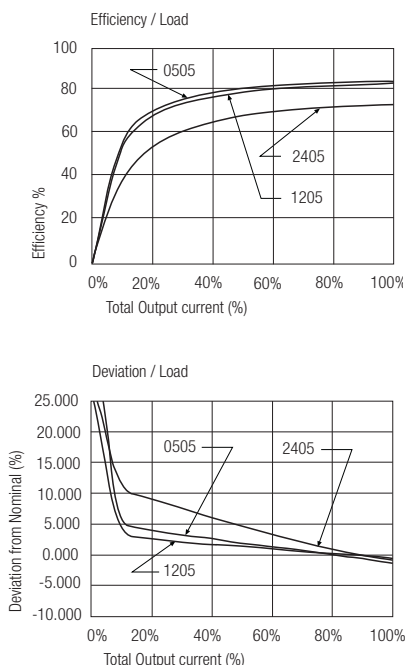


**Any data referred to in this datasheet are of indicative nature and based on our practical experience only. For further details, please refer to our Application Notes.

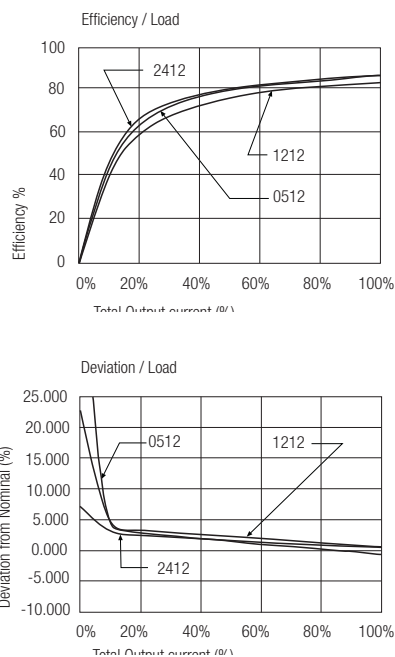
Refer to Application Notes

Typical Characteristics

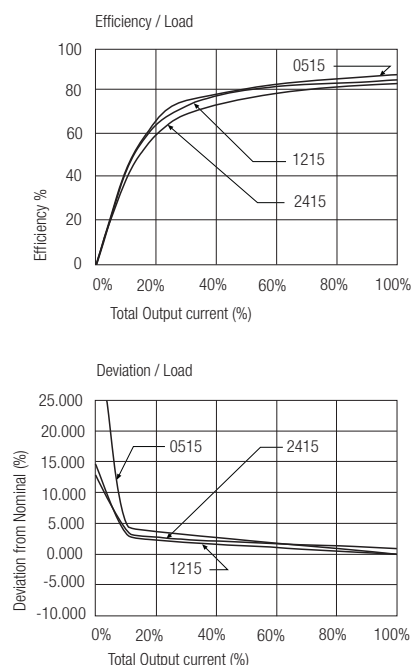
RD-xx05D



RD-xx12D



RD-xx15D

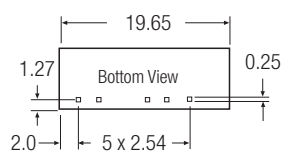
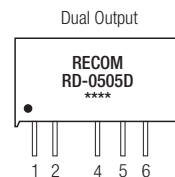
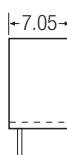
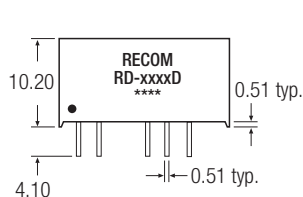


Notes

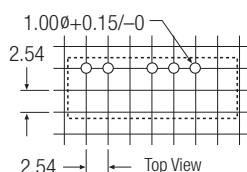
Note 1 Maximum capacitive load is defined as the capacitive load that will allow start up in under 1 second without damage to the converter.

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

The product information and specifications are subject to change without prior notice. RECOM products are not authorized for use in safety-critical applications (such as life support) without RECOM's explicit written consent. A safety-critical application is defined as an application where a failure of a RECOM product may reasonably be expected to endanger or cause loss of life, inflict bodily harm or damage property. The buyer shall indemnify and hold harmless RECOM, its affiliated companies and its representatives against any damage claims in connection with the unauthorized use of RECOM products in such safety-critical applications.