

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

*add Suffix „H“ for 2 kVDC Isolation, e.g. RBL-3.305/EH

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	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 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 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“

**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

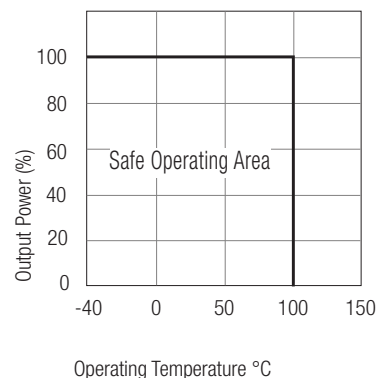
RECOM

0.25 Watt SIP7 Isolated Single Output



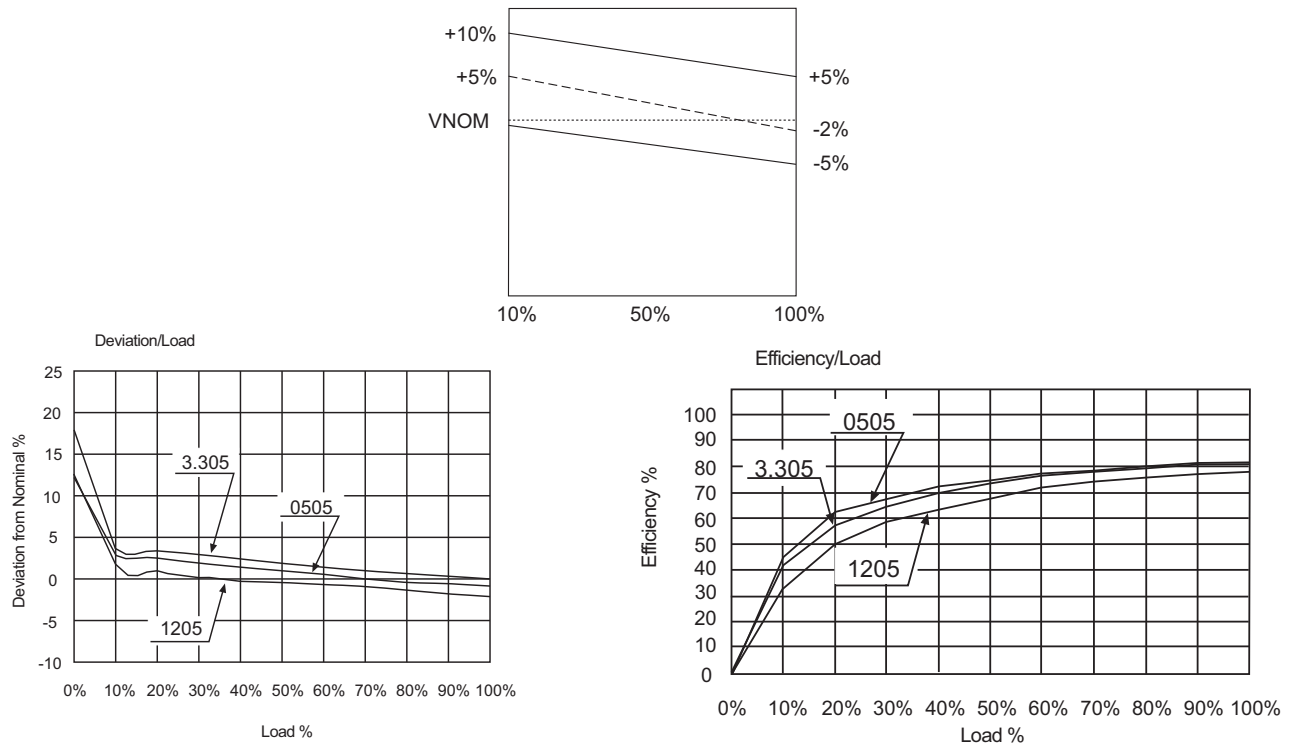
RBL/E

Derating-Graph (Ambient Temperature)

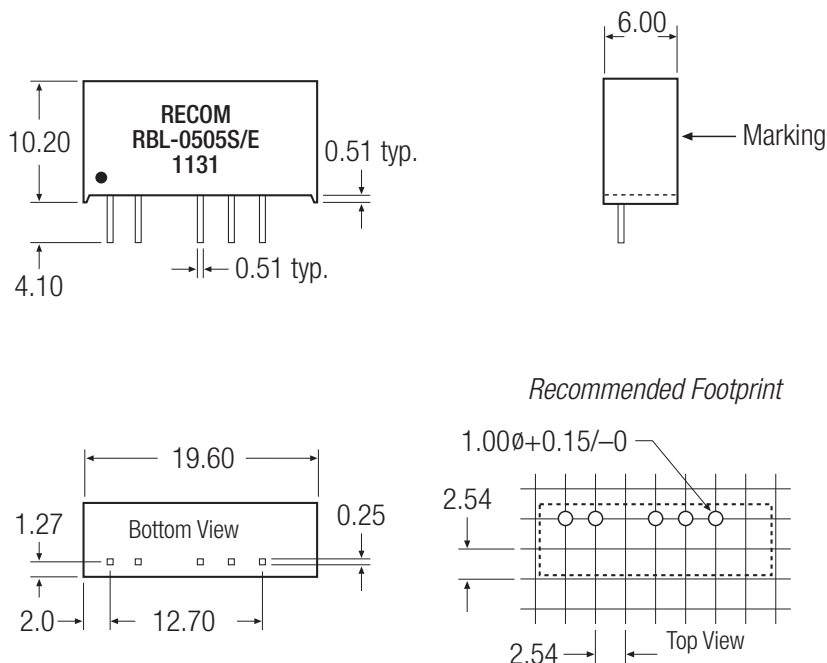


Refer to Application Notes

Typical Characteristics



Package Style and Pinning (mm)



Pin Connections

Pin #	Function
1	+Vin
2	-Vin
4	NC
5	-Vout
6	+Vout

NC= No Connection
UNIT: mm
TOL.: ± 0.25 mm