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:

ECONOLINE

DC/DC-Converter

RM Series

0.25 Watt SIP4 Single Output

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 (%)
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)

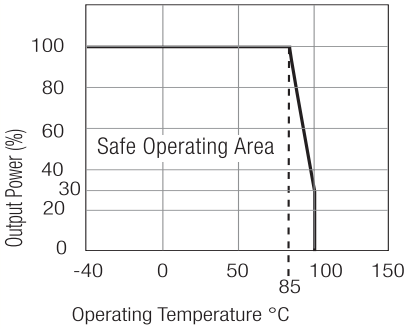
* add Suffix "P" for Continuous Short Circuit Protection, e.g. RM-0505S/P, RM-0505S/HP

Specifications (measured at T_A = 25°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.
No Load Power Consumption			45mW min. / 75mW typ. / 155mW max.
Maximum Capacitive Load			22µF
Isolation Voltage		(tested for 1 second)	1000VDC min.
Rated Working Voltage		(long term isolation)	see Application Notes
Isolation Voltage Rated Working Voltage	H-Suffix H-Suffix	(tested for 1 second) (long term isolation)	2000VDC min. see Application Notes
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	1.4g
		RL types	1.8g
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

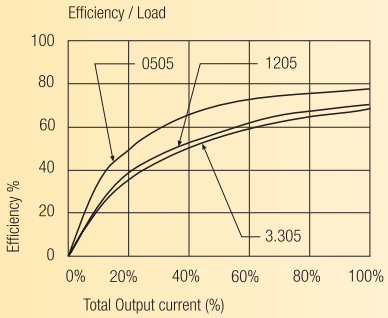
Derating-Graph

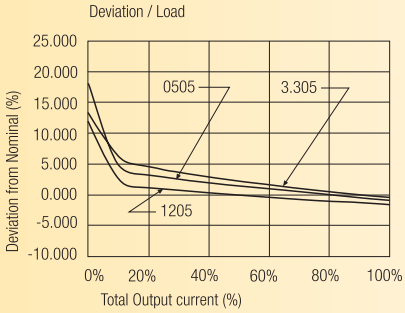
(Ambient Temperature)



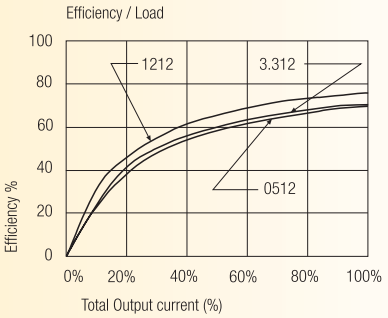
Typical Characteristics

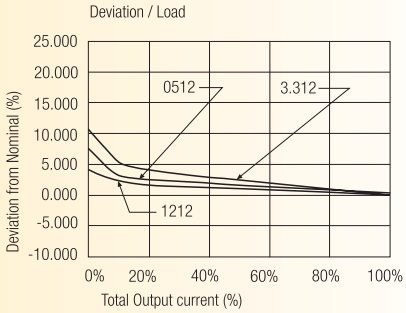
RM-xx05S



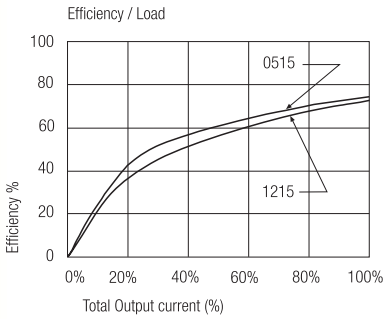


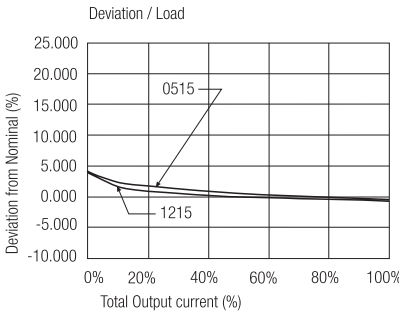
RM-xx12S





RM-xx15S

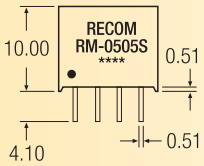




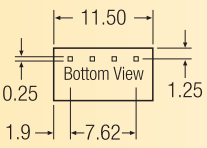
Package Style and Pinning (mm)

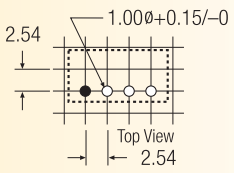
4 PIN SIP Package

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