Features

Unregulated Converters

- Dual output from a single input rail
- 1kVDC or 2kVDC input/output basic isolation
- 1kVDC output/output isolation
- Power sharing on outputs
- Optional continuous short circuit protected
- No external components required
- Efficiency up to 85%

RECOM
DC/DC Converter

RUZ

2 Watt SIP7 Isolated Dual Output

Description

The RUZ DC/DC converter offers two independent isolated outputs. Typical applications include multiple channel circuits where inter-channel isolation is also required. The /H option offers 2kVDC isolation between input and outputs. The /P option is with continuous short circuit protection on either or both outputs.

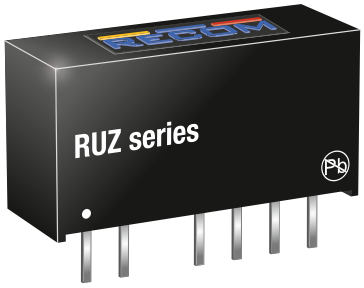
Selection Guide

Part Number	nom. Input Voltage [VDC]	Output Voltage V1 [VDC]	Output Voltage V2 [VDC]	Output Current [mA]	Efficiency typ. (1) [%]	max. Capacitive Load (2) [µF]
RUZ-050505 (3,4)	5	5	5	200/200	70-82	470/470

Notes:

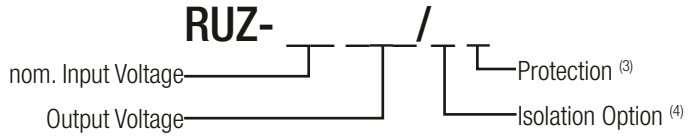
Note1: Efficiency is tested at nominal input and full load at +25°C ambient

Note2: Max Cap Load is tested at nominal input and full resistive load and is defined as the capacitive load that will allow start up in under 1s without damage to the converter



IEC60950-1 certified
EN60950-1 certified

Model Numbering



Notes:

Note3: standard part is without Continuous Short Circuit Protection
add suffix „/P“ for Continuous Short Circuit Protection

Note4: add suffix „/H“ for 2kVDC Isolation
or add suffix „/HP“ for 2kVDC Isolation and Continuous Short Circuit Protection

Ordering Examples:

RUZ-050505/P= 5V Input Voltage, 5V Output Voltage (V1), 5V Output Voltage (V2) with continuous short circuit protection

RUZ-122424/HP= 12V Input Voltage, 24V Output Voltage (V1), 24V Output Voltage (V2) with 2kVDC isolation and continuous short circuit protection

Specifications (measured @ Ta= 25°C, nom. Vin and full load unless otherwise stated)

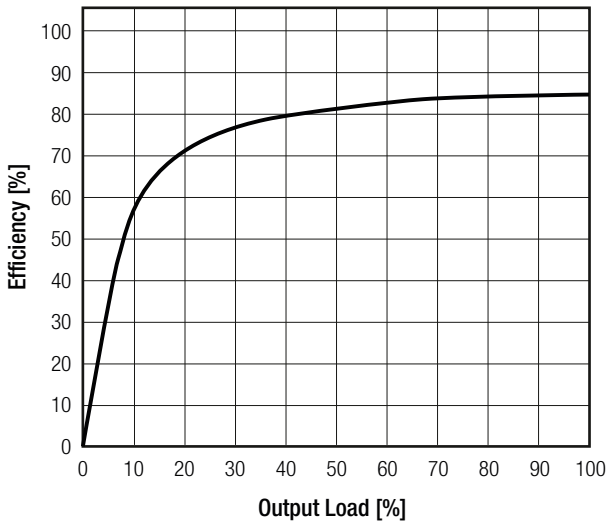
BASIC CHARACTERISTICS

Parameter	Condition	Min.	Typ.	Max.
Input Voltage Range			±10%	
Minimum Load [5]		0%		
Internal Operating Frequency		20kHz	50kHz	85kHz
Output Ripple and Noise	20MHz BW			150mVp-p

Notes:

Note5: Operation below 10% load will not harm the converter, but specifications may not be met

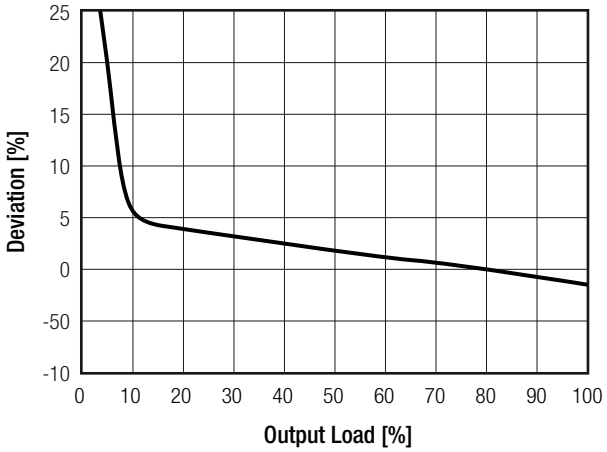
Efficiency vs. Load



REGULATIONS

Parameter	Condition	Value
Output Accuracy		±5.0% max.
Line Regulation	low line to high line	±1.2% of 1.0% Vin typ.
Load Regulation	10% to 100% load	15.0% max.

Deviation vs. Load



continued on next page

Specifications (measured @ Ta= 25°C, nom. Vin and full load unless otherwise stated)

PROTECTIONS

Parameter	Type			Value
Short Circuit Protection (SCP)	without suffix with suffix "/P"			1 second continuous
Isolation Voltage (6)	I/P to O/P	without suffix	tested for 1 second rated for 1 minute	1kVDC 500VAC / 60Hz
		with suffix "/H"	tested for 1 second rated for 1 minute	2kVDC 1kVAC / 60Hz
	O/P1 to O/P2		tested for 1 second	1kVDC
Isolation Resistance				10GΩ min.
Isolation Capacitance				40pF min. / 120pF max.
Insulation Grade				basic

Notes:

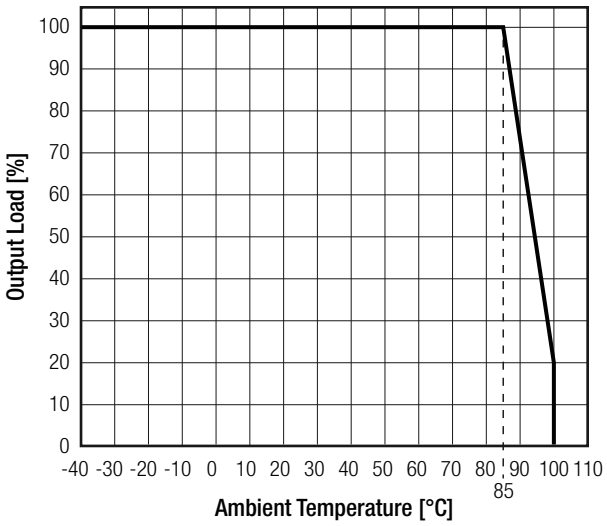
Note6: For repeat Hi-Pot testing, reduce the time and/or the test voltage

Note7: Refer to local wiring regulations if input over-current protection is also required. Recommended fuse: T2A slow blow type

ENVIRONMENTAL

Parameter	Condition		Value
Operating Temperature Range	full load @ free air convection (see graph)		-40°C to + 85°C
Operating Altitude			2000m
Operating Humidity	non-condensing		95% RH max.
Pollution Degree			PD2
MTBF	according to MIL-HDBK-217F, G.B.	+25°C +85°C	16500 x 10^3 hours 6200 x 10^3 hours

Derating Graph
(@free air convection)



SAFETY AND CERTIFICATIONS

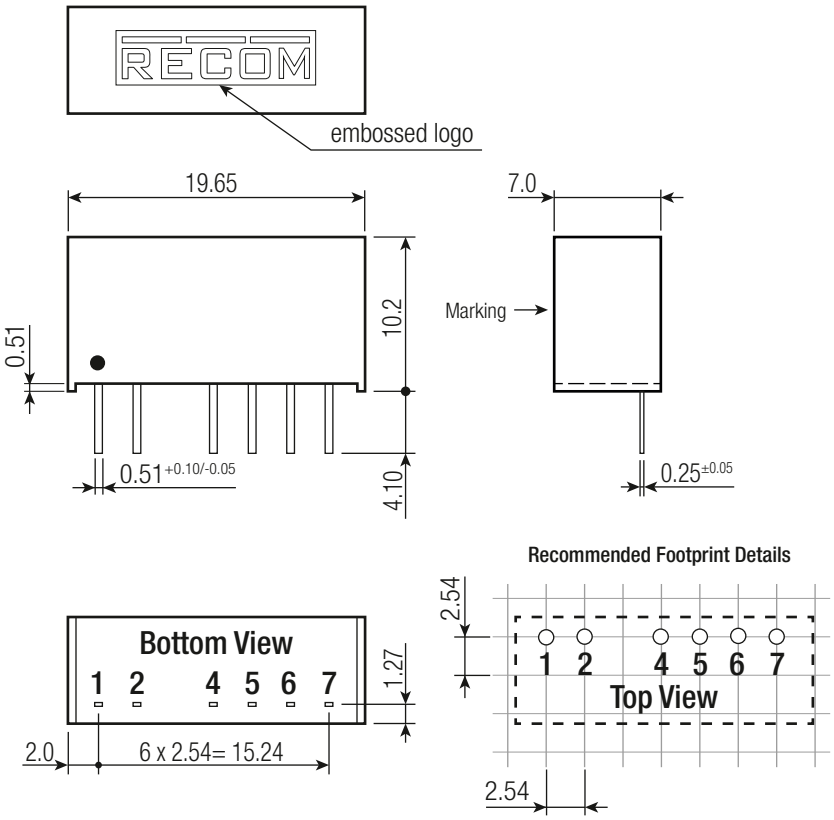
Certificate Type (Safety)	Report / File Number	Standard
Information Technology Equipment, General Requirements for Safety	1602031	IEC60950-1:2005, 2nd Edition + A2:2013 EN60950-1:2006 + A2:2013
EAC	RU-AT.49.09571	TP TC 004/2011
RoHs 2+		RoHS-2011/65/EU + AM-2015/863

Specifications (measured @ Ta= 25°C, nom. Vin and full load unless otherwise stated)

DIMENSION AND PHYSICAL CHARACTERISTICS

Parameter	Type	Value
Material	case potting PCB	non-conductive black plastic (UL94 V-1) epoxy, (UL94 V-0) FR4, (UL94 V-1)
Dimension (LxWxH)		19.65 x 7.0 x 10.2mm
Weight		2.8g typ.

Dimension Drawing (mm)



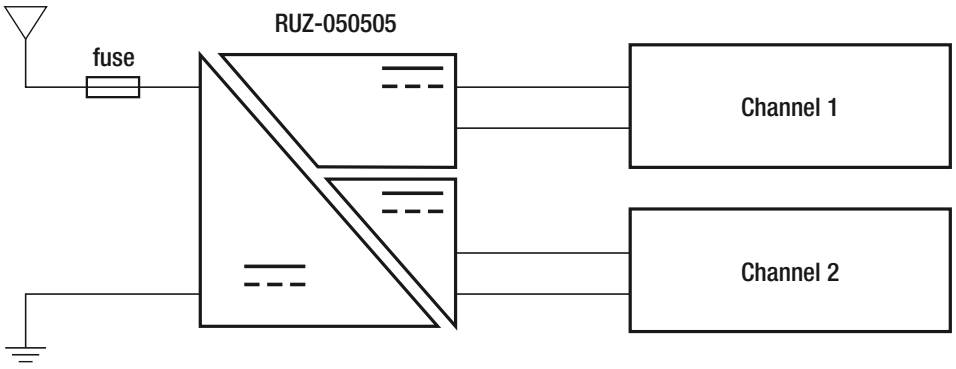
Pinning information

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

Tolerance:
xx.x= ±0.5mm
xx.xx= ±0.25mm

INSTALLATION AND APPLICATION

Typical Application



Specifications (measured @ Ta= 25°C, nom. Vin and full load unless otherwise stated)

PACKAGING INFORMATION		
Parameter	**Type**	**Value**
Packaging Dimension (LxWxH)	tube	520.0 x 16.0 x 9.0mm
Packaging Quantity	tube	25pcs
Storage Temperature Range		-55°C to + 125°C
Storage Humidity		95% RH max.

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