

## 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<br>SIP4 Micro Size Pack. | Input Voltage (VDC) | Output Voltage (VDC) | Output Current (mA) | Efficiency (%) | Max. Capacitive Load <sup>(1)</sup> |
|--------------------------------------|---------------------|----------------------|---------------------|----------------|-------------------------------------|
| 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 <sup>3</sup> hours |
|                                                   |                                                             | 189 x 10 <sup>3</sup> 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.

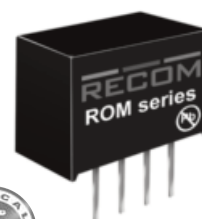
## ECONOLINE

## DC/DC-Converter

with 3 year Warranty

# RECOM

## 1 Watt SIP4 Micro Single Output

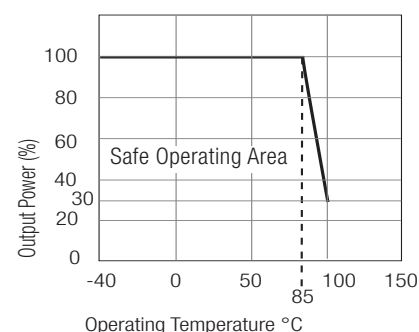


**E-358085**

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

# ROM

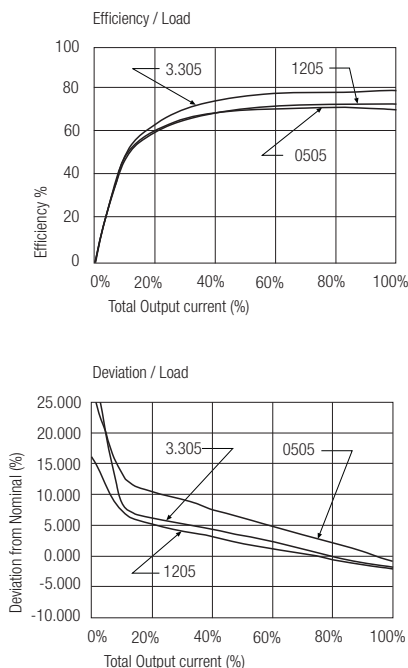
## Derating-Graph (Ambient Temperature)



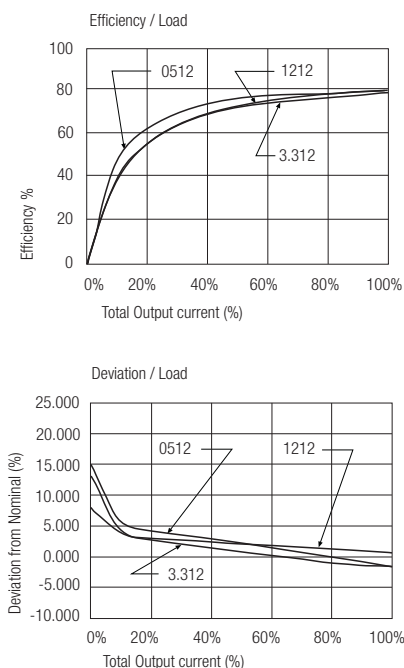
Refer to Application Notes

## Typical Characteristics

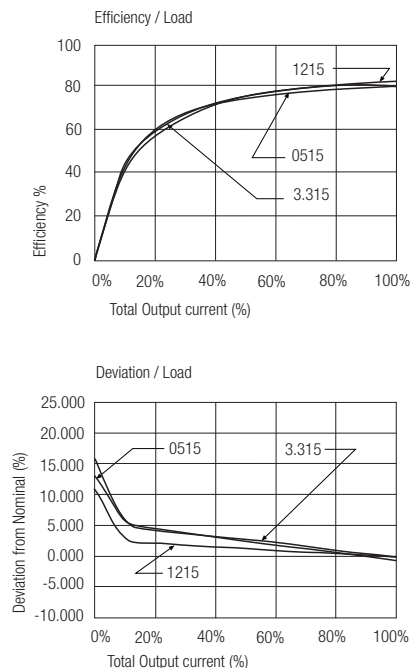
### ROM-xx05S



### ROM-xx12S



### ROM-xx15S



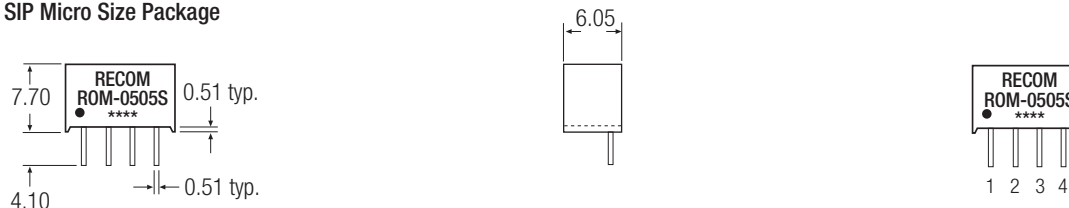
#### Notes

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.

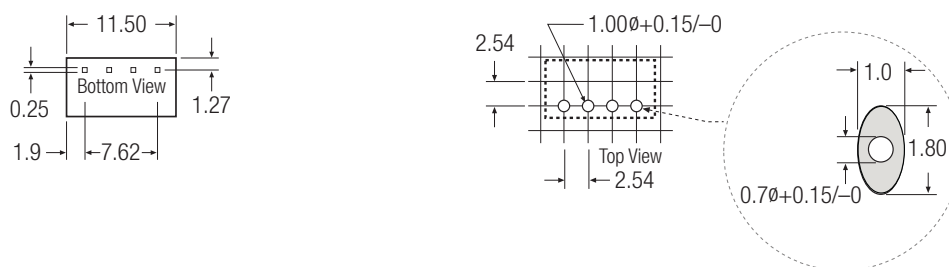
## ROM

## 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 $\pm$ 0.5 mm   |        |
| XX.XX $\pm$ 0.25 mm |        |

# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

## 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](#)