

# Features

## Unregulated Converter

- Single Output Rail
- Industry Standard Pinout
- 1kVDC or 2kVDC Isolation
- High Efficiency for Low Power Applications
- UL94V-0 Package Material
- Optional Continuous Short Circuit Protected
- Fully Encapsulated
- Custom versions available
- Efficiency to 76%

### Description

The RM series DC/DC converter has been designed for isolating or converting DC power rails with very light loads. Efficiencies are typically 10% higher than a comparable 0.5W or 1W converters run at the same low load.

### Selection Guide

Part Number SIP 4	(2kV)	Input Voltage (VDC)	Output Voltage (VDC)	Output Current (mA)	Efficiency (%)	Max. Capacitive Load <sup>(1)</sup>
RM-xx3.3S	(H)	3.3, 5, 12, 15, 24	3.3	76	65-70	1000µF
RM-xx05S	(H)	3.3, 5, 12, 15, 24	5	50	66-72	470µF
RM-xx09S	(H)	3.3, 5, 12, 15, 24	9	28	70-72	470µF
RM-xx12S	(H)	3.3, 5, 12, 15, 24	12	21	70-72	150µF
RM-xx15S	(H)	3.3, 5, 12, 15, 24	15	17	70-76	150µF

xx = Input Voltage (other input and output voltage combinations and output powers available on request)

\* add Suffix "P" for Continuous Short Circuit Protection, e.g. RM-0505S/P, RM-0505S/HP

### Specifications (measured at T<sub>A</sub> = 25°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 5V output type 12V, 15V, 24V output types	20% max. 15% max. 10% max.
Output Ripple and Noise (20MHz limited)		50mVp-p max.
Operating Frequency		50kHz min. / 90kHz typ. / 105kHz max.
Efficiency at Full Load		65% min. / 75% typ.
Minimum Load = 0%	Specifications valid for 10% minimum load only.	
Isolation Voltage	(tested for 1 second) (rated for 1 minute)	1000VDC 500VAC / 60Hz
Isolation Voltage	H-Suffix H-Suffix (tested for 1 second) (rated for 1 minute)	2000VDC 1400VAC / 60Hz
Isolation Capacitance		25pF min. / 82pF max.
Isolation Resistance		10 GΩ min.
Short Circuit Protection P-Suffix		1 Second 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	RM types RL types	1.4g 1.8g
Packing Quantity		42 pcs per Tube
MTBF (+25°C) (+85°C)	} Detailed Information see Application Notes chapter "MTBF"	using MIL-HDBK 217F 1327 x 10 <sup>3</sup> hours
		using MIL-HDBK 217F 302 x 10 <sup>3</sup> hours

# ECONOLINE

## DC/DC-Converter

with 3 year Warranty



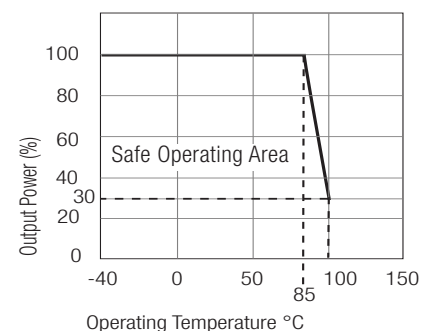
# 0.25 Watt SIP4 Single Output



EN-60950-1 Certified

# RM

## Derating-Graph (Ambient Temperature)

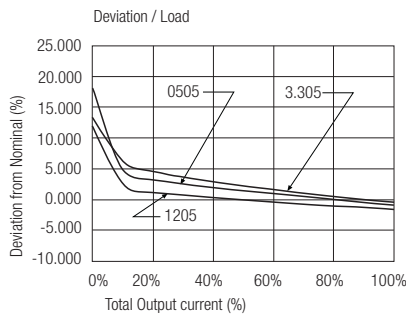
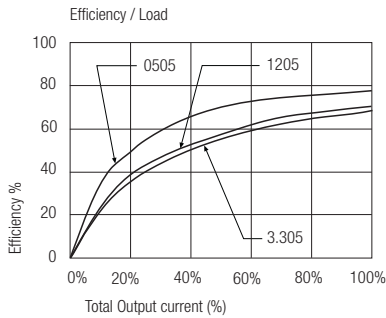


Refer to Application Notes

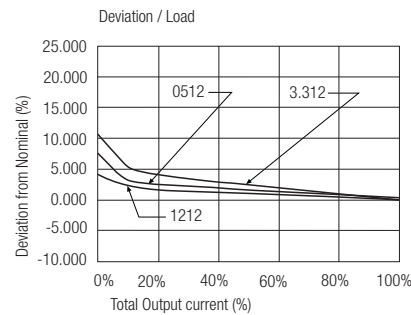
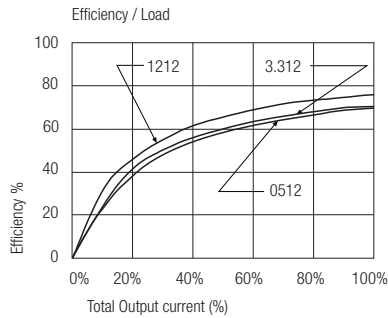
www.recom-electronic.com

**Typical Characteristics**

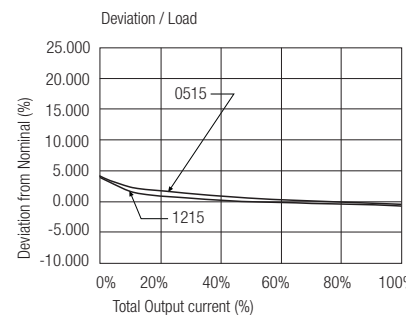
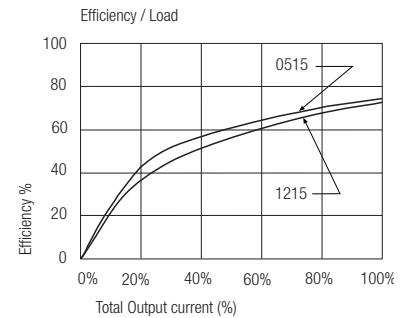
## RM-xx05S



## RM-xx12S



## RM-xx15S



**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.

**Certifications**

EN General Safety

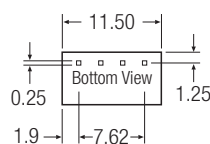
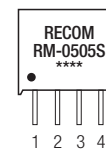
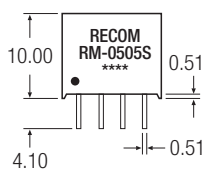
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EN 60950-1:2004 + A11:2004

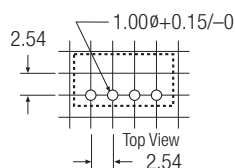
RM

**Package Style and Pinning (mm)**

**4 PIN SIP Package**



**Recommended Footprint Details**



**RM Pin Connections**

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

XX.X ± 0.5 mm  
XX.XX ± 0.25 mm