

Features

Unregulated Converters

- Custom Solutions Available
- 1kVDC Isolation
- No External Components Required
- Optional Continuous Short Circuit Protected
- UL94V-0 Package Material
- No Heatsink Required
- Efficiency to 87%

ECONOLINE

DC/DC-Converter

RI Series

2 Watt

SIP4

Single Output

Selection Guide

Part Number	Input Voltage (VDC)	Output Voltage (VDC)	Output Current (mA)	Efficiency (%)
SIP4				
RI-xx3.3S	5, 9, 12, 15, 24	3.3	606	70-75
RI-xx05S	5, 9, 12, 15, 24	5	400	78-83
RI-xx07S	5, 9, 12, 15, 24	7	285	78-83
RI-xx09S	5, 9, 12, 15, 24	9	222	78-83
RI-xx12S	5, 9, 12, 15, 24	12	167	80-85
RI-xx15S	5, 9, 12, 15, 24	15	133	80-85
RI-xx24S	5, 9, 12, 15, 24	24	83	80-87

xx = Input Voltage

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



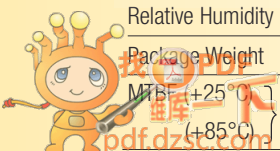
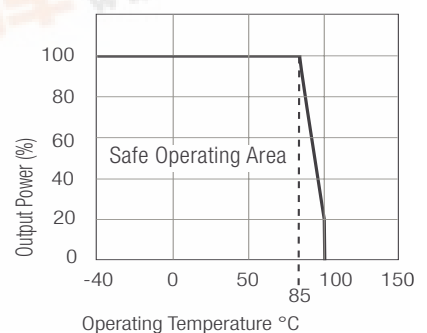
Specifications (Core Operating Area)

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	20% max.	
	5V, output type	15% max.	
	9V, 12V, 15V, 24V output types	10% max.	
Output Ripple and Noise (20MHz limited)	200mVp-p max.		
Operating Frequency	35kHz min. / 50kHz typ. / 85kHz max.		
Efficiency at Full Load	70% min. / 80% typ.		
No Load Power Consumption	142mW min. / 185mW typ. / 252mW max.		
Isolation Voltage	(tested for 1 second)	1000VDC min.	
Rated Working Voltage	(long term isolation)	see Application Notes	
Isolation Capacitance	30pF min. / 85pF 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	1.4g		
MTBF (+25°C)	Detailed Information see Application Notes chapter "MTBF"	using MIL-HDBK 217F	845 x 10³ hours
MTBF (+85°C)		using MIL-HDBK 217F	160 x 10³ hours

Detailed Information see Application Notes chapter "MTBF"

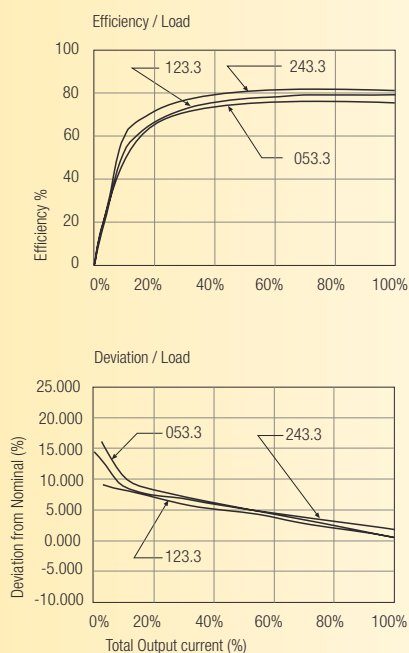


Derating-Graph (Ambient Temperature)

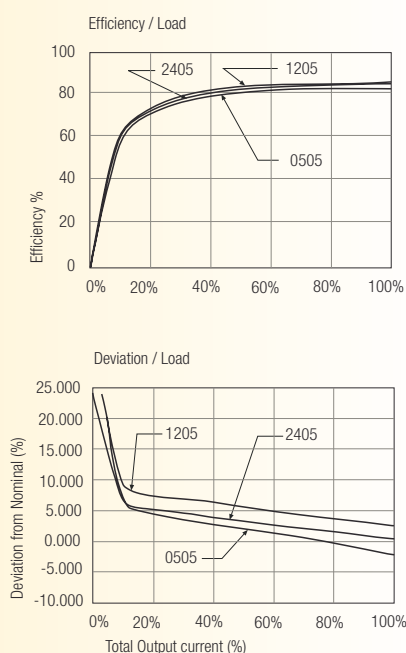


Typical Characteristics

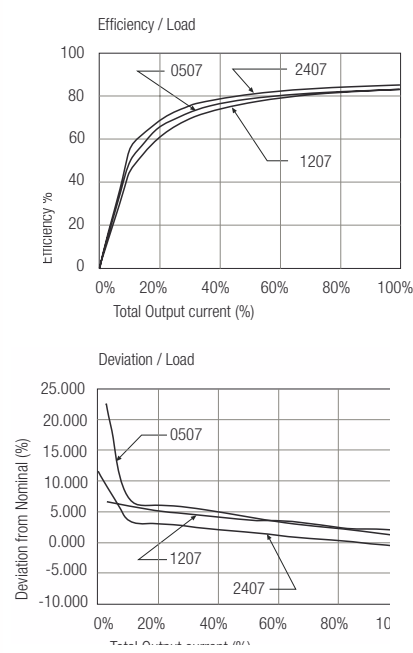
RI-xx3.3S



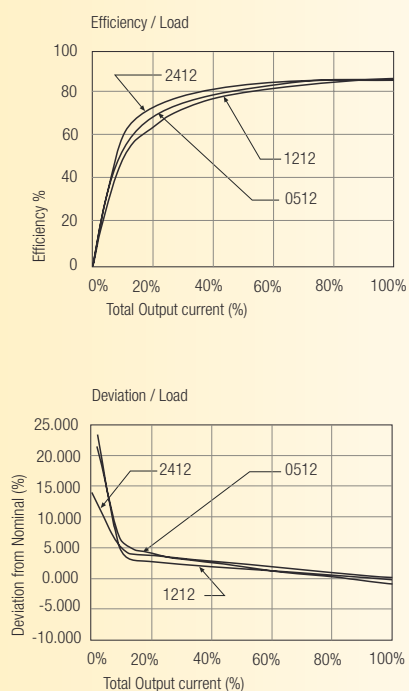
RI-xx05S



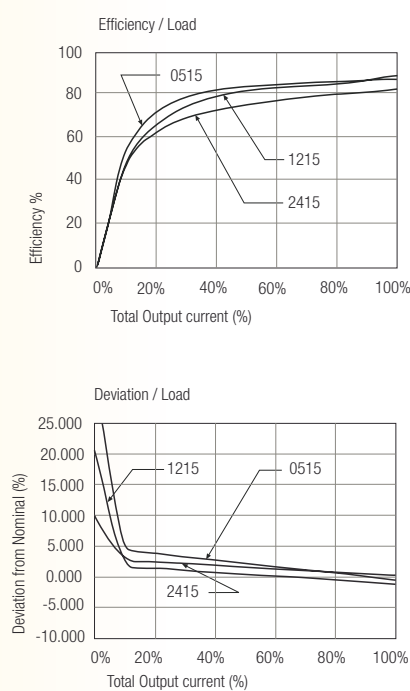
RI-xx07S



RI-xx12S



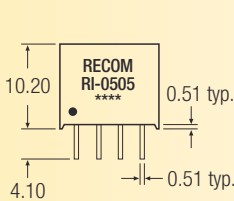
RI-xx15S



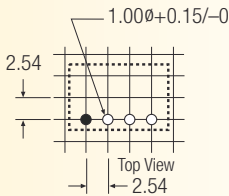
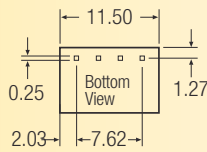
Package Style and Pinning (mm)



4 PIN SIP Package



Recommended Footprint Details



Pin Connections

Pin #	Dual
1	-Vin
2	+Vin
3	-Vout
4	+Vout
XX.X ± 0.5 mm	
XX.XX ± 0.25 mm	