

Features

- 1:1 input range
- 0.25W SIP4 package
- Efficiency up to 82%
- 1kVDC and 2kVDC/1s basic isolation
- Operating temperature from -40°C to +100°C
- Optional continuous short circuit protection

Unregulated Converters

RM/E

0.25 Watt
SIP4
Single Output



Description

The RM/E series DC/DC converter has been designed to offer exceptionally high efficiency, low quiescent current and an extended operating temperature range. Uses include battery powered supplies, high efficiency designs or high temperature applications.

Selection Guide

Part Number	nom. Input Voltage [VDC]	Output Voltage [VDC]	Output Current [mA]	Efficiency typ. ⁽¹⁾ [%]	max. Capacitive Load ⁽²⁾ [μF]
RM-3.305S/E ⁽³⁾	3.3	5	50	80	1000
RM-0505S/E ⁽³⁾	5	5	50	82	1000
RM-1205S/E ⁽³⁾	12	5	50	78	1000

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



Model Numbering



Notes:

Note3: standard part is with 1kVDC isolation
add suffix „/H“ for 2kVDC isolation

Ordering Examples:

RM-0505S/E: 5V Input Voltage, 5V Output Voltage, Single Output

RM-1205S/EH: 12V Input Voltage, 5V Output Voltage, Single Output with 2kVDC Isolation



UL60950-1 certified
CAN/CSA-C22.2 No. 60950-1-03 certified
IEC60950-1 certified
EN60950-1 certified

PREFERRED ALTERNATIVES
Please consider these alternatives:

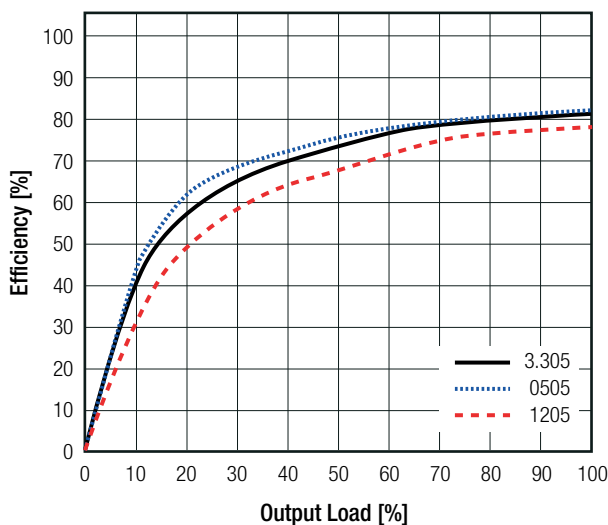
RM Series

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

BASIC CHARACTERISTICS

Parameter	Condition		Min.	Typ.	Max.
Input Voltage Range				±10%	
Minimum Load			0%		
Internal Operating Frequency			20kHz		70kHz
Output Ripple and Noise	20MHz BW	RM-3.305S/E others	35mVp-p		60mVp-p 50mVp-p

Efficiency vs. Load



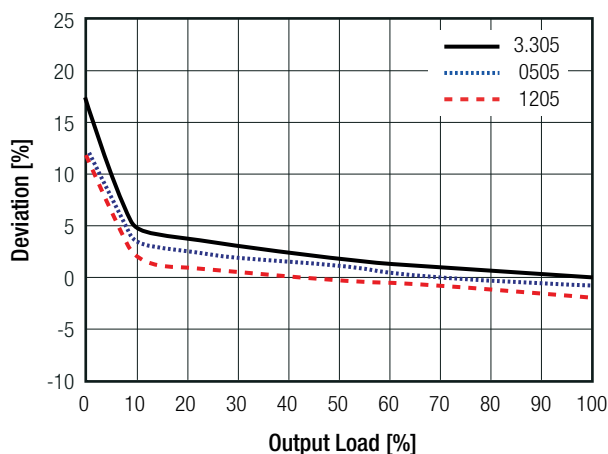
REGULATIONS

Parameter	Condition	Value
Output Accuracy		-2.0% typ. / ±5.0% max.
Line Regulation	low line to high line	±1.2% of 1.0% Vin typ.
Load Regulation ⁽⁴⁾	10% to 100% load	4.0% typ. / 10.0% max.

Notes:

Note4: Operation below 10% load will not harm the converter, but specifications may not be met

Deviation vs. Load

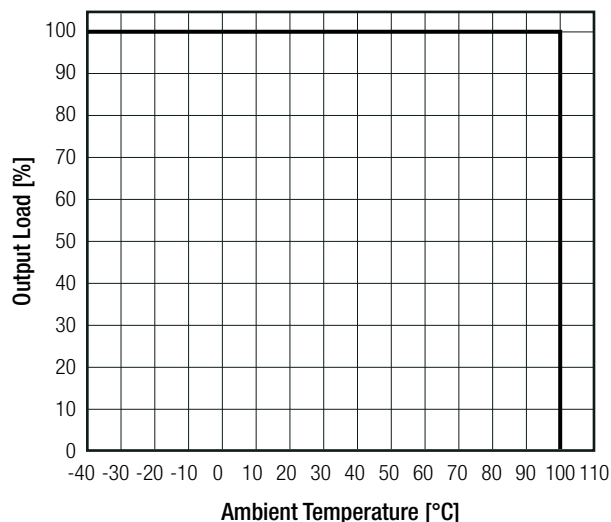


Specifications (measured @ Ta= 25°C, nom. Vin, full load and after warm up unless otherwise stated)

PROTECTIONS			
Parameter	Type		Value
Short Circuit Protection (SCP)			1 second
Isolation Voltage ⁽⁵⁾	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
Isolation Resistance			10GΩ min.
Isolation Capacitance			75pF max.
Insulation Grade			basic
<p>Notes:</p> <p>Note5: For repeat Hi-Pot testing, reduce the time and/or the test voltage</p> <p>Note6: Refer to local wiring regulations if input over-current protection is also required. Recommended fuse: T0.5A slow blow type</p>			

ENVIRONMENTAL			
Parameter	Condition		Value
Operating Temperature Range	full load @ free air convection (see graph)		-40°C to +100°C
Operating Altitude			2000m
Operating Humidity	non-condensing		95% RH max.
Pollution Degree			PD2
MTBF	according to MIL-HDBK-217F, G.B.	+25°C	4494 x 10 ³ hours
		+100°C	1352 x 10 ³ hours

Derating Graph
(@ free air convection)



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

SAFETY AND CERTIFICATIONS		
Certificate Type (Safety)	Report / File Number	Standard
Information Technology Equipment, General Requirements for Safety	LVD1602031	IEC60950-1:2005, 2nd Edition + A2:2013 EN60950-1:2006 + A2:2013
Information Technology Equipment, General Requirements for Safety	E358085-A4-UL	UL60950-1, 2nd Edition:2007 CAN/CSA C22.2 No. 60950-1-03, 2nd Edition:2007
EAC	RU-AT.49.09571	TP TC 004/2011
RoHS 2		RoHS-2011/65/EU + AM-2015/863

DIMENSION AND PHYSICAL CHARACTERISTICS

Parameter	Type	Value
Material	case potting PCB	non-conductive black plastic, (UL94 V-0) epoxy, (UL94 V-0) FR4, (UL94 V-0)
Dimension (LxWxH)		11.5 x 6.0 x 10.0mm
Weight		1.4g typ.

Dimension Drawing (mm)

Pinning information

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

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

Recommended Footprint Details

PACKAGING INFORMATION		
Parameter	Type	Value
Packaging Dimension (LxWxH)	tube	520.0 x 16.0 x 9.0mm
Packaging Quantity	tube	42pcs
Storage Temperature Range		-55°C to + 125°C
Storage Humidity		95% RH max.

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