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[1]
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_A = 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		3.3V output types	20% max.
(10% to 100% full load)		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 GΩ min.
Short Circuit Protection			1 Second
P-Suffix			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	1.4g
		RL types	1.8g
Packing Quantity			42 pcs per Tube
MTBF (+25°C)	*Detailed Information see Application Notes chapter "MTBF"*	using MIL-HDBK 217F	1327 x 10^3 hours
(+85°C)		using MIL-HDBK 217F	302 x 10^3 hours

contiued on the next page

**Any data referred to in this datasheet are of indicative nature and based on our practical experience only. For further details, please refer to our Application Notes.

Refer to Application Notes

ECONOLINE

DC/DC-Converter

with 3 year Warranty

RECOM

0.25 Watt SIP4 Single Output

RoHS 2011/65/EU 6/6

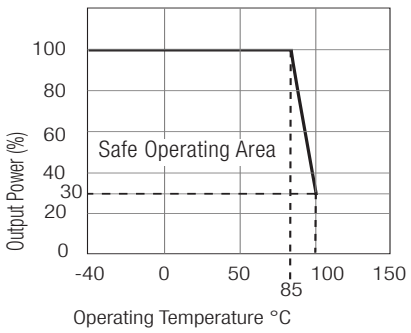
E358085

EN-60950-1 Certified
UL-60950-1 Certified
IEC/EN-60601-1 Certified*
***(/H suffix)**

RM

Derating-Graph

(Ambient Temperature)

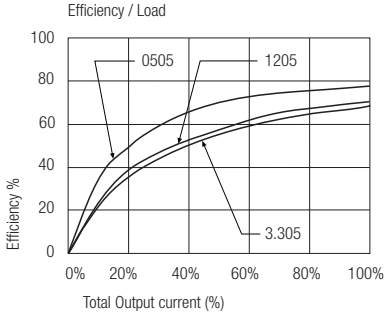


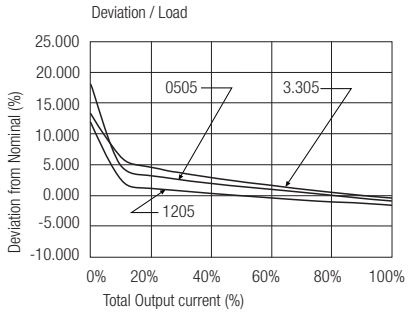
Specifications (measured at T_A = 25°C, nominal input voltage, full load and after warm-up)

Certifications		
UL General Safety	Report: E358085	UL 60950-1, 2nd Edition
EN General Safety	Report: SPCLVD1109103	EN 60950-1:2006 + A12:2011
EN Medical Safety	Report: MDD1112018 + RM1112018	IEC/EN 60601-1 3rd Edition Medical Report + ISO14971 Risk Assessment

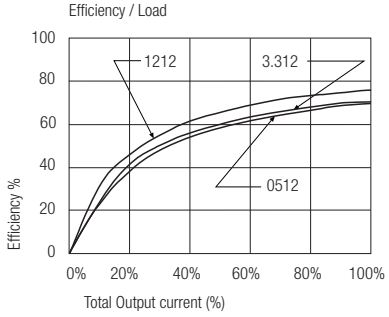
Typical Characteristics

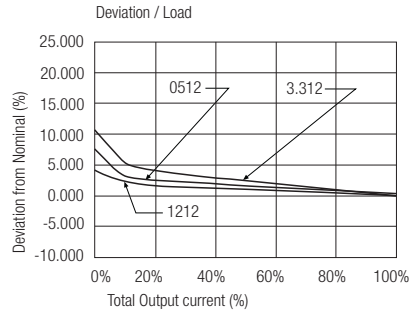
RM-xx05S



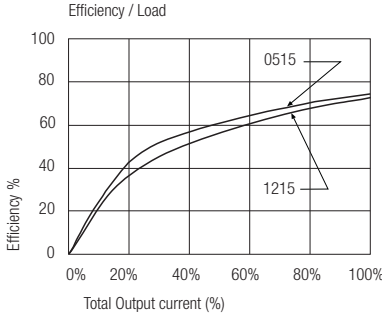


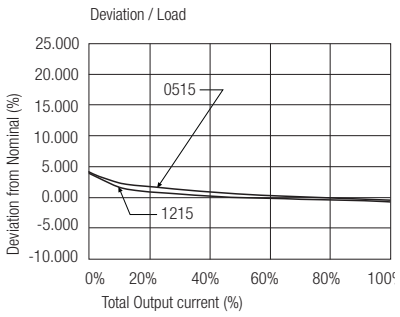
RM-xx12S





RM-xx15S



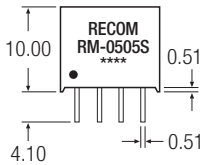


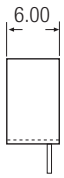
Notes

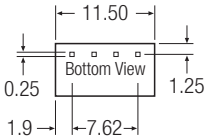
Note 1 Maximum capacitive load is defined as the capacitive load that will allow start up in under 1 second without damage to the converter.

Package Style and Pinning (mm)

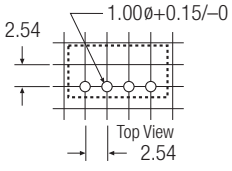
4 PIN SIP Package







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

RM