

Features

Unregulated Converters

- Micro Size SIP4 Package
- 3kVDC Isolation
- Approved for Medical Applications
- Industry Standard Pinout
- Optional Continuous Short Circuit Protected
- UL94V-0 Package Material
- Efficiency to 85 %

Description

The ROM Micro Size DC/DC converter has been designed for isolating or converting DC power rails where board height is at a premium. Although it has a micro-size 7.7mm package, it does not compromise on features and offers a high 3kVDC Isolation, a -40°C to +85°C operating temperature range and optional continuous short circuit protection.

Selection Guide

| Part Number SIP4 Micro Size Pack. | Input Voltage (VDC) | Output Voltage (VDC) | Output Current (mA) | Efficiency (%) | Max. Capacitive Load ⁽¹⁾ |
|--------------------------------------|---------------------|----------------------|---------------------|----------------|-------------------------------------|
| ROM-xx05S | 3.3, 5, 12 | 5 | 200 | 70-78 | 1000µF |
| ROM-xx12S | 3.3, 5, 12 | 12 | 83 | 78-82 | 470µF |
| ROM-xx15S | 3.3, 5, 12 | 15 | 66 | 80-84 | 470µF |

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

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

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 V_{in} typ. | |
| Load Voltage Regulation | 5V Output | 15% max. |
| (10% to 100% full load) | 12V, 15V Output | 10% max. |
| Output Ripple and Noise (20MHz limited) | 100mVp-p max. | |
| Operating Frequency | 50kHz min. / 100kHz typ. / 105kHz max. | |
| Efficiency at Full Load | 70% min. / 80% typ. | |
| Minimum Load = 0% | Specifications valid for 10% minimum load only. | |
| Isolation Voltage | (tested for 1 second) | 3000VDC |
| | (rated for 1 minute**) | 1500VAC / 60Hz |
| Isolation Capacitance | 20pF min. / 75pF max. | |
| Isolation Resistance | 15 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 | 1g | |
| Packing Quantity | 42 pcs per Tube | |
| MTBF (+25°C) | } Detailed Information see Application Notes chapter "MTBF" | using MIL-HDBK 217F |
| (+85°C) | | using MIL-HDBK 217F |
| | | 977 x 10 ³ hours |
| | | 189 x 10 ³ hours |
| Certifications | | |
| CB Test Report | Report: US/15348/UL | IEC 60950-1:2005 2nd Ed. |
| UL General Safety | Report: E350805 | UL 60950-1 2nd Ed. |
| EN General Safety | Report: SPCLVD1109103 | EN60950-1:2006 + A12:2011 |
| EN Medical Safety | Report: MDD1205098-4 + RM1205098-4 | IEC/EN 60601-1 3rd Edition |
| | Medical Report + ISO14971 Risk Assessment | |

**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.

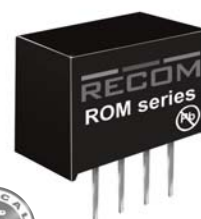
ECONOLINE

DC/DC-Converter

with 3 year Warranty

RECOM

1 Watt SIP4 Micro Single Output

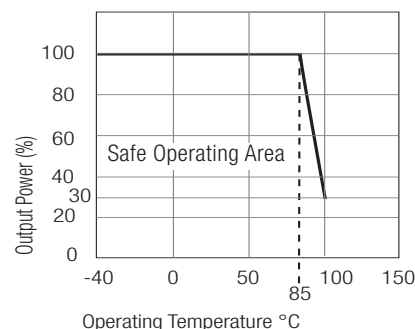


E-358085

EN-60950-1 Certified
UL-60950-1 Certified
EN-60601-1 Certified

ROM

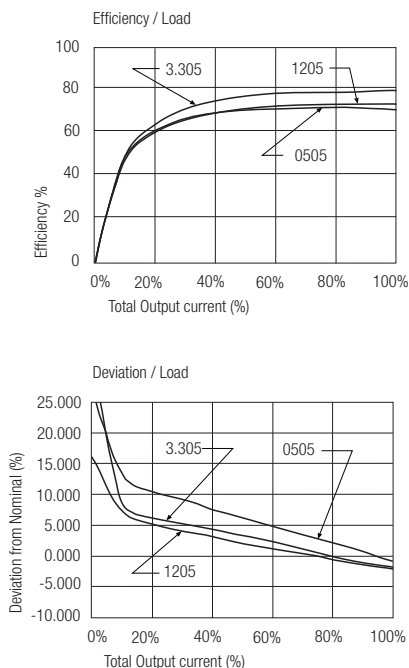
Derating-Graph (Ambient Temperature)



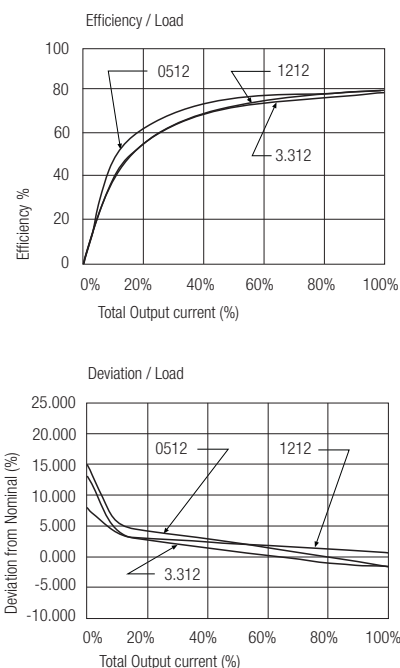
Refer to Application Notes

Typical Characteristics

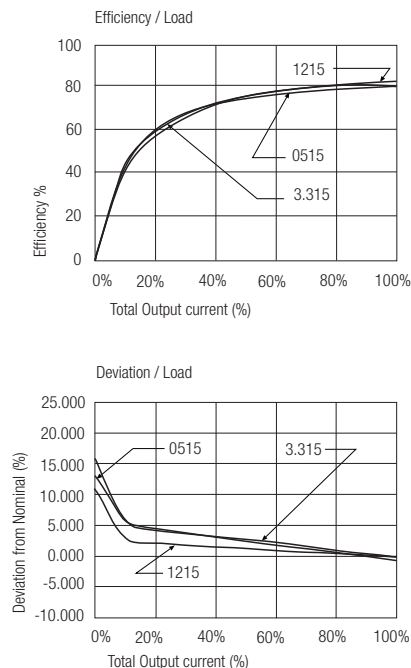
ROM-xx05S



ROM-xx12S



ROM-xx15S

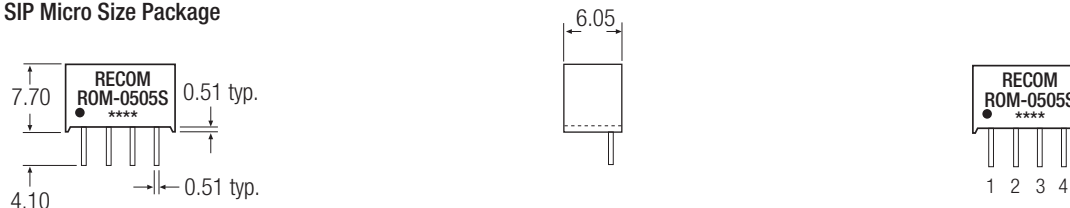


Notes

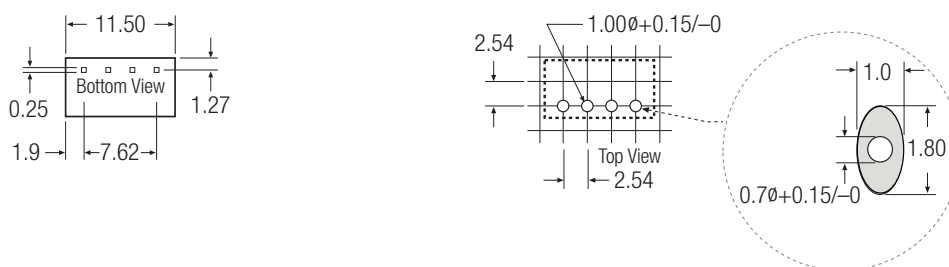
Note 1 Maximum capacitive load is defined as the capacitive load that will allow start up in under 1 second without damage to the converter.

Package Style and Pinning (mm)

4 PIN SIP Micro Size Package



Recommended Footprint Details



RO Pin Connections

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

Mouser Electronics

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RECOM:

[ROM-0505S/P](#) [ROM-0512S/P](#) [ROM-0515S](#) [ROM-0515S/P](#) [ROM-1205S/P](#) [ROM-1212S/P](#) [ROM-1215S](#) [ROM-1215S/P](#) [ROM-0505S](#) [ROM-0512S](#) [ROM-1205S](#) [ROM-1212S](#) [ROM-3.305S/P](#)