

Features

Unregulated Converter

- Industry Standard Pinout
- 1kVDC or 2kVDC Isolation
- UL94V-O Package Material
- Optional Continuous Short Circuit Protected
- Fully Encapsulated
- Custom Solutions Available
- Efficiency to 87%

Description

The ROL DC/DC converters are typically used in general purpose low power isolation and voltage matching applications, and feature a full industrial operating temperature range of -40°C to +85°C without derating.

Selection Guide

Part Number SIP 4 (2kV)	Input Voltage (VDC)	Output Voltage (VDC)	Output Current (mA)	Efficiency (%)	Max. Capacitive Load ⁽¹⁾
ROL-xx05S (H)	5, 12	5	100	78-82	470µF
ROL-xx12S (H)	5, 12	12	42	80-86	150µF
ROL-xx15S (H)	5, 12	15	33	80-87	150µF

xx = Input Voltage (other input and output voltage combinations available on request)

* add Suffix "P" for Continuous Short Circuit Protection, e.g. ROL-0505S/P, ROL-0505S/HP

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

Input Voltage Range	$\pm 10\%$	
Output Voltage Accuracy	$\pm 5\%$	
Line Voltage Regulation	1.2%/1% of Vin typ.	
Load Voltage Regulation (10% to 100% full load)	10% max. / 4% typ.	
Output Ripple and Noise (20MHz limited)	100mVp-p max.	
Operating Frequency	20kHz min. / 54kHz typ.	
Efficiency at Full Load	70% min. / 85% typ.	
Efficiency at 50% Load	65% min. / 80% typ.	
Minimum Load = 0%	Specifications valid for 10% minimum load only.	
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 / 60Hz
Isolation Capacitance	20pF min. / 75pF max.	
Isolation Resistance	10 GΩ min.	
Short Circuit Protection	1 Second	
P-Suffix	Continuous	
Operating Temperature Range (free air convection)	-40°C to +85°C (see Graph)	
Storage Temperature Range	-55°C to +125°C	
Relative Humidity	95% RH	
Package Weight	1.4g	
Packing Quantity	42 pcs per Tube	
MTBF (+25°C)	using MIL-HDBK 217F	985 x 10 ³ hours
(+85°C)	using MIL-HDBK 217F	200 x 10 ³ hours
Certifications		
EN General Safety	Report: SPCLVD1109103	EN 60950-1:2006 + A12:2011
UL General Safety	Report: E358085	UL 60950-1, 2nd Edition

**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

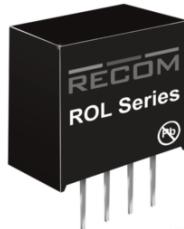
RECOM

0.5 Watt

SIP4

Single

Output

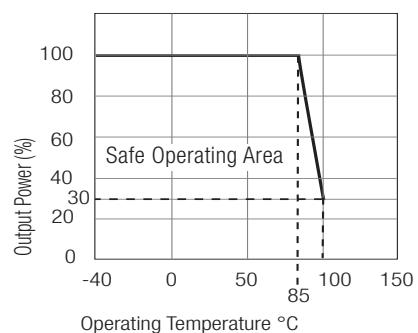


EN-60950-1 Certified
UL-60950-1 Certified

ROL

Derating-Graph

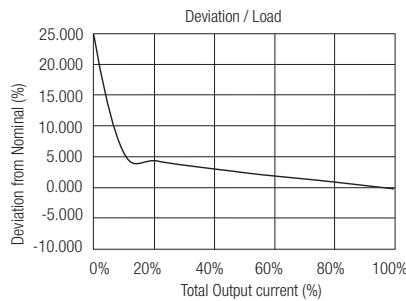
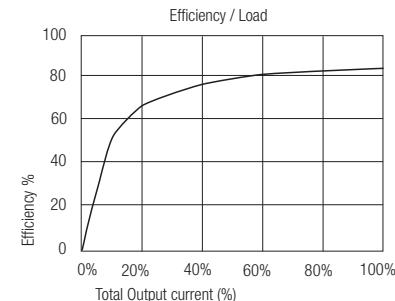
(Ambient Temperature)



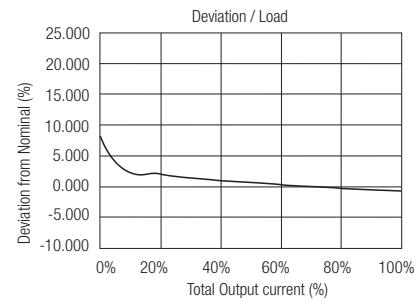
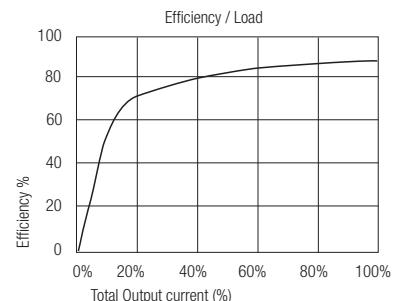
Refer to Application Notes

Typical Characteristics

ROL-0505S



ROL-0515S



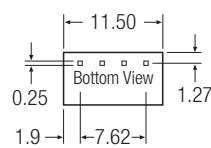
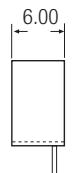
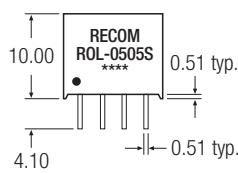
Notes

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

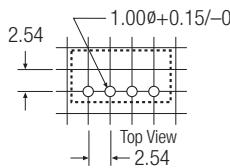
ROL

Package Style and Pinning (mm)

4 PIN SIP Package



Recommended Footprint Details



ROL Pin Connections

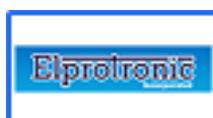
Pin #	Single
1	-Vin
2	+Vin
3	-Vout
4	+Vout
XX	± 0.5 mm
XX	± 0.25 mm

The product information and specifications are subject to change without prior notice. RECOM products are not authorized for use in safety-critical applications (such as life support) without RECOM's explicit written consent. A safety-critical application is defined as an application where a failure of a RECOM product may reasonably be expected to endanger or cause loss of life, inflict bodily harm or damage property. The buyer shall indemnify and hold harmless RECOM, its affiliated companies and its representatives against any damage claims in connection with the unauthorized use of RECOM products in such safety-critical applications.

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