

# Features

## Unregulated Converter

- Industry Standard Pinout
- 1kVDC or 2kVDC Isolation
- UL94V-0 Package Material
- Optional Continuous Short Circuit Protected
- Fully Encapsulated
- Custom Solutions Available
- Efficiency to 85 %

### Description

The RE DC/DC converters are typically used in general purpose power isolation and voltage matching applications, and feature a full industrial operating temperature range of -40°C to +85°C without derating.

### Selection Guide

Part Number SIP 7	(2kV)	Input Voltage (VDC)	Output Voltage (VDC)	Output Current (mA)	Efficiency (%)	Max Capacitive Load <sup>(1)</sup>
RE-xx3.3S	(H)	3.3, 5, 12, 15, 24	3.3	303	75	2200µF
RE-xx05S	(H)	3.3, 5, 12, 15, 24	5	200	78-80	1000µF
RE-xx09S	(H)	3.3, 5, 12, 15, 24	9	111	78-80	1000µF
RE-xx12S	(H)	3.3, 5, 12, 15, 24	12	83	80-84	470µF
RE-xx15S	(H)	3.3, 5, 12, 15, 24	15	66	80-84	470µF
RE-xx24S	(H)	3.3, 5, 12, 15, 24	24	42	78-85	220µF

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

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

### Specifications (measured at T<sub>A</sub> = 25°C, nominal input voltage, full load and after warm-up)

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 type	20% max.
	5V output type	15% max.
	9V, 12V, 15V, 24V output types	10% max.
Output Ripple and Noise (20MHz limited)	100mVp-p max.	
Operating Frequency	50kHz min. / 100kHz typ. / 105kHz max.	
Efficiency at Full Load	70% min. / 80% 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	20pF min. / 75pF 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	2.2g	
Packing Quantity	25 pcs per Tube	
MTBF (+25°C)	Detailed Information see Application Notes chapter "MTBF"	using MIL-HDBK 217F 992 x 10 <sup>3</sup> hours
(+85°C)		using MIL-HDBK 217F 145 x 10 <sup>3</sup> hours

continued on next page

\*\*Any data referred to in this datasheet are of indicative nature and based on our practical experience only. For further details, please refer to our Application Notes.

# ECONOLINE

## DC/DC-Converter

with 3 year Warranty

RECOM

1 Watt

SIP7

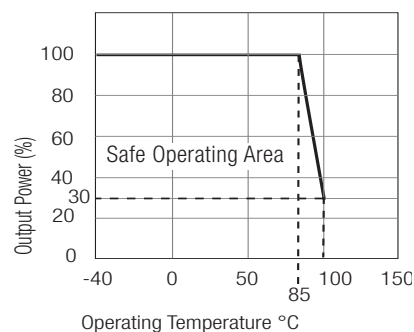
Single Output



EN-60950-1 Certified  
UL-60950-1 Certified

RE

## Derating-Graph (Ambient Temperature)



Refer to Application Notes

### Specifications (measured at $T_A = 25^\circ\text{C}$ , nominal input voltage, full load and after warm-up)

#### Certifications

CB Test Report

Report: US/15348/UL

IEC 60950-1:2005 2nd Edition

UL General Safety

Report: E358085

UL 60950-1 2nd Edition

EN General Safety

Report: SPCLVD1109103

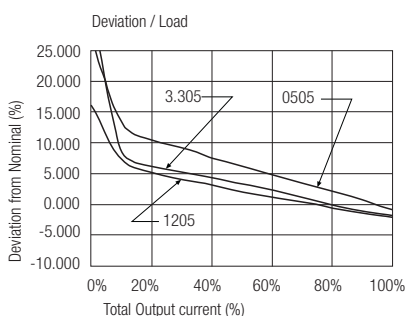
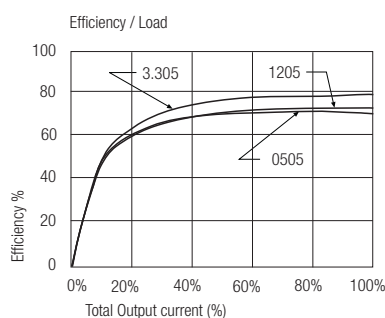
EN60950-1:2006 + A12:2011

#### Notes

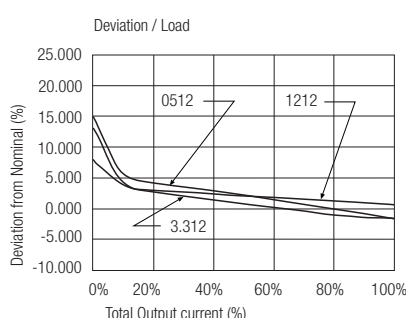
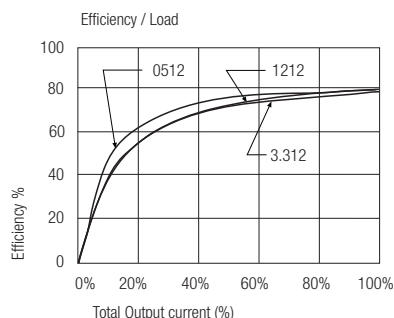
Note 1 Maximum capacitive load is defined as the capacitive load that will allow start up in under 1 second without damage to the converter.

### Typical Characteristics

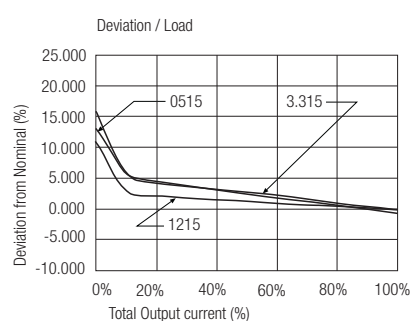
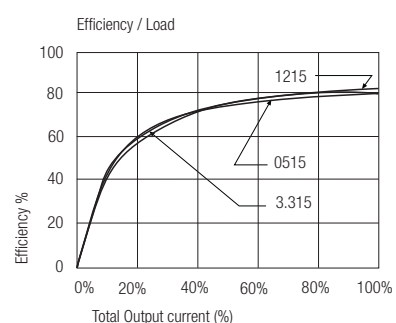
## RE-xx05S



## RE-xx12S

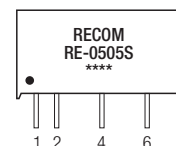
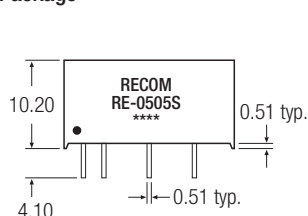


## RE-xx15S

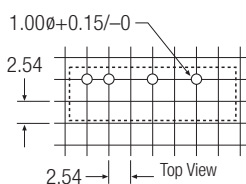
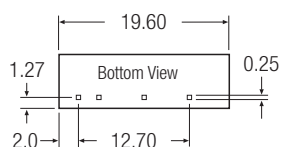


### Package Style and Pinning (mm)

#### 7 PIN SIP Package



#### Recommended Footprint Details



#### RE Pin Connections

Pin #	Single
1	+Vin
2	-Vin
4	-Vout
6	+Vout
XX.X	$\pm 0.5 \text{ mm}$
XX.XX	$\pm 0.25 \text{ mm}$

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Authorized Distributor

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