

## DC/DC Converter ICs

Order code	Manufacturer code	Description
84-2256	n/a	RN-1212S 1W SINGLE OUTPUT CONVERTER (RC)
84-2258	n/a	RN-1215S 1W SINGLE OUTPUT CONVERTER (RC)
84-2250	n/a	RN-0505S 1W SINGLE OUTPUT CONVERTER (RC)
84-2252	n/a	RN-0515S 1W SINGLE OUTPUT CONVERTER RC
84-2254	n/a	RN-1205S 1W SINGLE OUTPUT CONVERTOR RC

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The enclosed information is believed to be correct, Information may change without notice due to product improvement. Users should ensure that the product is suitable for their use. E. & O. E.	Revision A 20/02/2007

## Features

## Unregulated Converters

- Custom Solutions Available
- 1kVDC & 2kVDC Isolation
- No External Components Required
- Optional Continuous Short Circuit Protected
- UL94V-0 Package Material
- No Heatsink Required
- Efficiency to 85%

## ECONOLINE

DC/DC-Converter

# RN Series

1.25 Watt

DIP8

Single Output

### Selection Guide

Part Number		Input Voltage (VDC)	Output Voltage (VDC)	Output Current (mA)	Efficiency (%)
DIP 8	(2kV)	(VDC)	(VDC)	(mA)	(%)
RN-xx3.3S	(H)	3.3, 5, 9, 12, 15, 24	3.3	378	70
RN-xx05S	(H)	3.3, 5, 9, 12, 15, 24	5	250	70-72
RN-xx07S	(H)	3.3, 5, 9, 12, 15, 24	7	180	72-75
RN-xx09S	(H)	3.3, 5, 9, 12, 15, 24	9	140	75-80
RN-xx12S	(H)	3.3, 5, 9, 12, 15, 24	12	104	79-82
RN-xx15S	(H)	3.3, 5, 9, 12, 15, 24	15	84	80-84
RN-xx24S	(H)	3.3, 5, 9, 12, 15, 24	24	52	80-85

xx = Input Voltage

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



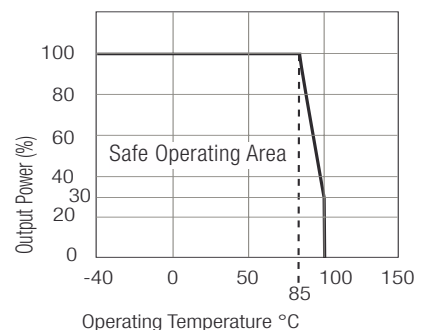
EN-60950-1 Certified

### 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)		75mVp-p max.	
Operating Frequency		50kHz min. / 100kHz typ. / 105kHz max.	
Efficiency at Full Load		70% min. / 75% typ.	
No Load Power Consumption		106mW min. / 153mW typ. / 210mW max.	
Isolation Voltage	(tested for 1 second)	1000VDC min.	
Rated Working Voltage	(long term isolation)	see Application Notes	
Isolation Voltage	H-Suffix (tested for 1 second)	2000VDC min.	
Rated Working Voltage	H-Suffix (long term isolation)	see Application Notes	
Isolation Capacitance		30pF min. / 95pF 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		1.9g	
MTBF (+25°C)	} Detailed Information see Application Notes chapter "MTBF"	using MIL-HDBK 217F	955 x 10 <sup>3</sup> hours
(+85°C)		using MIL-HDBK 217F	132 x 10 <sup>3</sup> hours

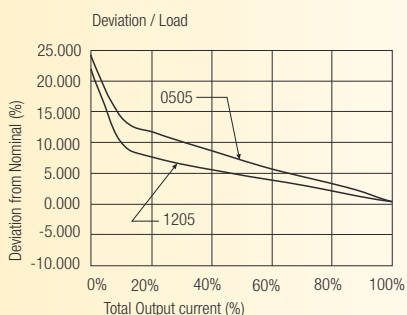
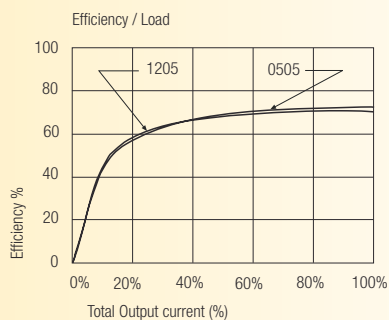


## Derating-Graph (Ambient Temperature)

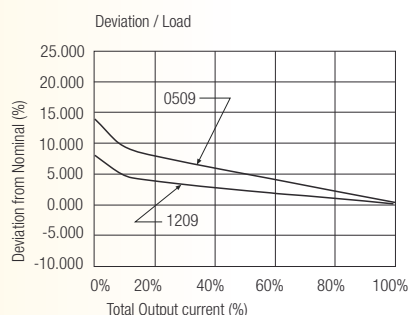
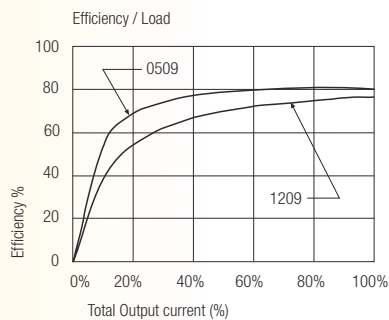


**Typical Characteristics**

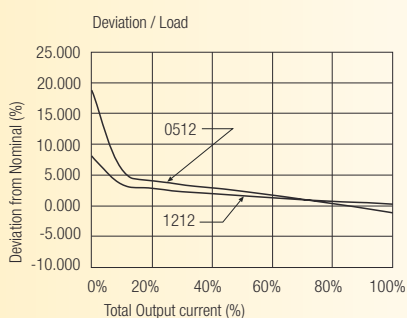
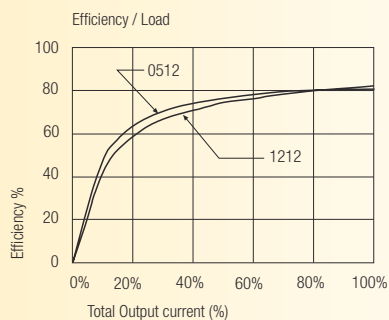
**RN-xx05S**



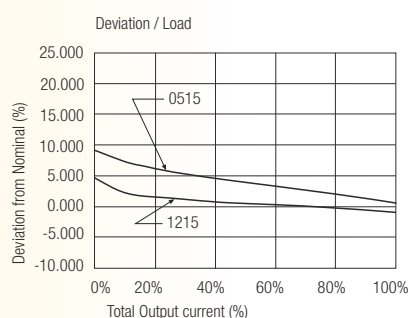
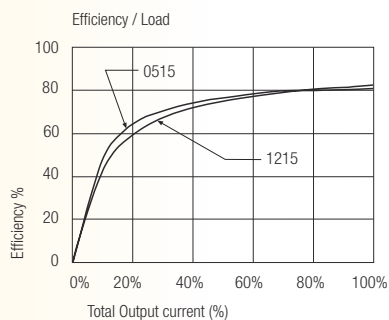
**RN-xx09S**



**RN-xx12S**

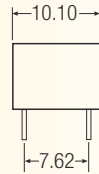
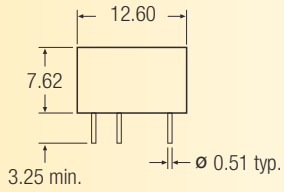


**RN-xx15S**

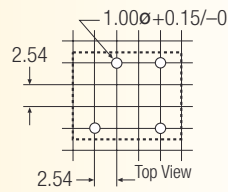
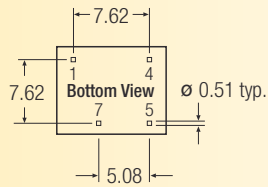


**Package Style and Pinning (mm)**

**8 PIN DIP Package**



**Recommended Footprint Details**



**Pin Connections**

Pin #	Single
1	-Vin
4	+Vin
5	+Vout
7	-Vout
XX.X	$\pm$ 0.5 mm
XX.XX	$\pm$ 0.25 mm