

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 $T_A = 25^\circ\text{C}$, 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	1.2% typ. / 1% of V_{in} typ.	
Load Regulation	4% typ. / 10% max.	
(10% to 100% Load)		
Ripple & Noise @ 20MHz BW	35mVp-p typ. / 50mVp-p max.	
Efficiency	100% Load	70% min.
Operating Temperature	-40°C to $+100^\circ\text{C}$	
Storage Temperature	-55°C to $+125^\circ\text{C}$	
Isolation Test Voltage (Tested for 1 second)	RBL-xx05S/E	1000VDC
	RBL-xx05S/EH	2000VDC
Isolation Capacitance	75pF max.	
Isolation Resistance	10 GΩ min.	
Humidity	95% RH	
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	2.2 g	
Packing Quantity	25pcs per tube	

ECONOLINE

DC/DC-Converter

with 3 year Warranty

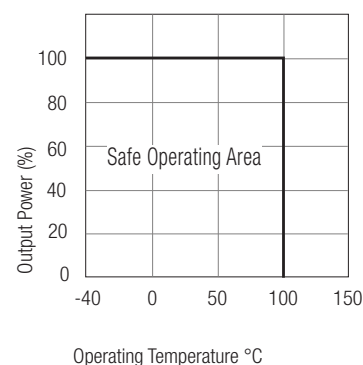


0.25 Watt SIP7 Isolated Single Output



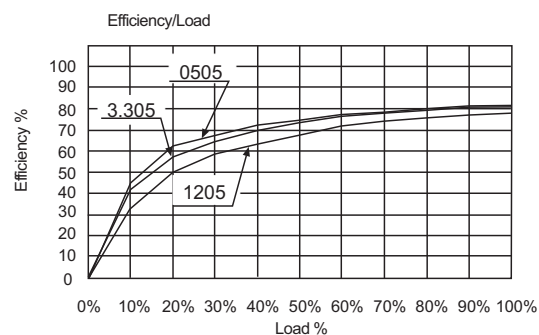
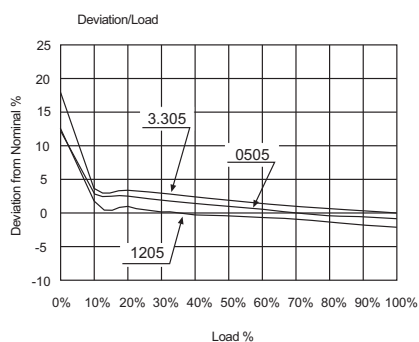
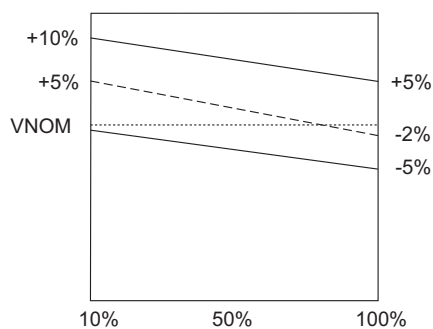
RBL/E

Derating-Graph (Ambient Temperature)



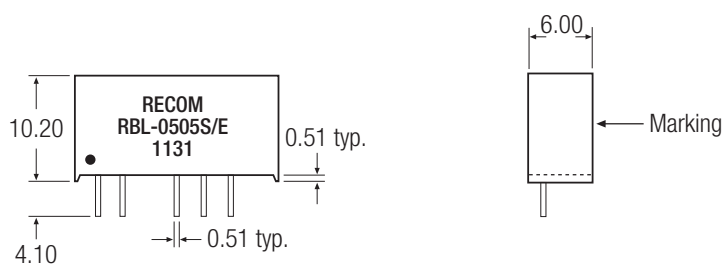
Refer to Application Notes

Typical Characteristics

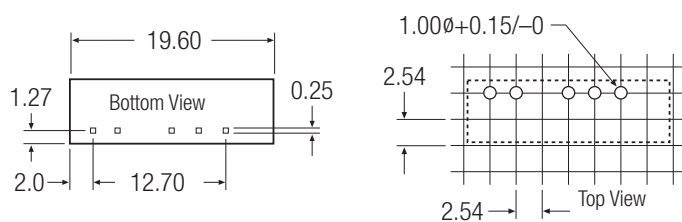


Package Style and Pinning (mm)

3rd angle projection



Recommended Footprint



Pin Connections

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

NC= No Connection

UNIT: mm

TOL.: ± 0.25 mm