

Features

Unregulated Converters

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

Description

The RN series of compact 1.25W single output converters are especially useful when more than 1W of power is required, but there are space restrictions than make a 2W converter unsuitable. The converter series feature an industrial ambient temperature operating range of -40°C ~ +85°C without derating and up to 100°C ambient temperature with derating. Options include 1kVDC or 2kVDC isolation and continuous short circuit protection (P).

Selection Guide

Part Number	Input Voltage (2kV)	Input Voltage (VDC)	Output Voltage (VDC)	Output Current (mA)	Efficiency (%)	Max. Capacitive Load ⁽¹⁾
RN-xx3.3S	(H)	3.3, 5, 9, 12, 15, 24	3.3	378	70	2200µF
RN-xx05S	(H)	3.3, 5, 9, 12, 15, 24	5	250	70-72	1000µF
RN-xx07S	(H)	3.3, 5, 9, 12, 15, 24	7	180	72-75	1000µF
RN-xx09S	(H)	3.3, 5, 9, 12, 15, 24	9	140	75-80	1000µF
RN-xx12S	(H)	3.3, 5, 9, 12, 15, 24	12	104	79-82	470µF
RN-xx15S	(H)	3.3, 5, 9, 12, 15, 24	15	84	80-84	470µF
RN-xx24S	(H)	3.3, 5, 9, 12, 15, 24	24	52	80-85	220µF

x = Input Voltage (other input and output voltage combinations available on request)

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

Specifications (Core Operating Area)

Input Voltage Range			±10%
Output Voltage Accuracy			±5%
Line Voltage Regulation			1.2% typ. / 1.4% max.
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.
Minimum Load = 0%			Specifications valid for 10% minimum load only.
Isolation Voltage	(tested for 1 second)		1000VDC
	(rated for 1 minute)		500VAC / 60Hz
Isolation Voltage	H-Suffix	(tested for 1 second)	2000VDC
	H-Suffix	(rated for 1 minute)	1000VAC / 60Hz
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			95% RH
Package Weight			1.9g
Packing Quantity			39 pcs per Tube
MTBF (+25°C)	} Detailed information page 266	using MIL-HDBK 217F	955 x 10 ³ hours
(+85°C)		using MIL-HDBK 217F	132 x 10 ³ hours

ECONOLINE

DC/DC-Converter

with 3 year Warranty

RECOM

1.25 Watt

DIP8

Single Output

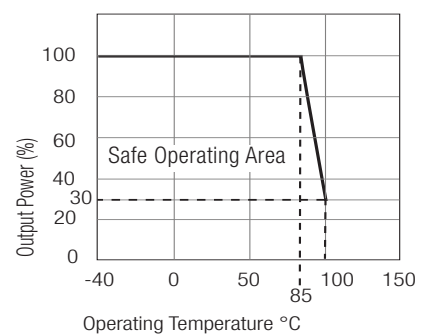


EN-60950-1 Certified

RN

Derating-Graph

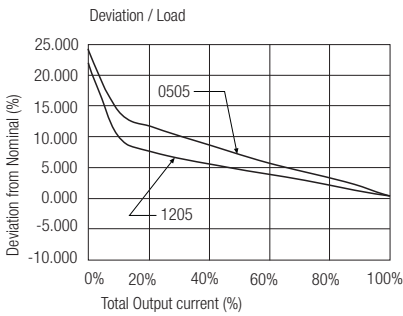
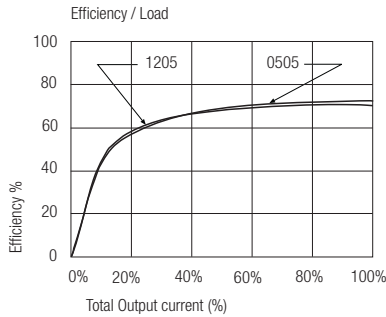
(Ambient Temperature)



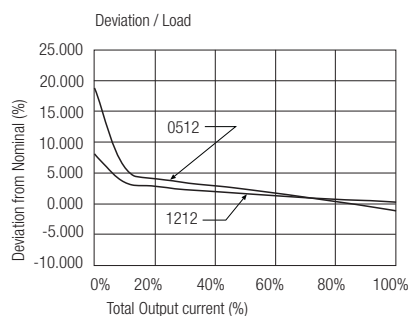
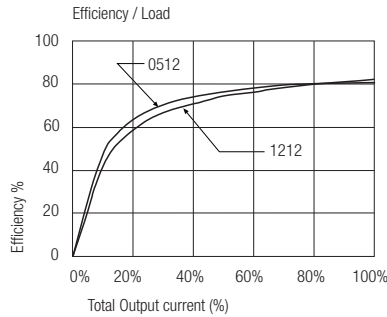
Refer to Application Notes

Typical Characteristics

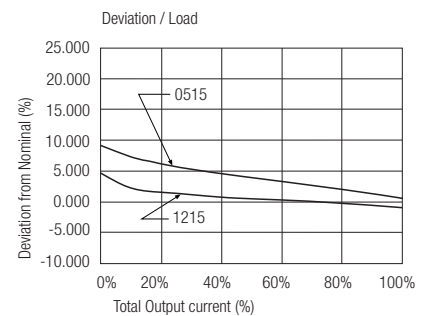
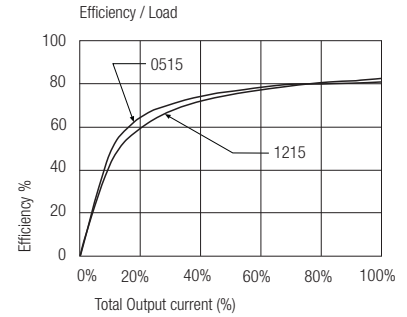
RN-xx05S



RN-xx12S



RN-xx15S



Notes

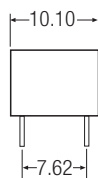
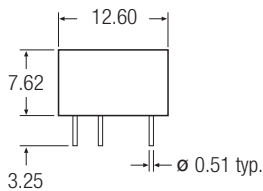
Note 1 Maximum capacitive load is defined as the capacitive load that will allow start up in under 1 second without damage to the converter.

Certifications

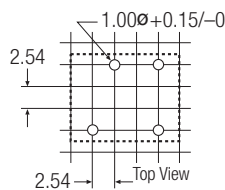
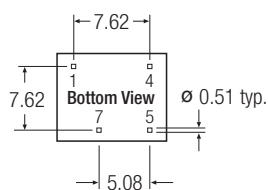
EN General Safety Report: SPCLVD1109103 EN60950-1:2006 + A12:2011

Package Style and Pinning (mm)

DIP8 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