

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 (%)
SIP 4	(2kV)				
RM-xx3.3S	(H)	3.3, 5, 12, 15, 24	3.3	76	65-70
RM-xx05S	(H)	3.3, 5, 12, 15, 24	5	50	66-72
RM-xx09S	(H)	3.3, 5, 12, 15, 24	9	28	70-72
RM-xx12S	(H)	3.3, 5, 12, 15, 24	12	21	70-72
RM-xx15S	(H)	3.3, 5, 12, 15, 24	15	17	70-76

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 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.
No Load Power Consumption		45mW min. / 75mW typ. / 155mW max.
Maximum Capacitive Load		22 μF
Isolation Voltage	(tested for 1 second)	1000VDC min.
Rated Working Voltage	(long term isolation)	see Application Notes
Isolation Voltage	H-Suffix (tested for 1 second)	2000VDC min.
Rated Working Voltage	H-Suffix (long term isolation)	see Application Notes
Isolation Capacitance		25pF min. / 82pF max.
Isolation Resistance		10 G Ω min.
Short Circuit Protection P-Suffix		1 Second 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 RL types	1.4g 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 x 10 ³ hours
(+85 $^\circ\text{C}$)		using MIL-HDBK 217F 302 x 10 ³ hours

ECONOLINE

DC/DC-Converter

RECOM

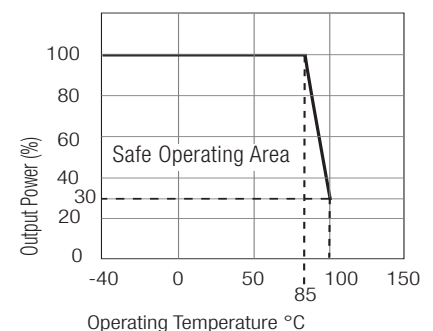
**0.25 Watt
SIP4
Single Output**



EN-60950-1 Certified

RM

Derating-Graph (Ambient Temperature)

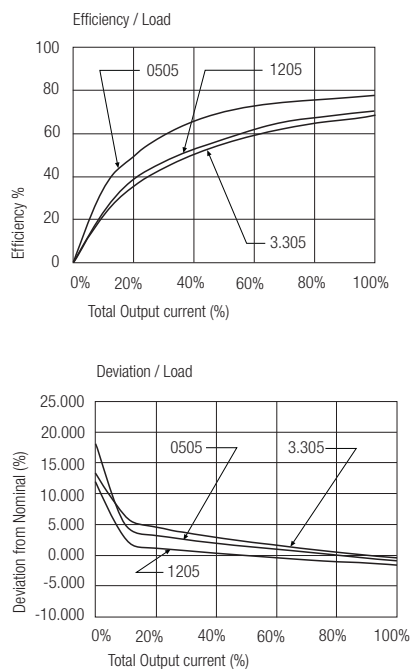


Refer to Application Notes

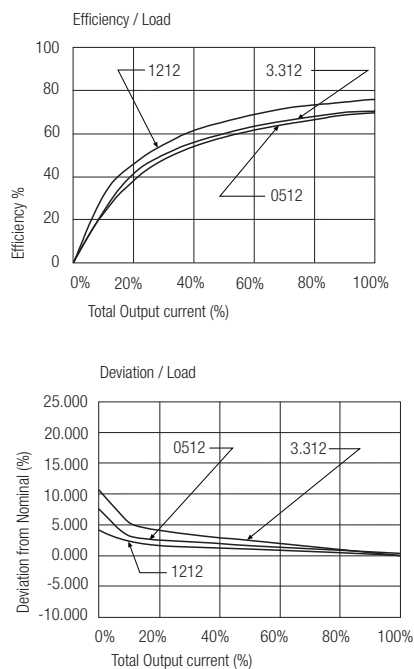
www.recom-electronic.com

Typical Characteristics

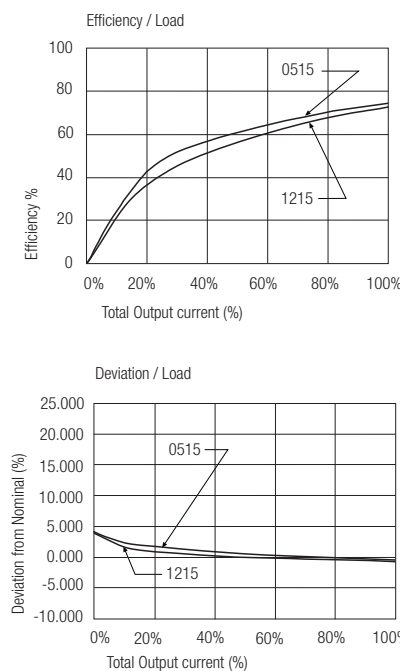
RM-xx05S



RM-xx12S



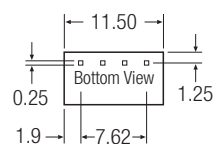
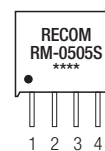
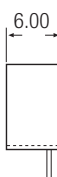
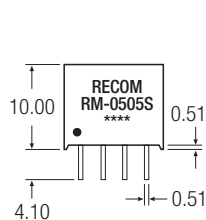
RM-xx15S



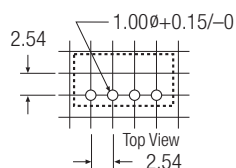
Package Style and Pinning (mm)

4 PIN SIP Package

3rd angle projection



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	