

# Features

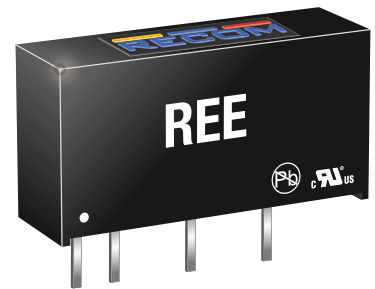
- Low cost 1W converter
- 1:1 input voltage range
- SIP7 package
- Efficiency up to 76%
- -40°C to +85°C operating temperature range
- EN/IEC/UL/CSA 60950-1 certified

# Unregulated Converters



## REE

1 Watt  
SIP7  
Single Output



UL60950-1 certified  
CAN/CSA-C22.2 No 60950-1 certified  
IEC/EN60950-1 certified  
EN55032 compliant

## Description

The REE-0505S is a low cost 1W DC/DC converters in a standard SIP7 footprint. This makes it suitable for price sensitive industrial, test and measurement and high volume applications. The REE converter is pin-compatible with the RE converter series, but offers only the most popular 0505 voltage combination, offering a simple way to cost-down an existing application. The REE is certified to IEC/EN/UL/CSA/EAC and comes with a 3 year warranty.

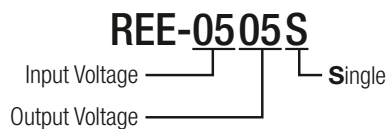
## Selection Guide

Part Number	Input Voltage [VDC]	Output Voltage [VDC]	Output Current [mA]	Efficiency (1) max. [%]
REE-0505S	5	5	200	76

### Notes:

Note1: Efficiency is tested at nominal input and full load at +25°C ambient

## Model Numbering



## Specifications (measured @ Ta= 25°C, nominal input voltage, full load and after warm-up)

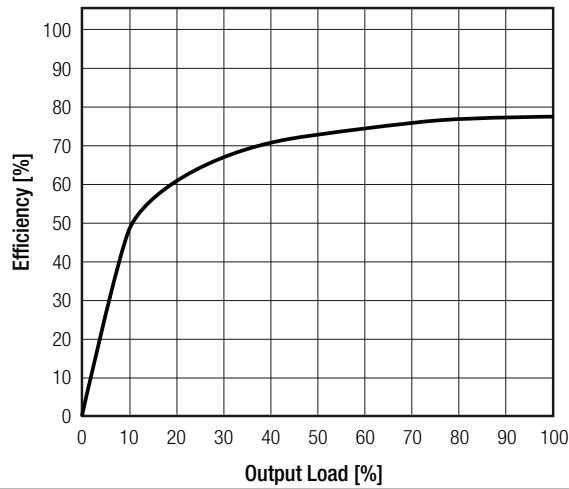
BASIC CHARACTERISTICS					
Parameter	Condition	Min.	Typ.	Max.	
Input Voltage Range			±10%		
Input Surge Voltage	100µs	-0.65VDC		9VDC	
Input Current	full load		250mA		
Quiescent Current	nom. Vin= 5VDC		25mA	30mA	
Minimum Load (2)		0%			
Internal Operating Frequency		50kHz	82kHz	105kHz	
Output Ripple and Noise	20MHz BW		55mVp-p	100mVp-p	
Reflected Back Ripple Current	20MHz BW		20mA <sub>p-p</sub>		

**Notes:**  
Note2: Operation below 10% load won't harm the converter, but specifications may not be met

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

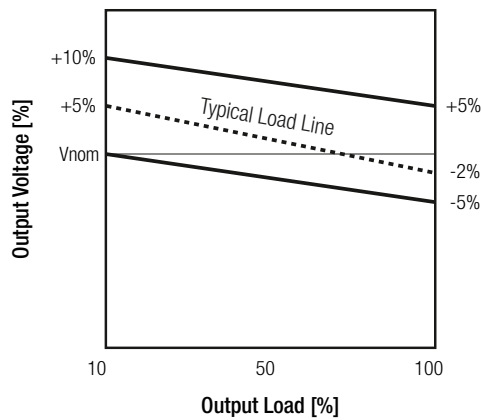
Efficiency vs. Load



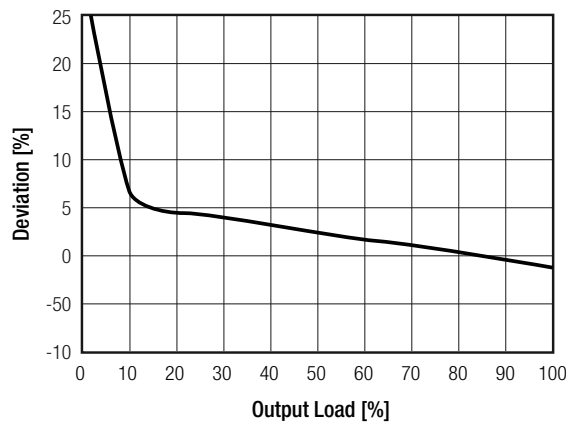
**REGULATIONS**

Parameter	Condition	Values
Output Accuracy		-2% typ. / ±5.0% max.
Line Regulation	low line to high line, full load	±1.2% of 1.0% Vin typ.
Load Regulation	20% to 100%	10% max.

Tolerance Envelope



Deviation vs. Load

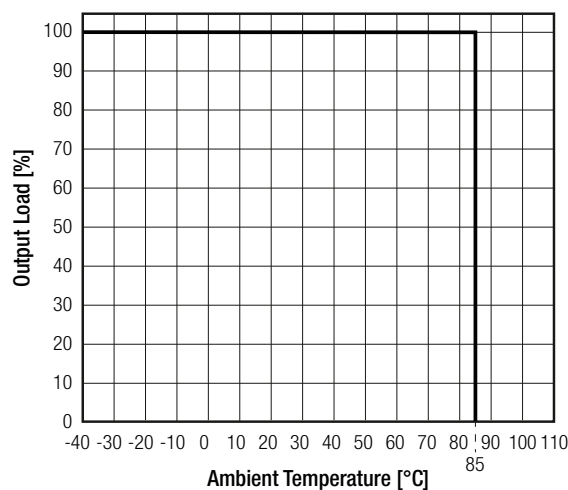


**Specifications (measured @ Ta= 25°C, nominal input voltage, full load and after warm-up)**

PROTECTIONS			
Parameter	Condition		Value
Short Circuit Protection (SCP)	below 100mΩ		1 second
Isolation Voltage <sup>(3)</sup>	I/P to O/P	tested for 1 second rated for 1 minute	1kVDC 500VAC/60Hz
Isolation Resistance			1GΩ min.
Isolation Capacitance			75pF max.
Insulation Grade			basic
<b>Notes:</b>			
Note3: For repeat Hi-Pot testing, reduce the time and/or the test voltage			
Note4: Refer to local wiring regulations if input over-current protection is also required. Recommended fuse: T1A slow blow type			

ENVIRONMENTAL			
Parameter	Condition		Value
Operating Temperature Range	full derating (see graph)		-40°C to +85°C
Maximum Case Temperature			+105°C
Temperature Coefficient			±0.05%/°C
Thermal Impedance	0.1m/s, horizontal direction		40°C/W
Operating Altitude			2000m
Operating Humidity	non-condensing		95% RH max.
Pollution Degree			PD2
MTBF	according to MIL-HDBK-217F, G.B.		
			+25°C: 2400 x 10 <sup>3</sup> hours +85°C: 650 x 10 <sup>3</sup> hours

**Derating Graph**



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

SAFETY AND CERTIFICATIONS		
Certificate Type (Safety)	Report/File Number	Standard
Information Technology Equipment, General Requirements for Safety	E358085-A4	UL60950-1, 2nd Edition, 2007 CSA C22.2 No. 60950-1-07, 2nd Edition, 2007
Information Technology Equipment, General Requirements for Safety	1602031	IEC60950-1:2005, 2nd Edition + A2:2013 EN60950-1:2006 + A2:2013
EAC	RU-AT.49.09571	TP TC 004/2011
RoHs 2+		RoHS-2011/65/EU + AM-2015/863

DIMENSION AND PHYSICAL CHARACTERISTICS		
Parameter	Type	Value
Material	case potting	non-conductive black plastic (UL94 V-0) epoxy (UL94 V-0)
Dimension (LxWxH)		19.6 x 6.0 x 10.2mm
Weight		2.2g typ.

**Dimension Drawing (mm)**

The drawing includes the following details:

- Top View:** Shows the RECOM logo embossed on the top surface. Dimensions include a length of 19.6 mm and a width of 6.0 mm.
- Side View:** Shows the height of 10.2 mm. The mounting tab height is 0.50 mm, and the distance from the bottom edge to the start of the pins is 4.10 mm. The pin pitch is 0.51 mm with a tolerance of +0.10/-0.05 mm.
- Bottom View:** Shows the footprint with pin numbers 1, 2, 4, and 6. The distance between pins 1 and 2 is 2.00 mm, and the distance between pins 2 and 4 is 5x2.54 = 12.7 mm. The total width of the footprint is 1.27 mm.
- Pin Connections:**

Pin #	Function
1	+Vin
2	-Vin
4	-Vout
6	+Vout
- Recommended Footprint Details:** Shows a grid with a 1.00 mm pitch and a diameter of 1.00 mm with a tolerance of +0.15/-0 mm.
- Marking:** A marking area is indicated on the side view with a width of 0.25 mm and a tolerance of +0.05 mm.

PACKAGING INFORMATION		
Parameter	Type	Value
Packaging Dimension (LxWxH)	tube	520.0 x 16.0 x 9.0mm
Packaging Quantity		25pcs
Storage Temperature Range		-55°C to +125°C
Storage Humidity		5% - 95%, RH

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