

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

with 3 year Warranty



1.25 Watt DIP8 Single Output

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	(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



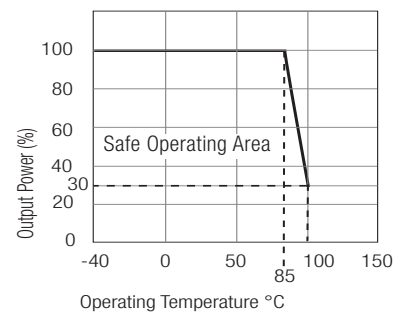
EN-60950-1 Certified

RN

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	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	MSL Level 1	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

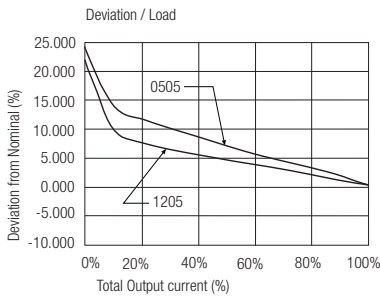
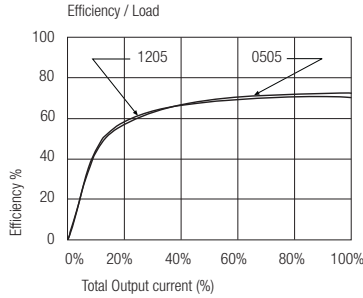
Derating-Graph (Ambient Temperature)



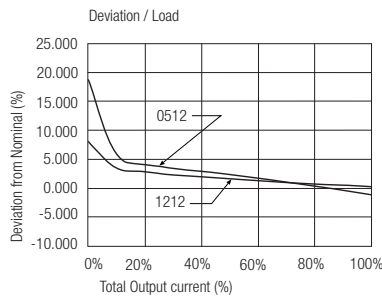
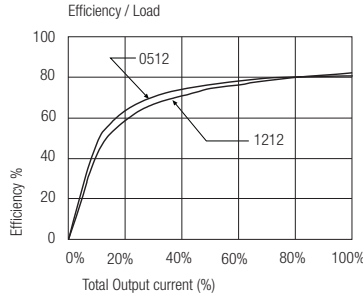
Refer to Application Notes

Typical Characteristics

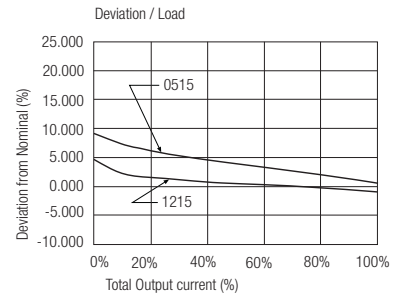
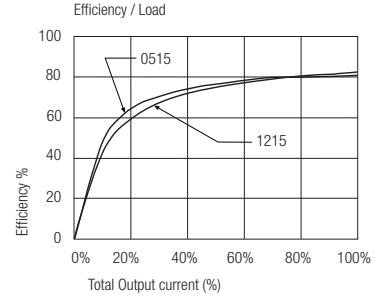
RN-xx05S



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.

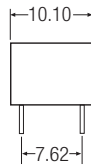
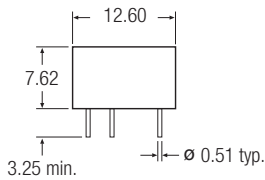
Certifications

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

RN

Package Style and Pinning (mm)

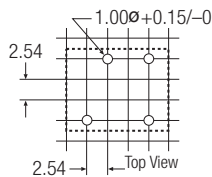
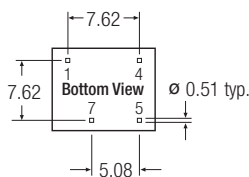
8 PIN DIP Package



3rd angle projection



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