

Features

Unregulated Converters

- Twin Independent Outputs
- Output/Output Isolation 1kVDC
- Power Sharing on Outputs
- Input/Output Isolation 1kVDC
- Standard and Miniature Versions
- Optional Continuous Short Circuit Protected
- Custom Solutions Available
- Efficiency to 76%

Description

The RU DC/DC converter offers two independent isolated outputs. Typical applications include multiple channel circuits where inter-channel isolation is also required. The RUM offers similar specifications in a miniature case for applications where space is at a premium. Both converters offer 1kVDC input/output isolation and 1kVDC output/output isolation. The /H versions offer 2kVDC isolation between input and outputs.

Selection Guide

Part Number	Input Voltage (VDC)	Output Voltage (V1VDC)	Output Voltage (V2VDC)	Output Current (mA)	Efficiency typ. (%)	Max Capacitive Load ⁽¹⁾
SIP 7	2kV					
RU-3.30505	(H) 3.3	5	5	100/100	76	470µF/470µF
RU-050505	(H) 5	5	5	100/100	72	470µF/470µF
RUM-3.30505	(H) 3.3	5	5	100/100	78	470µF/470µF
RUM-050505	(H) 5	5	5	100/100	72	470µF/470µF

Other input and output voltage combinations available on request

* add Suffix "P" for Continuous Short Circuit Protection,
e.g. RU-050505/P, RUM-050505/P, RU-3.30505/HP

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

Input Voltage Range	$\pm 10\%$	
Output Voltage Accuracy	$\pm 5\%$	
Line Voltage Regulation	1.2%/1% of V_{in} typ.	
Load Voltage Regulation (10%~100% Load)	15% max 10% typ.	
Output Ripple and Noise (20MHz limited)	RU	75mVp-p max.
Full Load	RUM	100mVp-p max.
Operating Frequency	20kHz min. / 70kHz typ. / 105kHz max.	
Efficiency at Full Load	RU	70% min.
	RUM	70% min.
Minimum Load = 0%	Specifications valid for 10% minimum load only.	
Isolation Voltage	(tested for 1 second)	1000VDC
Input/Output and Output/Output	(rated for 1 minute**)	500VAC / 60Hz
Isolation Voltage	H-suffix (tested for 1 second)	2000VDC
Input/Output	H-suffix (rated for 1 minute**)	1000VAC / 60Hz
Output/Output	H-suffix (rated for 1 minute**)	500VAC / 60Hz
Isolation Capacitance	20pF min. / 94pF 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	2.7g	
Packing Quantity	RU	25 pcs per Tube
	RUM	30 pcs per Tube
MTBF (+25°C) } (+85°C) }	Detailed Information see Application Notes chapter "MTBF"	using MIL-HDBK 217F 1012 x 10 ³ hours using MIL-HDBK 217F 151 x 10 ³ hours

Certifications

EN60950-1

Report: SPCLVD1109103

EN60950-1: 2006+A12:2011

ECONOLINE

DC/DC-Converter

with 3 year Warranty

RECOM

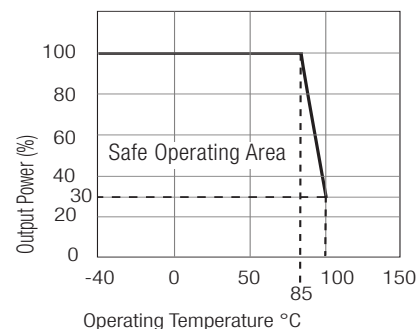
1 Watt SIP7 Isolated Dual Output



EN-60950-1 Certified

RU/RUM

Derating-Graph (Ambient Temperature)

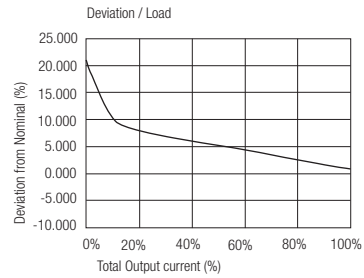
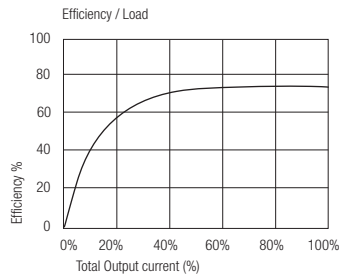


**Any data referred to in this datasheet are of indicative nature and based on our practical experience only. For further details, please refer to our Application Notes.

Refer to Application Notes

Typical Characteristics

RU-050505 RUM-050505

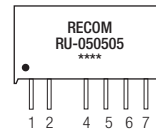
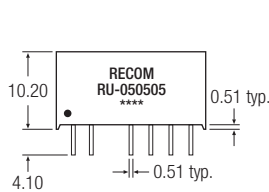


Notes

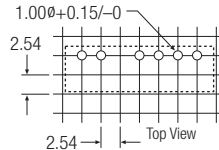
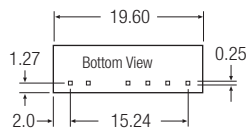
Note 1 Maximum capacitive load is defined as the capacitive load that will allow start up in under 1 second without damage to the converter.

RU Package Style and Pinning (mm)

SIP7 Package



Recommended Footprint Details



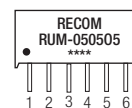
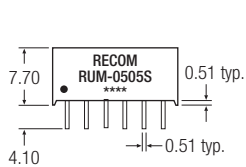
Pin Connections

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

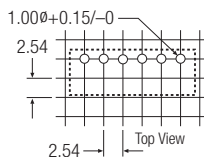
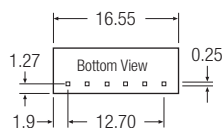
XX.X ± 0.5 mm
XX.XX ± 0.25 mm

RUM Package Style and Pinning (mm)

SIP6 Package



Recommended Footprint Details

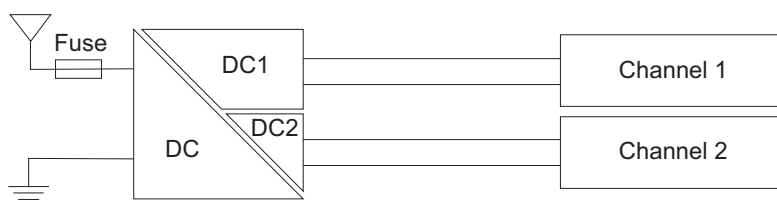


Pin Connections

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

XX.X ± 0.5 mm
XX.XX ± 0.25 mm

Typical Application



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.

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