

## 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	(VDC)	(VDC)	(mA)	(%)
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

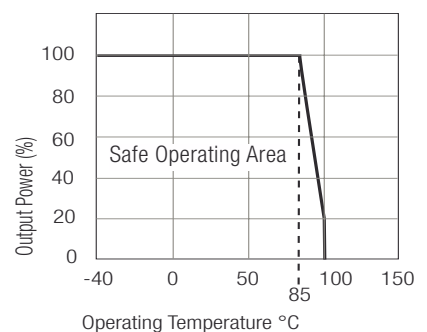


**RECOM**

### Specifications (Core Operating Area)

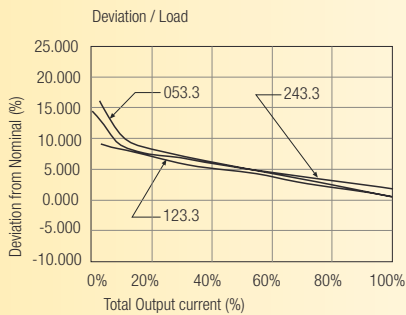
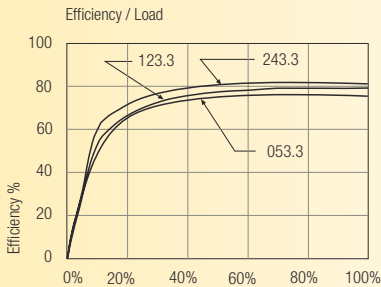
Input Voltage Range		±10%	
Output Voltage Accuracy		±5%	
Line Voltage Regulation		1.2%/1% of Vin typ.	
Load Voltage Regulation (10% to 100% full load)	3.3V output types 5V, output type 9V, 12V, 15V, 24V output types	20% max. 15% max. 10% max.	
Output Ripple and Noise (20MHz limited)		200mVp-p max.	
Operating 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		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		1.4g	
MTBF (+25°C)	} Detailed Information see Application Notes chapter "MTBF"	using MIL-HDBK 217F	845 x 10 <sup>3</sup> hours
(+85°C)		using MIL-HDBK 217F	160 x 10 <sup>3</sup> hours

## Derating-Graph (Ambient Temperature)

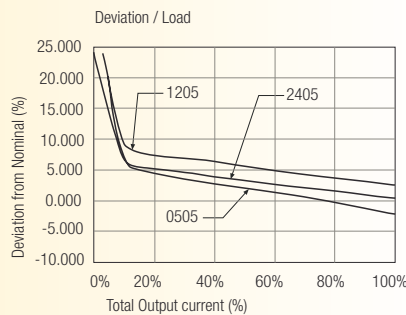
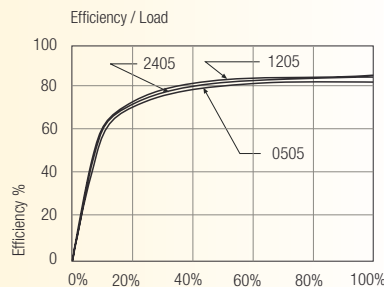


**Typical Characteristics**

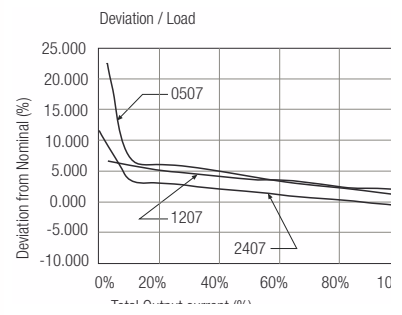
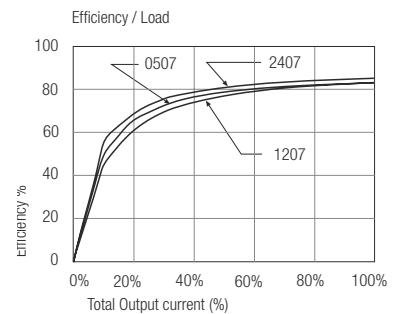
**RI-xx3.3S**



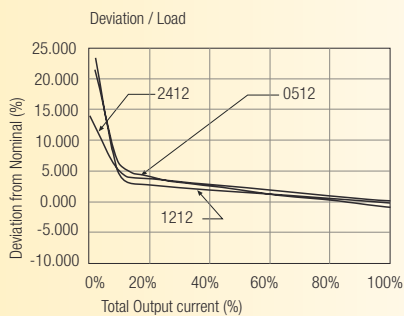
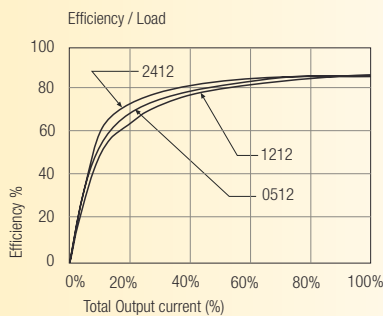
**RI-xx05S**



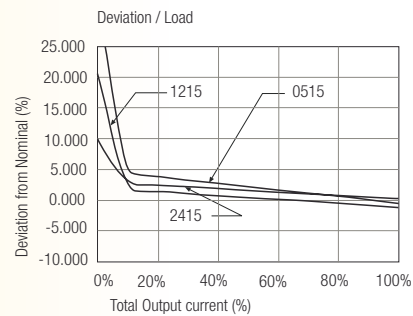
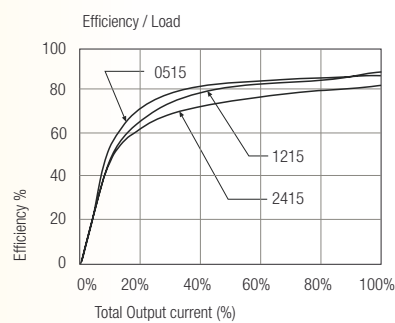
**RI-xx07S**



**RI-xx12S**



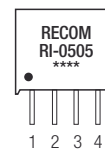
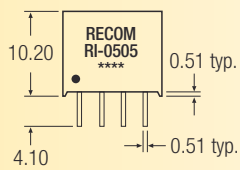
**RI-xx15S**



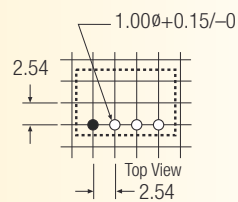
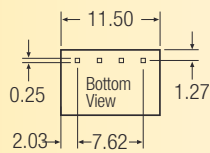
**Package Style and Pinning (mm)**



**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	