

Features

Unregulated Converters

- Single Output Rail
- Industry Standard Pinout
- 1kVDC & 2kVDC Isolation
- High Efficiency for Low Power Applications
- UL94V-0 Package Material
- Toroidal Magnetics
- Fully Encapsulated
- Efficiency to 80%

ECONOLINE

DC/DC-Converter

RM & RL Series

Selection Guide

Part Number			Input Voltage (VDC)	Output Voltage (VDC)	Output Current (mA)	Efficiency (%)
SIP 4	DIP8	(2kV)				
RM-xx1.8S	RL-xx1.8S	(H)	1.8, 3.3, 5, 9, 12, 15, 24	1.8	139	70
RM-xx3.3S	RL-xx3.3S	(H)	1.8, 3.3, 5, 9, 12, 15, 24	3.3	76	65-70
RM-xx05S	RL-xx05S	(H)	1.8, 3.3, 5, 9, 12, 15, 24	5	50	66-72
RM-xx09S	RL-xx09S	(H)	1.8, 3.3, 5, 9, 12, 15, 24	9	28	70-72
RM-xx12S	RL-xx12S	(H)	1.8, 3.3, 5, 9, 12, 15, 24	12	21	70-72
RM-xx15S	RL-xx15S	(H)	1.8, 3.3, 5, 9, 12, 15, 24	15	17	70-76
RM-xx24S	RL-xx24S	(H)	1.8, 3.3, 5, 9, 12, 15, 24	24	10	70-80

xx = Input Voltage

Specifications (Core Operating Area)

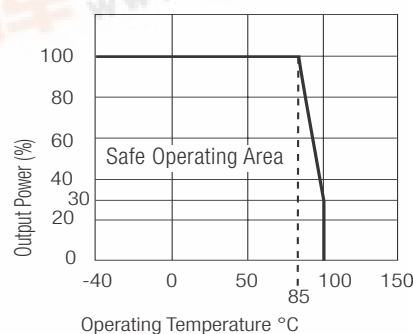
Input Voltage Range	±10%	
Output Voltage Accuracy	±5%	
Line Voltage Regulation	1.2%/1% of Vin max.	
Load Voltage Regulation (10% to 100% full load)	1.8V, 3.3V output types 5V output type 9V, 12V, 15V, 24V output types	20% max. 15% max. 10% max.
Output Ripple and Noise (20MHz limited)	50mVp-p max.	
Operating Frequency	50kHz min. / 90kHz typ. / 105kHz max.	
Efficiency at Full Load	65% min. / 75% typ.	
No Load Power Consumption	45mW min. / 75mW typ. / 105mW max.	
Isolation Voltage (tested for 1 second)	1.000VDC min.	
Rated Working Voltage (long term isolation)	see Application Notes	
Isolation Voltage (tested for 1 second)	H-Suffix	2.000VDC min.
Rated Working Voltage (long term isolation)	H-Suffix	see Application Notes
Isolation Capacitance	25pF min. / 82pF max.	
Isolation Resistance	10 GΩ min.	
Short Circuit Protection	1 Second	
Operating Temperature Range (free air convection)	-40°C to +85°C (see Graph)	
Storage Temperature Range	-55°C to +125°C	
Relative Humidity	MSL Level 1	95% RH
Package Weight	RM types	1.4g
	RL types	1.8g

MTBF: +25°C } Detailed Information see using MIL-HDBK 217F 1327 x 10³ hours
 +85°C } Application Notes chapter "MTBF" using MIL-HDBK 217F 302 x 10³ hours

0.25 Watt SIP4 & DIP8 Single Output

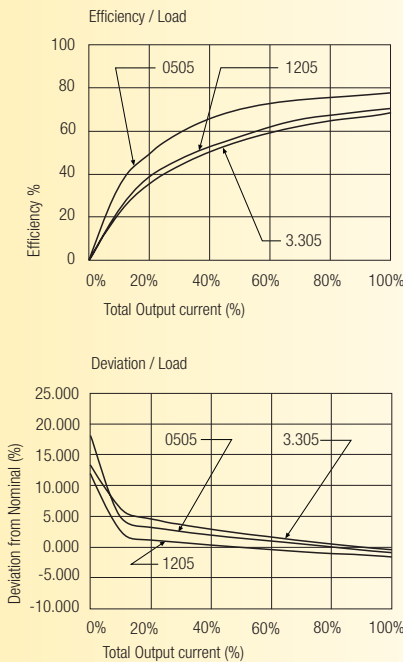


Derating-Graph (Ambient Temperature)

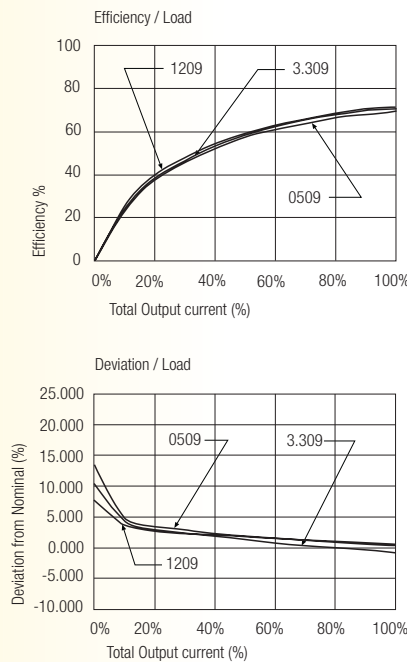


Typical Characteristics

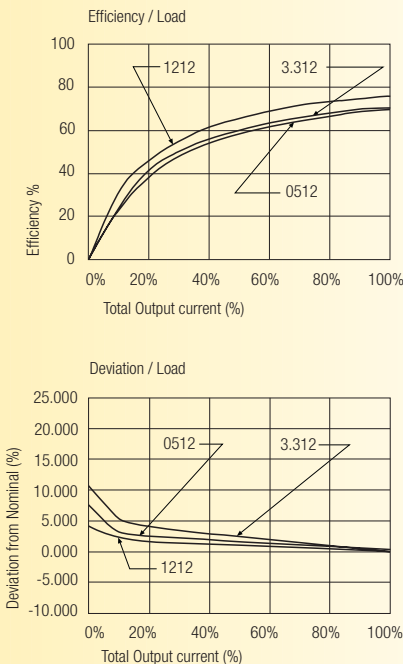
RM/RL-xx05S



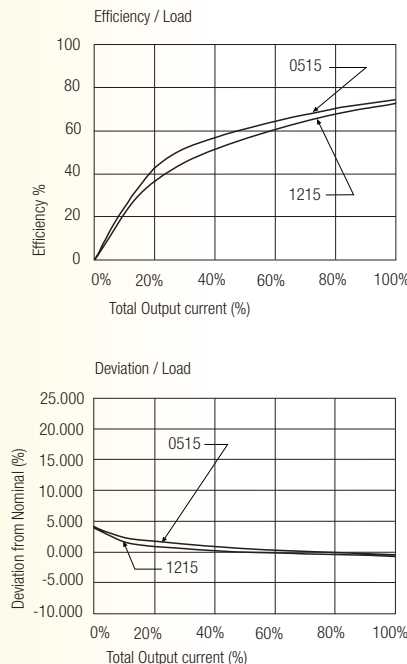
RM/RL-xx09S



RM/RL-xx12S

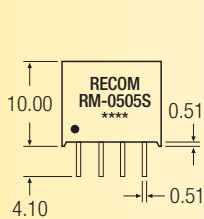


RM/RL-xx15S

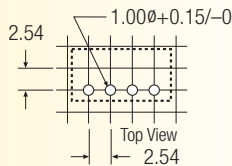
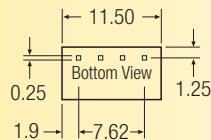


Package Style and Pinning (mm)

4 PIN SIP Package



Recommended Footprint Details

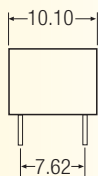
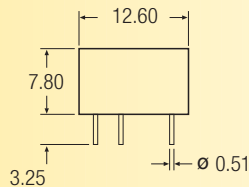


RM Pin Connections

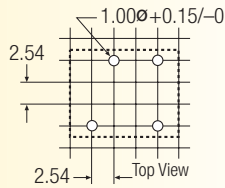
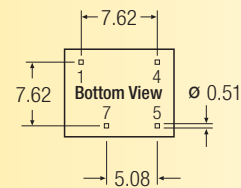
Pin #	Single
1	-Vin
2	+Vin
3	-Vout
4	+Vout

XX.X ± 0.5 mm
XX.XX ± 0.25 mm

8 PIN DIP Package



Recommended Footprint Details



RL Pin Connections

Pin #	Single
1	-Vin
4	+Vin
5	+Vout
7	-Vout

XX.X ± 0.5 mm
XX.XX ± 0.25 mm