Features

Unregulated Converter

- 1:1 Input Range
- 0.25W SIP7 Package
- Efficiency up to 82%
- 1kVDC and 2kVDC Isolation Option
- Operating Temperature from -40°C to +100°C

Description

The RBL/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)**} |
|-----------------------|---------------------------|----------------------------|---------------------------|---------------------------|--|
| RBL-3.305S/E* | 3.3 | 5 | 50 | 80 | 1000μF |
| RBL-0505S/E* | 5 | 5 | 50 | 82 | 1000μF |
| RBL-1205S/E* | 12 | 5 | 50 | 78 | 1000μF |

Other input and output voltage combinations available on request

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

| Input Voltage Range | | | ±10% max. |
|-----------------------------|-----------------------|------------------------|------------------------------|
| Voltage set accuracy | 100% Load/nominal Vin | | -2% typ. / ±5% max. |
| Line Regulation | | | 1.2% typ. / 1% of Vin typ. |
| Load Regulation | (10% to 100% Load) | | 4% typ. / 10% max. |
| Ripple & Noise @ 20MHz BW | | 35 | mVp-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 | a minute**) | 500VAC / 60Hz |
| Isolation Voltage | H-Suffix | (tested for 1 second) | 2000VDC |
| | H-Suffix | (rated for a minute**) | 1000VAC / 60Hz |
| Isolation Capacitance | | | 75pF max. |
| Isolation Resistance | | | 10 GΩ min. |
| Humidity | | | 95% RH |
| Operating Frequency | Vin (nom | .) | 20kHz min. / 70 kHz max. |
| Quiescent Current (0% Load) | 3.3VDC | | 11.2mA typ. |
| | 5VDC | | 6mA typ. |
| | 12VDC | | 4.2mA typ. |
| Short-Circuit Protection | | | 1 Second |
| Weight | | | 2.2 g |
| Packing Quantity | | | 25pcs per tube |
| MTBF | Using MI | L-HDBK 217F (+100°C) | 1352 x 10 ³ hours |
| | Using MI | L-HDBK 217F (+25°C) | 4494 x 10 ³ hours |

Detailed Information see Application Notes chapter "MTBF"

Notes

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

ECONOLINE

DC/DC-Converter with 3 year Warranty



O.25 Watt SIP7 Isolated Single Output

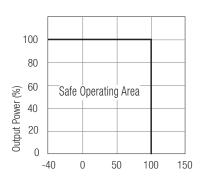






Derating-Graph

(Ambient Temperature)



Operating Temperature °C

Refer to Application Notes

^{*}add Suffix "H" for 2 kVDC Isolation, e.g. RBL-3.305/EH

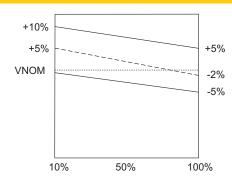
^{**}Any data referred to in this datasheet are of indicative nature and based on our practical experience only. For further details, please refer to our Application Notes.

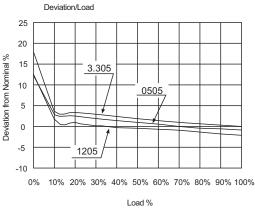
ECONOLINE

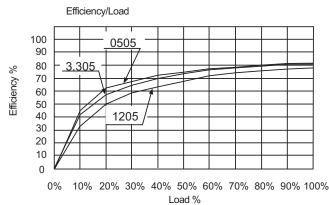
DC/DC-Converter

RBL/E Series

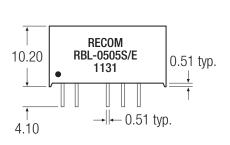
Typical Characteristics

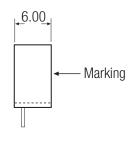






Package Style and Pinning (mm)

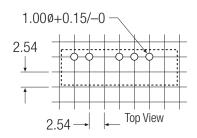




1.27 Bottom View 0.25

12.70

2.0



Recommended Footprint

Pin Connections

| Pin # | Function | |
|--------|------------|--|
| 1 | +Vin | |
| 2 | -Vin | |
| 4 | NC | |
| 5 | -Vout | |
| 6 | +Vout | |
| NC= No | Connection | |

UNIT: mm TOL.: \pm 0.25 mm

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