

Features

Unregulated Converters

Rev.0

- Single Output Rail
- Industry Standard Pinout
- 1kVDC & 2kVDC Isolation
- High Efficiency for Low Power Applications
- UL94V-0 Package Material
- Optional Continuous Short Circuit Protected
- Fully Encapsulated
- Efficiency to 80 %
- Custom versions available:

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 (%)
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		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	
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

RM Series

0.25 Watt

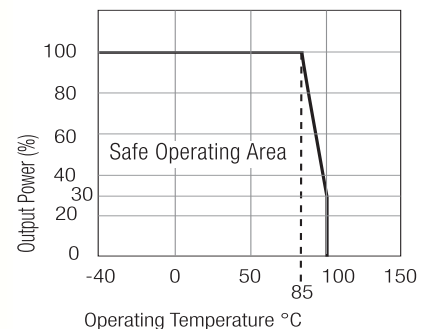
SIP4

Single Output



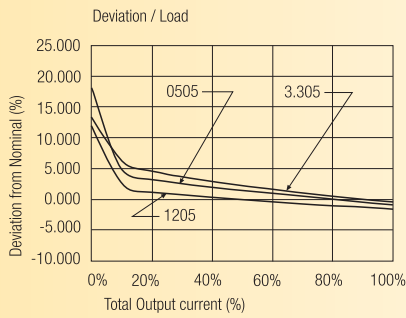
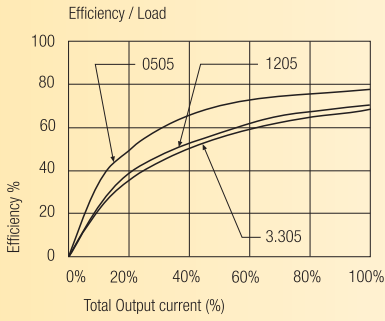
Derating-Graph

(Ambient Temperature)

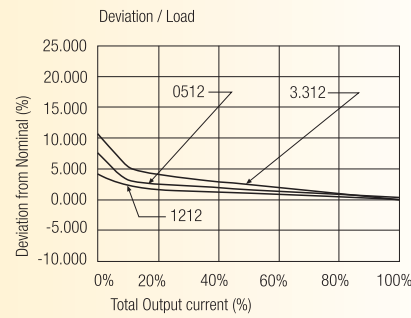
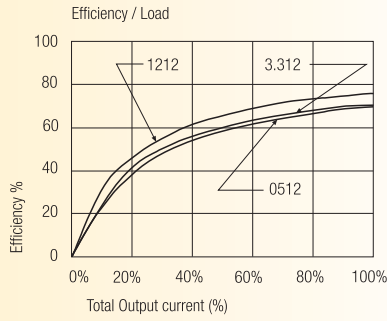


Typical Characteristics

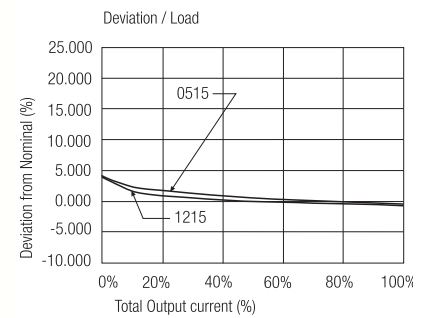
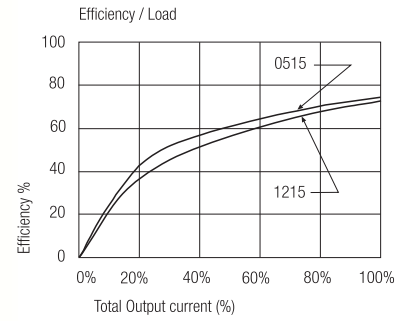
RM-xx05S



RM-xx12S

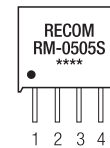
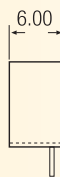
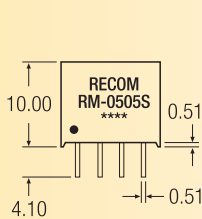


RM-xx15S

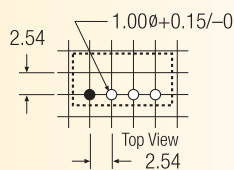
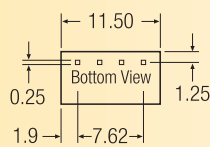


Package Style and Pinning (mm)

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