

Features

Unregulated Converters

- SMD Case Style
- Tape and Reel Packaging
- UL-60950-1 Certified
- High Operating Temperature Range from -40°C to 100°C
- Efficiency up to 76%
- 2kVDC isolation

Description

The R1SE/H2 series are 1W unregulated DC/DC converters that are lower cost than equivalent converters. The benefits of high volume production and semi-automatic assembly allow for a lower selling price without sacrificing our high quality standards. They are UL certified for safety, offer reasonable efficiency and still meet the full industrial operating temperature range of -40° to +100°C. All converters are 100% tested in production and carry our 3-year warranty.

Selection Guide

Part Number	Input Voltage (VDC)	Output Voltage (VDC)	Output Current (mA)	Efficiency typ. (%)	max. Capacitive Load ⁽¹⁾ (µF)
R1SE-3.305/H2-R	3.3	5	200	75	1000
R1SE-0505/H2-R	5	5	200	75	1000
R1SE-0512/H2-R	5	12	84	76	330
R1SE-0515/H2-R	5	15	66	76	220
R1SE-1205/H2-R	12	5	200	73	1000
R1SE-1505/H2-R	15	5	200	74	1000

Notes:

Note1: Max. capacitive load is defined as the capacitive load that will allow start up in under 1 second without damage to the converter.

Specifications (measured at T_A= 25°C, nominal input voltage and rated current unless otherwise specified)

BASIC CHARACTERISTICS				
Parameter	Condition	Min.	Typ.	Max.
Input Voltage Range				±10%
Operating Frequency	V _{in} nominal	20kHz	60kHz	100kHz
Output Ripple and Noise	20MHz bandwidth		50mVp-p	100mVp-p

Efficiency vs. Load

Output Load (%)	xx05 Efficiency (%)	xx12 Efficiency (%)	xx15 Efficiency (%)
0	0	0	0
20	55	60	65
40	65	70	75
60	70	75	78
80	73	77	79
100	75	78	80

R1SE/H2

1 Watt
SMD
Single Output



UL
C **US**
E358085

UL-60950-1 Certified

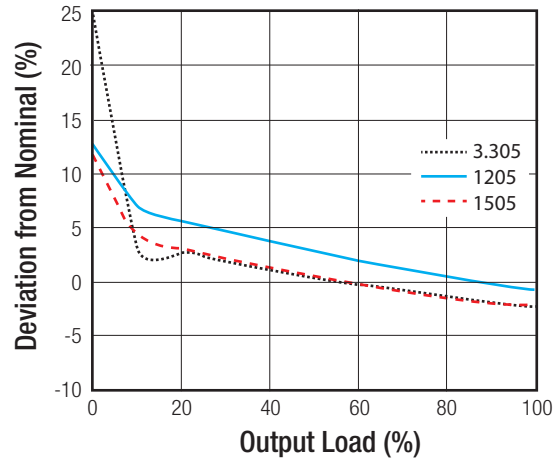
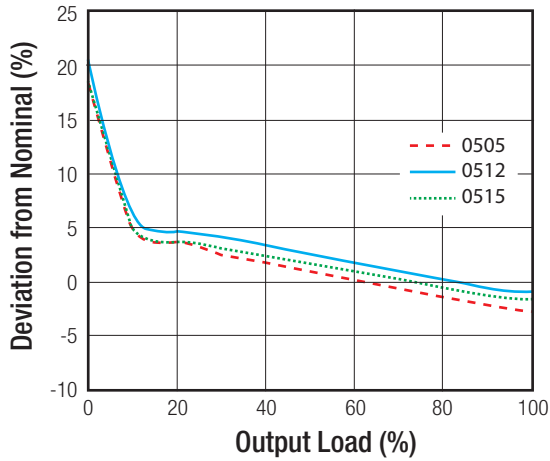
Refer to Applications Notes

Specifications (measured at $T_A = 25^\circ\text{C}$, nominal input voltage and rated current unless otherwise specified)

REGULATIONS

Parameter	Condition	Values
Output Voltage Accuracy		-2% typ. / $\pm 5\%$ max.
Line Voltage Regulation	low line to high line, max. load	$\pm 1\%$ typ. / $\pm 1.5\%$ max.
Load Voltage Regulation	20% - 100% load	$\pm 6\%$ typ. / $\pm 10\%$ max.

Deviation vs. Load



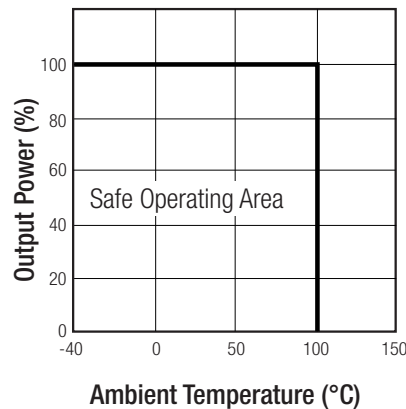
PROTECTIONS

Parameter	Condition	Value
Isolation Voltage		2kVDC / 1 second
Isolation Capacitance		75pF max.
Isolation Resistance	$V_{iso} = 500\text{V}$	$10\text{G}\Omega$ min.

ENVIRONMENTAL

Parameter	Condition	Value
Operating Temperature Range		-40°C to $+100^\circ\text{C}$
Storage Temperature Range		-55°C to $+125^\circ\text{C}$
Humidity	non-condensing	95% RH max.
MTBF ($+25^\circ\text{C}$) ($+85^\circ\text{C}$)	according to MIL-HDBK-217F, full load	2992×10^3 hours 955×10^3 hours

Derating Graph



Specifications (measured at T_A= 25°C, nominal input voltage, full load and after warm-up)

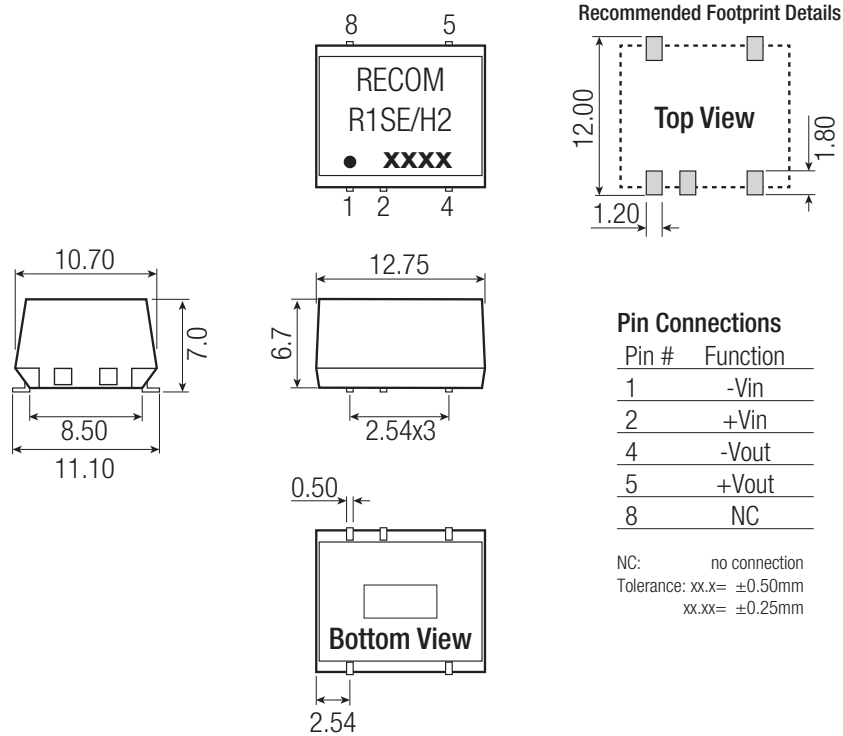
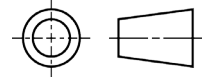
SAFETY AND CERTIFICATIONS

Certificate Type	Report / File Number	Standard
UL General Safety	E358085-A2	UL-60950-1, 2nd Edition CAN/CSA C22.2 No. 60950-1-07, 2nd Edition

DIMENSIONS and PHYSICAL CHARACTERISTICS

Parameter	Type	Value
Material	Case	non-conductive black plastic
Package Dimensions (LxWxH)		12.75 x 10.7 x 6.7mm
Package Weight		1.0g
Packaging Quantity	Tape and Reel	500pcs
Tape and Reel Width		24mm

Mechanical Dimensions (mm)



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