

## 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



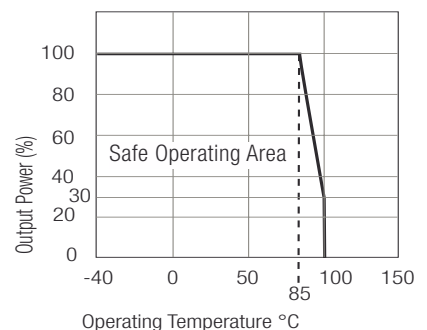
EN-60950-1 Certified

### 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

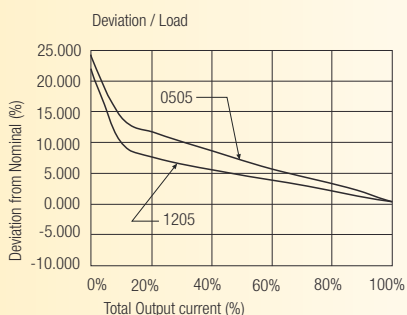
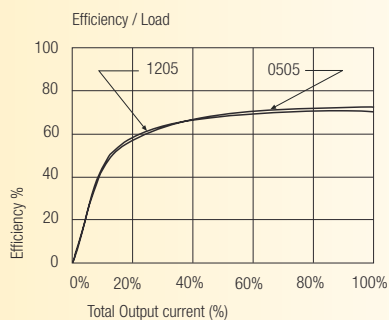


## Derating-Graph (Ambient Temperature)

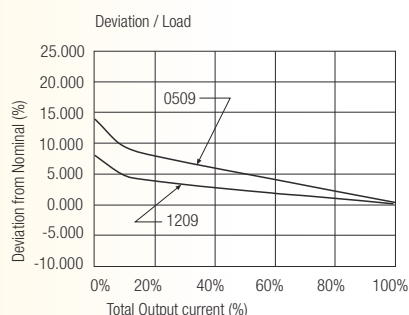
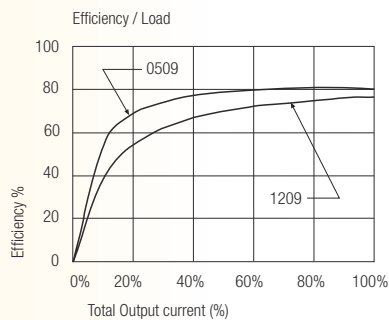


**Typical Characteristics**

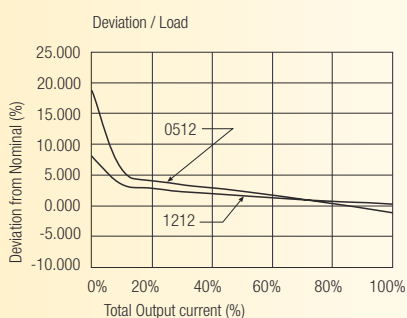
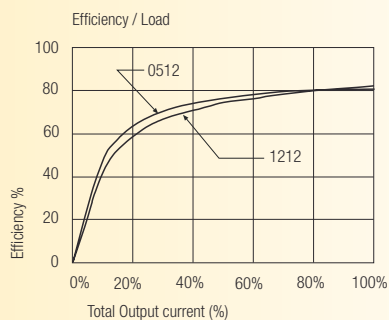
**RN-xx05S**



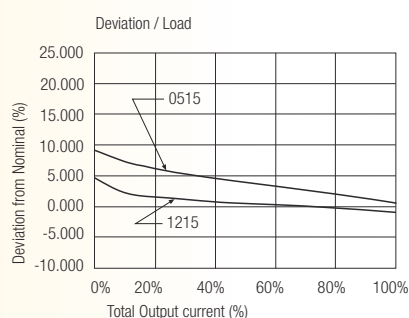
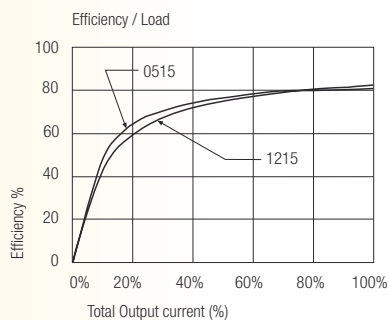
**RN-xx09S**



**RN-xx12S**

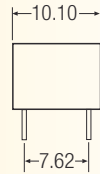
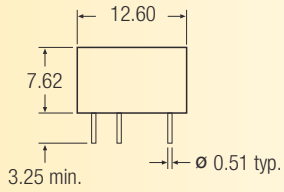


**RN-xx15S**

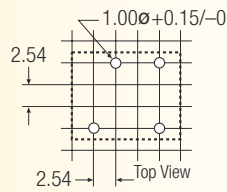
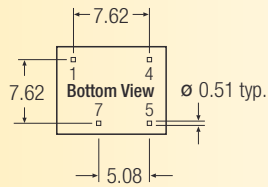


Package Style and Pinning (mm)

8 PIN DIP Package



Recommended Footprint Details



Pin Connections

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