

## Features

### Unregulated Converter

- 1 : 1 Input Range
- 0.25W SMD Package
- Efficiency up to 77%
- 1kVDC and 2kVDC Isolation Option
- Operating Temperature from -40°C to +100°C
- EN/UL60950-1 Certified

#### Description

The R0.25S/E series DC/DC converter has been designed to offer exceptionally high efficiency, low quiescent current and an extended operating temperature range. Uses include battery powered supplies, high efficiency designs or high temperature applications.

#### Selection Guide

Part Number SMD	Input Voltage (VDC)	Output Voltage (VDC)	Output Current (mA)	Efficiency typ. (%)	Max Capacitive Load <sup>(1)**</sup>
R0.25S**-3.305/E*	3.3	5	50	75	1000µF
R0.25S**-0505/E*	5	5	50	77	1000µF
R0.25S**-1205/E*	12	5	50	74	1000µF

Other input and output voltage combinations available on request.

\*add Suffix „H“ for 2kVDC Isolation, e.g. R0.25S-3.305/HE

\*add Suffix „-R“ for tape & reel packaging, e.g. R0.25S-3.305/E -R

\*add Suffix „P“ for Continuous Short Circuit Protection, e.g. R0.25S/PE

\*\*without marking denotes 5 pins out of 8 fitted (includes „H“ option)

with marking 8 denotes 8 pins out of 8 fitted („H“ option not available), e.g R0.25S8-3.305/E

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

Input Voltage Range	$\pm 10\%$ max.	
Voltage Set Accuracy	100% Load/nominal $V_{in}$	-2% typ. / $\pm 5\%$ max.
Line Regulation	Low Line to High Line @ max. Load	1,2% typ.
Load Regulation	(10% to 100% Load)	4% typ. / 10% max.
Ripple & Noise @ 20MHz BW	50mVp-p typ. / 100mVp-p max.	
Efficiency	100% Load	70% min.
Operating Temperature	$-40^\circ\text{C}$ to $+100^\circ\text{C}$	
Storage Temperature	$-55^\circ\text{C}$ to $+125^\circ\text{C}$	
Isolation Test Voltage	(tested for 1 second)	1000VDC
	(rated for 1 minute***)	500VAC / 60Hz
Isolation Test Voltage	H-Suffix (tested for 1 second)	2000VDC
	H-Suffix (rated for 1 minute***)	1000VAC / 60Hz
Isolation Capacitance	75PF max.	
Isolation Resistance	Viso = 500V	10 GΩ min.
Humidity	95% max.	
Operating Frequency	$V_{in}$ (nom.)	20kHz min. / 70 kHz max.
Short-Circuit Protection	1 Second	
MTBF	Using MIL-HDBK 217F ( $+100^\circ\text{C}$ )	$1352 \times 10^3$ hours
	Using MIL-HDBK 217F ( $+25^\circ\text{C}$ )	$4494 \times 10^3$ hours

Detailed Information see Application Notes chapter „MTBF“

Weight	1.0g	
Certification		
UL General Safety	Report: E224736	UL60950-1
EN General Safety		EN60950-1

\*\*\*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

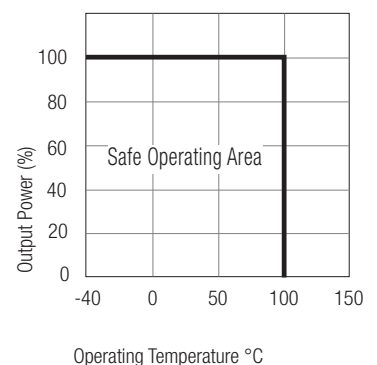
## 0.25 Watt SMD Isolated Single Output



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

# R0.25S/E

## Derating-Graph (Ambient Temperature)

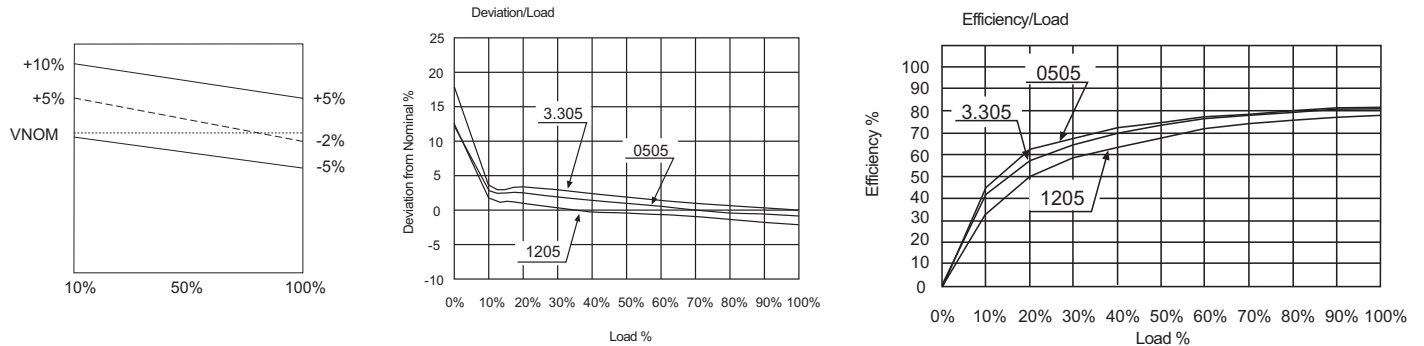


Refer to Application Notes

### Typical Characteristics

#### Tolerance Envelope

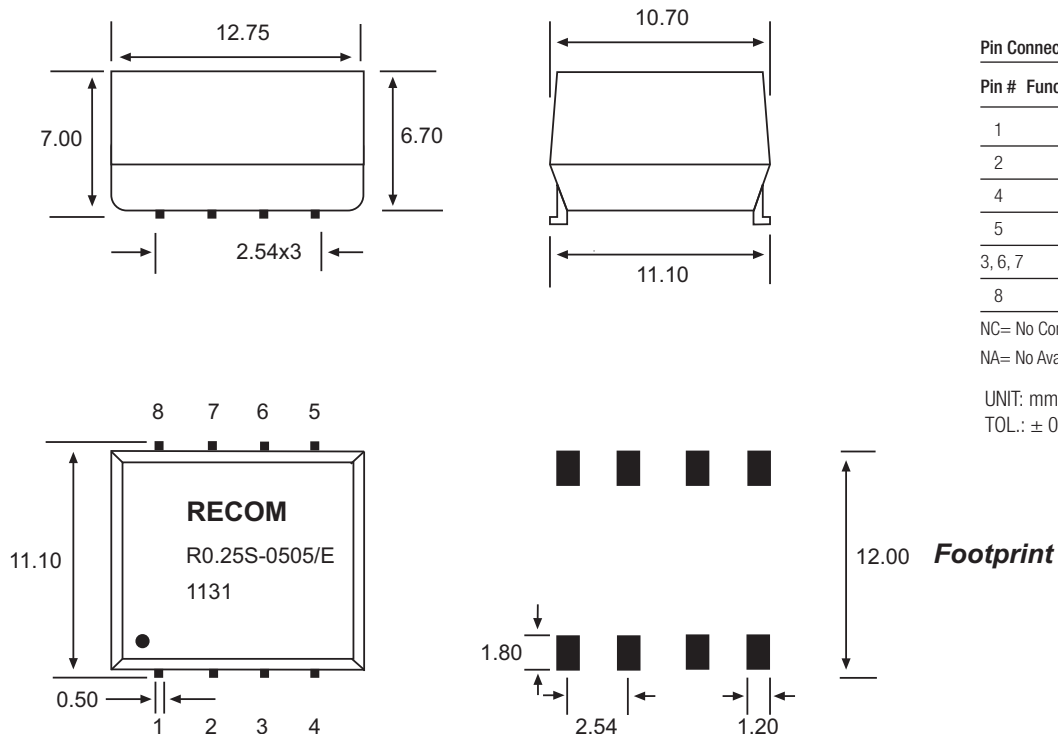
#### R0.25S-xx05/E



#### Notes

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

#### Package Style and Pinning (mm)



#### Pin Connections

Pin #	Function for 5 Pins	Function for 8 Pins
1	-Vin	-Vin
2	+Vin	+Vin
4	-Vout	-Vout
5	+Vout	+Vout
3, 6, 7	NA	NC
8	NC	NC

NC= No Connection

NA= No Available Electrical Connection

UNIT: mm

TOL.: ± 0.25 mm

#### Footprint

# Mouser Electronics

Authorized Distributor

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## RECOM:

[R0.25S-0505/E](#) [R0.25S-1205/E](#) [R0.25S-3.305/E](#) [R0.25S-3.305/EP](#) [R0.25S-3.305/E-R](#) [R0.25S8-3.305/E](#) [R0.25S-0505/EH-R](#) [R0.25S-0505/EHP](#) [R0.25S-0505/E-R](#) [R0.25S-1205/EP-R](#) [R0.25S8-0505/E](#) [R0.25S-3.305/EH-R](#) [R0.25S-1205/E-R](#) [R0.25S8-3.305/EP-R](#) [R0.25S8-1205/EP](#) [R0.25S-0505/EHP-R](#) [R0.25S-0505/EP-R](#) [R0.25S-1205/EH](#) [R0.25S-1205/EHP](#) [R0.25S-3.305/EHP](#) [R0.25S8-0505/EP](#) [R0.25S8-1205/EP-R](#) [R0.25S-0505/EP](#) [R0.25S-1205/EH-R](#) [R0.25S-3.305/EH](#) [R0.25S-3.305/EP-R](#) [R0.25S8-0505/EP-R](#) [R0.25S8-0505/E-R](#) [R0.25S8-1205/E-R](#) [R0.25S8-3.305/EP](#) [R0.25S-3.305/EHP-R](#) [R0.25S8-1205/E](#) [R0.25S8-3.305/E-R](#) [R0.25S-0505/EH](#) [R0.25S-1205/EHP-R](#) [R0.25S-1205/EP](#)