

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 (VDC)	Output Voltage (VDC)	Output Current (mA)	Efficiency (%)	Max. Capacitive Load ⁽¹⁾
DIP6	(2kV)					
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%/1% of Vin max.	
Load Voltage Regulation	3.3V output types	20% max.
(10% to 100% full load)	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	2000VDC
	H-Suffix	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
(+85°C)		using MIL-HDBK 217F
		955 x 10 ³ hours
		132 x 10 ³ hours

ECONOLINE

DC/DC-Converter

with 3 year Warranty



1.25 Watt

DIP8

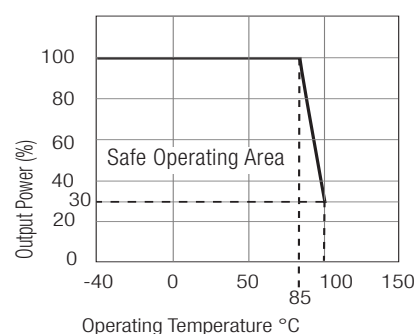
Single Output



EN-60950-1 Certified

RN

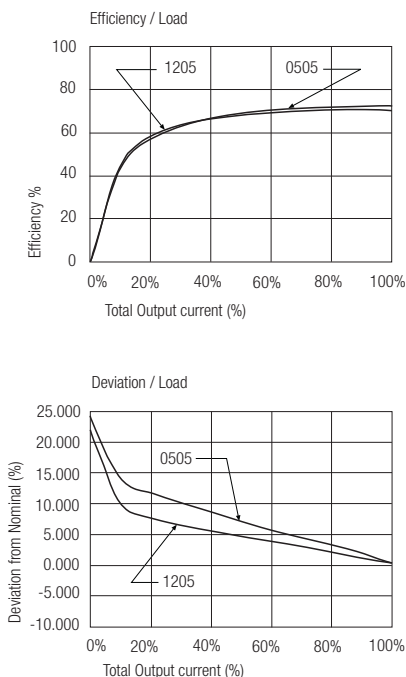
Derating-Graph (Ambient Temperature)



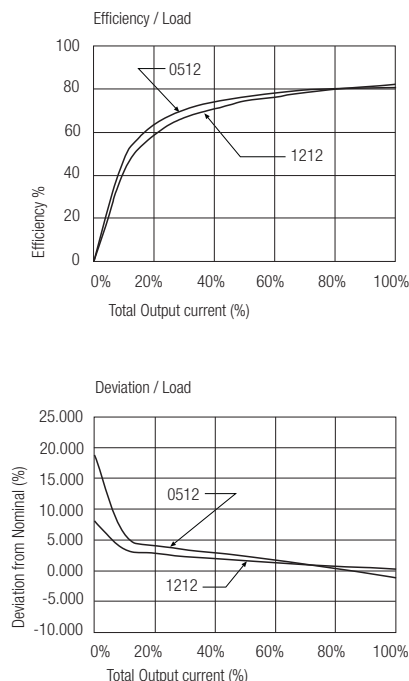
Refer to Application Notes

Typical Characteristics

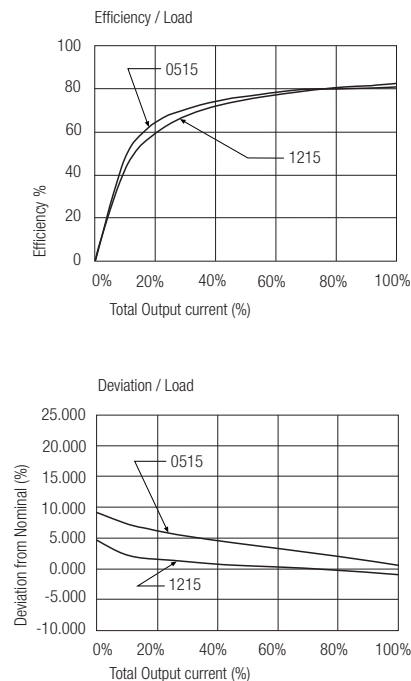
RN-xx05S



RN-xx12S



RN-xx15S



Notes

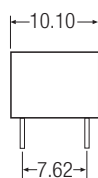
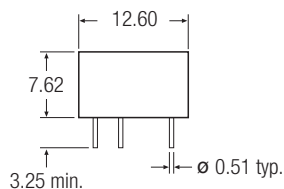
Note 1 Maximum capacitive load is defined as the capacitive load that will allow start up in under 1 second without damage to the converter.

Certifications

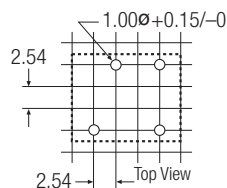
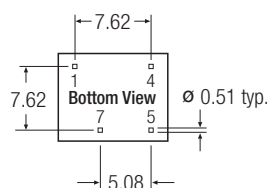
EN General Safety Report: LVD-2K052220 EN60950-1:2001

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