

## Features

### Unregulated Converters

- Custom Solutions Available
- 1kVDC & 2kVDC Isolation
- No Extern. Components Required
- UL94V-0 Package Material
- No Heatsink Required
- Efficiency to 85%

## ECONOLINE

DC/DC-Converter

# RN Series

### 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

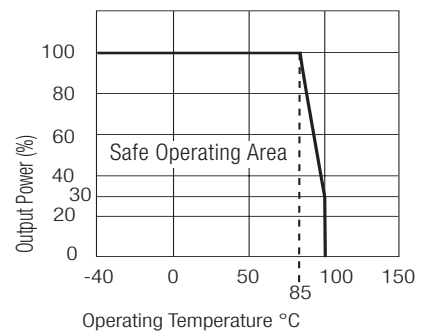
## 1.25 Watt DIP8 Single Output



### Specifications (Core Operating Area)

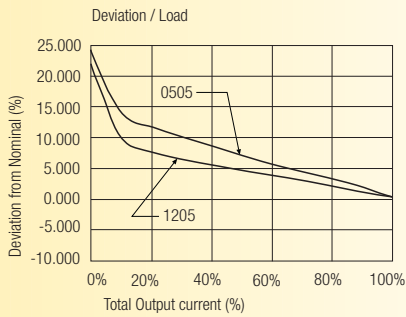
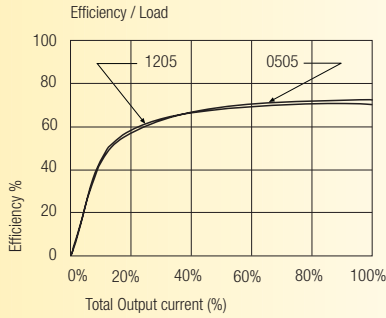
Input Voltage Range		±10%	
Output Voltage Accuracy		±5%	
Line Voltage Regulation		1.2%/1% of Vin max.	
Load Voltage Regulation (10% to 100% full load)	3.3V output types 5V output type 9V, 12V, 15V, 24V output types	20% max. 15% max. 10% max.	
Output Ripple and Noise (20MHz limited)		75mVp-p max.	
Operating 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)		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		30pF min. / 95pF 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		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)

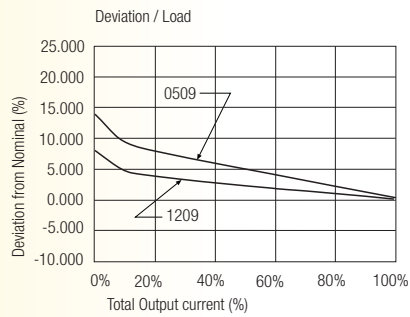
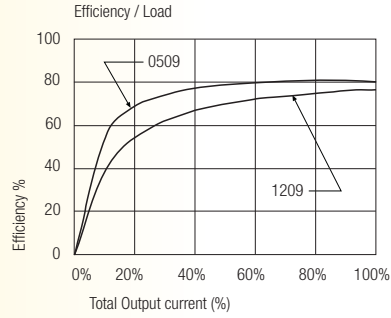


**Typical Characteristics**

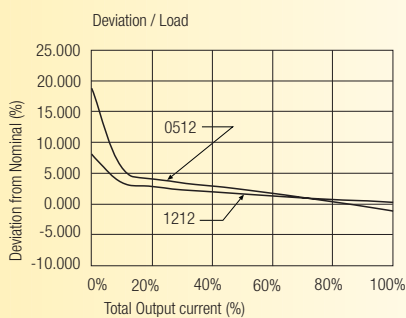
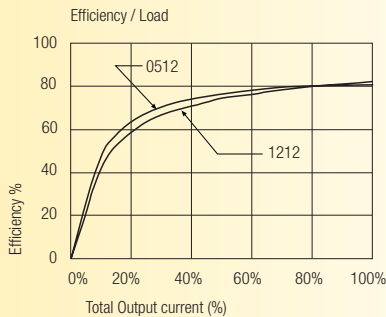
**RN-xx05S**



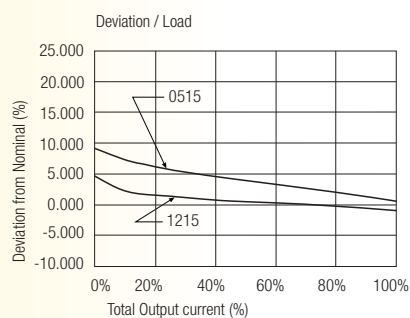
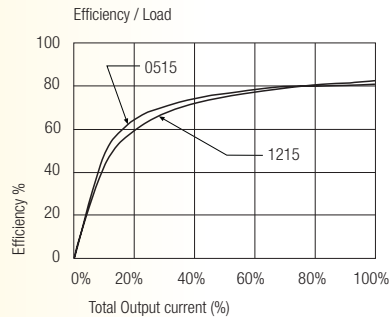
**RN-xx09S**



**RN-xx12S**

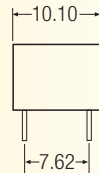
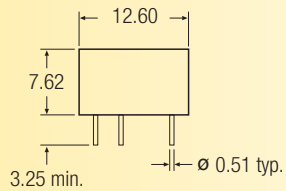


**RN-xx15S**

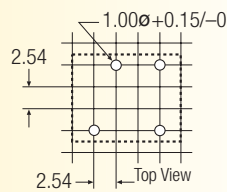
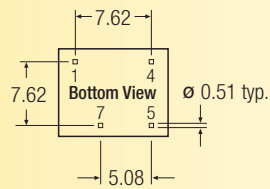


**Package Style and Pinning (mm)**

**8 PIN DIP Package**



**Recommended Footprint Details**



**Pin Connections**

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

XX.X ± 0.5 mm  
XX.XX ± 0.25 mm