

Features

Unregulated Converter

- 1 : 1 Input Range
- 0.25W SIP4 Package
- Efficiency up to 82%
- 1kVDC and 2kVDC Isolation Option
- Operating Temperature from -40°C to +100°C

Description

The RM/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 ^{(1)**} |
|-----------------|---------------------|----------------------|---------------------|---------------------|--------------------------------------|
| RM-3.305S/E* | 3.3 | 5 | 50 | 80 | 1000µF |
| RM-0505S/E* | 5 | 5 | 50 | 82 | 1000µF |
| RM-1205S/E* | 12 | 5 | 50 | 78 | 1000µF |

Other input and output voltage combinations available on request

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

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 | RM-3.305S/E | 35mVp-p typ. / 60mVp-p max. |
| | others | 35mVp-p typ. / 50mVp-p max. |
| Efficiency | 100% Load | 70% min. |
| Operating Temperature | -40°C to + 100°C | |
| Storage Temperature | -55°C to +125°C | |
| 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 / 60 Hz |
| 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°C) | 1352 x 10 ³ hours |
| | Using MIL-HDBK 217F (+25°C) | 4494 x 10 ³ hours |

Detailed Information see Application Notes chapter „MTBF“

Weight 1.4 g

**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.

Notes

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

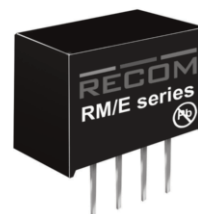
ECONOLINE

DC/DC-Converter

with 3 year Warranty

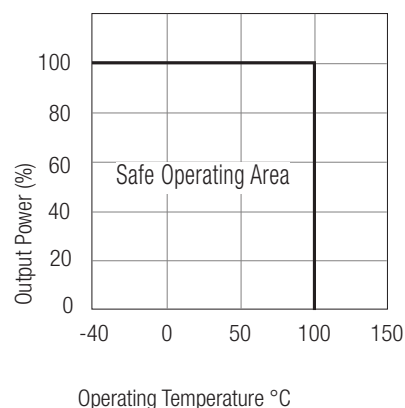
RECOM

0.25 Watt SIP4 Single Output



RM/E

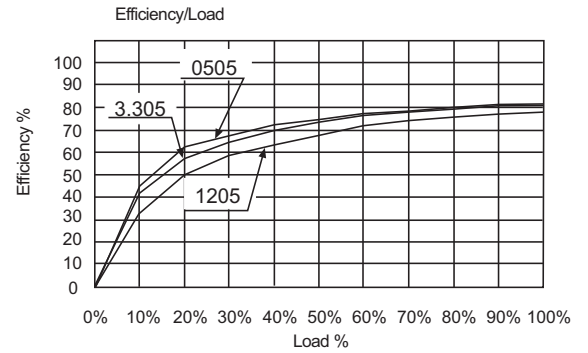
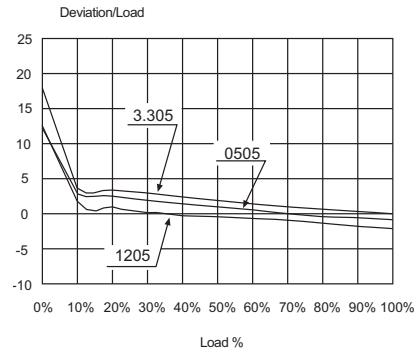
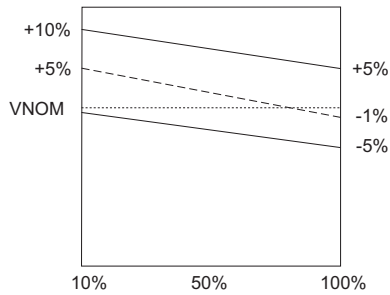
Derating-Graph (Ambient Temperature)



Refer to Application Notes

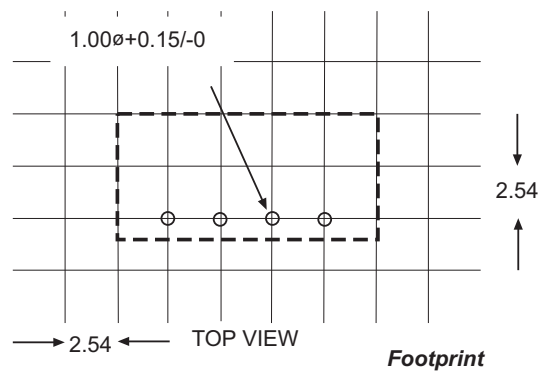
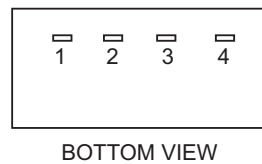
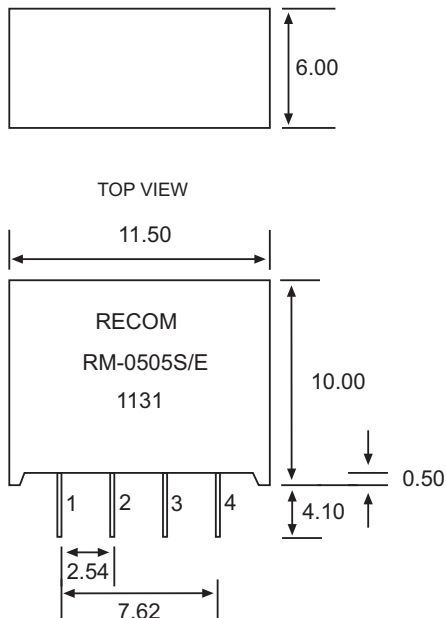
www.recom-power.com

Typical Characteristics



+Vout and -Vout load current (%)

Package Style and Pinning (mm)



Pin Connections

| Pin # | Function |
|-------|----------|
| 1 | -Vin |
| 2 | +Vin |
| 3 | -Vout |
| 4 | +Vout |

UNIT: mm
TOL.: ± 0.25 mm