

## 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	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	1000µF
RM-xx05S	(H)	3.3, 5, 12, 15, 24	5	50	470µF
RM-xx09S	(H)	3.3, 5, 12, 15, 24	9	28	470µF
RM-xx12S	(H)	3.3, 5, 12, 15, 24	12	21	150µF
RM-xx15S	(H)	3.3, 5, 12, 15, 24	15	17	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 $T_A = 25^\circ\text{C}$ , 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% to 100% full load)	3.3V output types	20% max.	
	5V output type	15% max.	
	12V, 15V, 24V output types	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)	1000VDC	
	(rated for 1 minute)	500VAC / 60Hz	
Isolation Voltage	H-Suffix (tested for 1 second)	2000VDC	
	H-Suffix (rated for 1 minute)	1400VAC / 60Hz	
Isolation Capacitance		25pF min. / 82pF max.	
Isolation Resistance		10 $\text{G}\Omega$ min.	
Short Circuit Protection		1 Second	
P-Suffix		Continuous	
Operating Temperature Range (free air convection)		$-40^\circ\text{C}$ to $+85^\circ\text{C}$ (see Graph)	
Storage Temperature Range		$-55^\circ\text{C}$ to $+125^\circ\text{C}$	
Relative Humidity		95% RH	
Package Weight	RM types	1.4g	
	RL types	1.8g	
Packing Quantity		42 pcs per Tube	
MTBF ( $+25^\circ\text{C}$ )	} Detailed Information see Application Notes chapter "MTBF"	using MIL-HDBK 217F	$1327 \times 10^3$ hours
( $+85^\circ\text{C}$ )		using MIL-HDBK 217F	$302 \times 10^3$ hours

RM

## ECONOLINE

DC/DC-Converter

with 3 year Warranty

RECOM

0.25 Watt

SIP4

Single Output

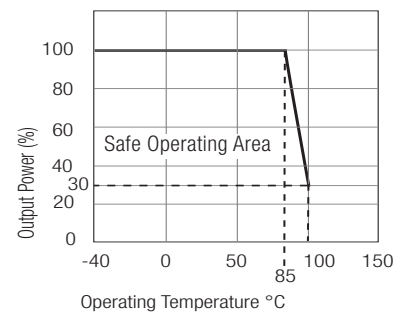


EN-60950-1 Certified

RM

## Derating-Graph

(Ambient Temperature)

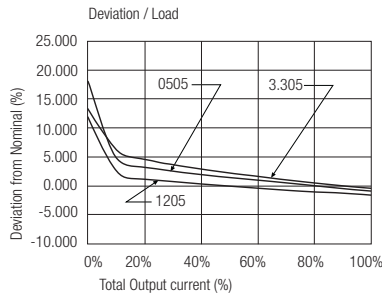
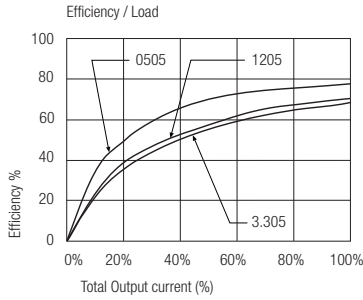


Refer to Application Notes

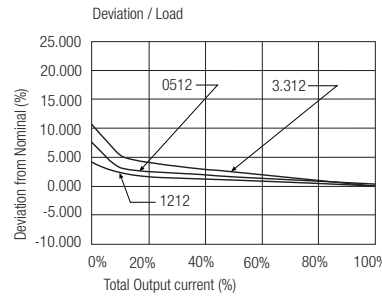
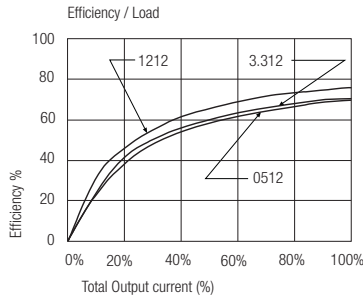
[www.recom-electronic.com](http://www.recom-electronic.com)

**Typical Characteristics**

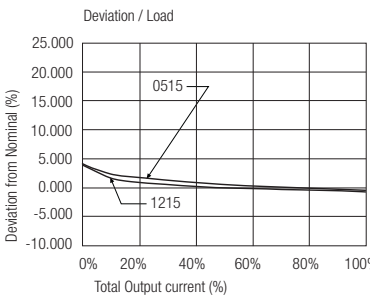
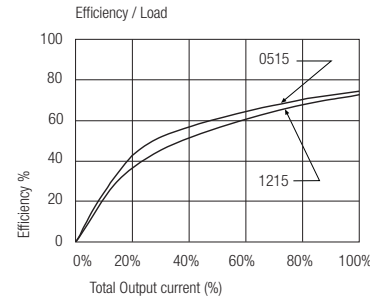
**RM-xx05S**



**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.

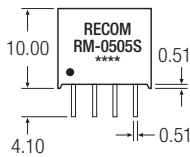
**Certifications**

EN General Safety Report: PS080804950C2 EN 60950-1:2004 + A11:2004

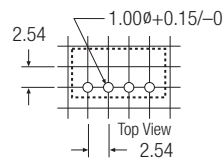
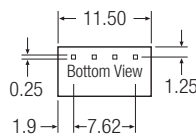
**RM**

**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