Technical Data Sheet

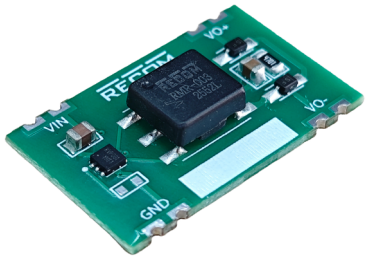
DS-RVP001-RMR-003-0505-1

1W ◊ Unregulated Isolated Output ◊ 1:1 Input

RECOM
DC/DC Converter

FEATURES

- Isolation voltage 1.5kVDC/min
- Operating temperature: -40°C to +85°C
- Short circuit protection
- Castellated connections



Dimensions (LxWxH): 25.4 x 15.24 x 4.8 mm(1.0 x 0.60 x 0.16 inch)
1.11g (0.002lbs)

DESCRIPTION

This solution is composed of RVP001 and bridge transformer RMR-003, combined with necessary rectifier diodes and resistive-capacitive components to achieve an isolated non-regulated power supply with an input of 5V ± 10% and an output of 5V/200mA. The primary and secondary isolation withstand voltage is not less than 1500VDC, and it can provide long-term short-circuit protection and self-recovery. It is mainly applied in distributed power supply systems on circuit boards where a set of power sources that are isolated from the input is required to achieve safety and/or anti-interference.

SELECTION GUIDE

Part Number	Input Voltage [VDC]	Output Voltage [VDC]	Output Current max. [mA]	Efficiency typ. [%]	max. Capacitive[1] [µF]
DS-RVP001-RMR-003-0505-1	5	5	200	84	6800

Note 1: Max. capacitive load is tested at nominal input voltage and full load

BASIC CHARACTERISTIC (measured @ T_{AMB}= 25°C, nominal Input and full load after warm-up time unless otherwise noted)

Parameter	Condition	Min.	Typ.	Max.
Input Voltage Range	nom.V_{IN}=5V±10%	4.5VDC	5VDC	5.5VDC
Minimum Load		0%		
Internal Operating Frequency			340kHz	
Output Ripple and Noise	20MHz BW			100mVp-p

copyright © RECOM Power GmbH, all rights reserved
www.recom-power.com

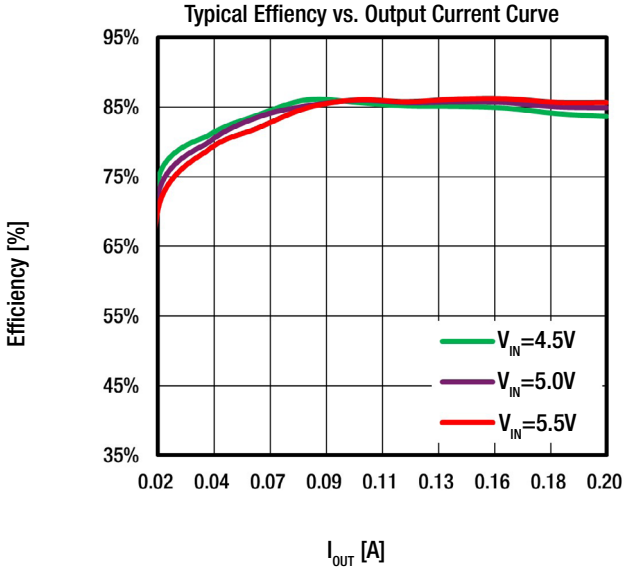
DS-RVP001-RMR-003-0505-1

1W ◊ Unregulated Isolated Output ◊ 1:1 Input

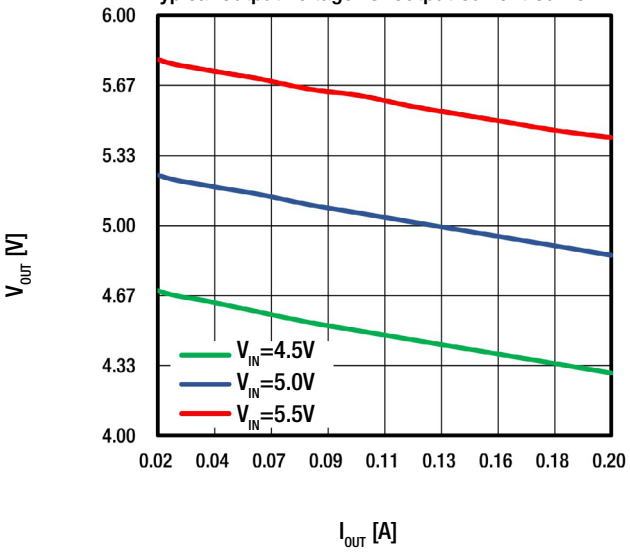
RECOM DC/DC Converter

SPECIFICATIONS (measured @ T_{AMB}= 25°C, nominal Input and full load after warm-up time unless otherwise noted)

Typical Effiency vs. Output Current Curve

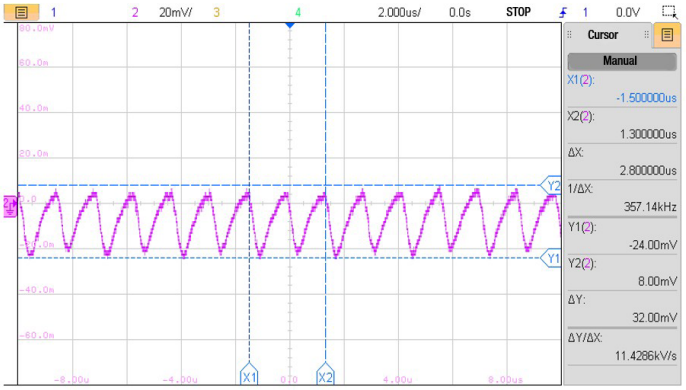


Typical Output Voltage vs. Output Current Curve

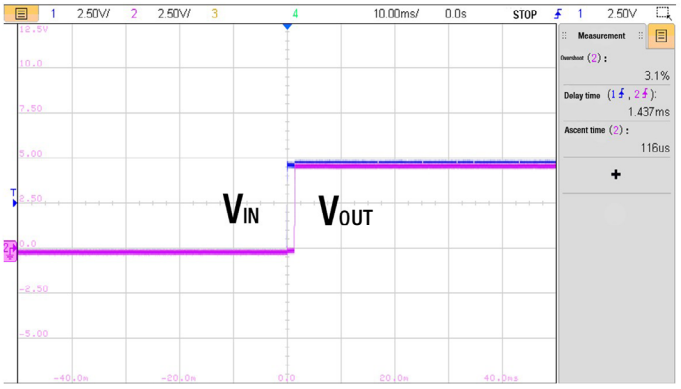


Typical Waveform

V_{IN}=5V, I_{OUT}=200mA, V_{OUT} output voltage ripple



V_{IN} =5V, I_{OUT} =200mA, Startup waveform



REGULATIONS

Parameter	Condition	Values
Output Accuracy		±3.0% Typ.
Line Regulation	low line to high line, full load	1.1% of 1.2% V_{IN} Typ.
Load Regulation	10% to 100% load, V_{OUT}	±8.0% Typ.

PROTECTION AND ISOLATION CAPABILITIES

Short Circuit Protection		continuous, automatic recovery
Isolation Voltage	tested for 1 minute	1.5kVDC min.
Insulation Grade		functional

copyright © RECOM Power GmbH, all rights reserved
www.recom-power.com

DS-RVP001-RMR-003-0505-1

1W ◊ Unregulated Isolated Output ◊ 1:1 Input

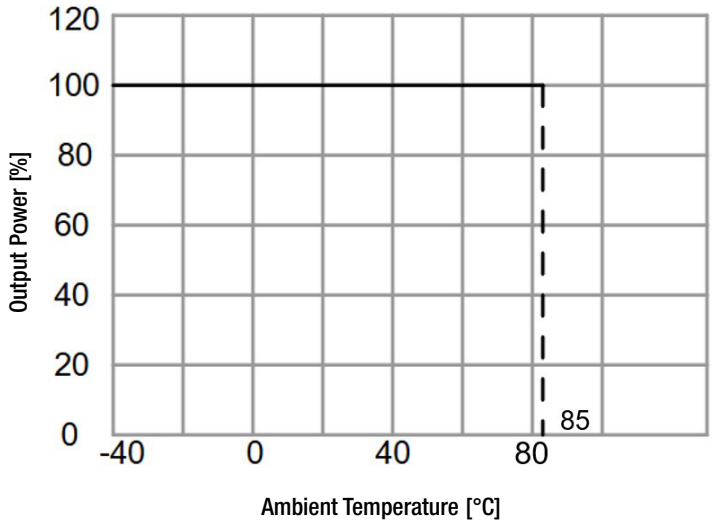
RECOM DC/DC Converter

ENVIRONMENT

Parameter	Condition	Values
Operating Temperature Range	full load	-40°C to +85°C

Derating Graph

(@ Chamber and natural convection 0.1m/s)

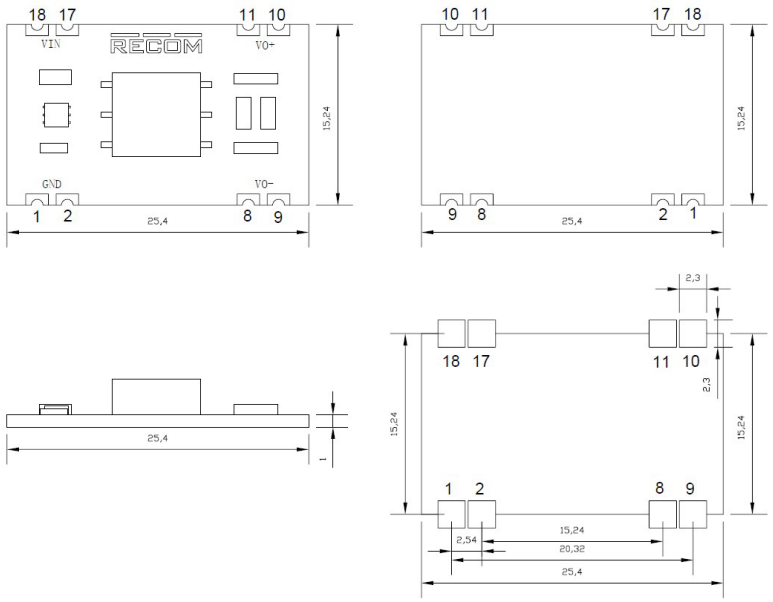


DIMENSION & PHYSICAL CHARACTERISTICS

Parameter	Type	Values
Material	PCB	FR4, (UL94 V-0)
Dimension (LxWxH)		25.4x15.24 x4.8 mm
Weight		1.11g (0.002 lbs)

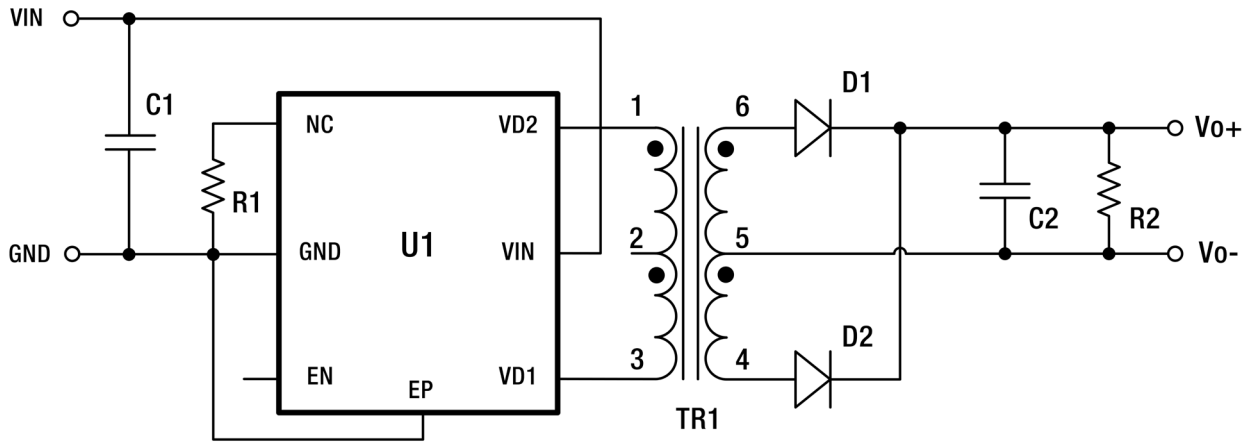
Dimension Drawing (mm)

Pinning Information	
Pin #	Single
1,2	GND
8,9	V_{OUT-}
10,11	V_{OUT+}
17,18	V_{IN}



copyright © RECOM Power GmbH, all rights reserved

SCHEMATIC



BOM

Component Designator	Description	Package	Manufacturer Part Number	Manufacturer
C1	1uF/50V-X7R	0805	CC0805KKX7R9BB105	YAGEO
C2	4.7uF/50V-X5R	0805	CC0805KKX5R9BB475	YAGEO
R1	NC	-	-	-
R2	4.7KΩ±1%	0805	0805W8F4701T5E	UNI-ROYAL
D1,D2	40V/0.5A	SOD-323	B0540WS	YANGJIE
U1	-	DFN2x2	RVP001	RECOM
TR1	-	SMD	RMR-003	RECOM

The product information and specifications may be subject to changes even without prior written notice.The product has been designed for various applications; its suitability lies in the responsibility of each customer. The products are not authorized for use in safety-critical applications without RECOM's explicit written consent. A safety-critical application is an application where a failure may reasonably be expected to endanger or cause loss of life, inflict bodily harm or damage property. The applicant 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.

copyright © RECOM Power GmbH, all rights reserved
www.recom-power.com