## Features

**Unregulated Converters**

- Micro Size SIP4 Package
- 3kVDC Isolation
- Industry Standard Pinout
- UL94V-0 Package Material
- Custom Solutions Available
- Cost Effective
- Efficiency to 85%

# ECONOLINE
DC/DC-Converter

# ROM Series

## 1 Watt SIP4 Micro Size Single Output




RECOM

## Selection Guide

| Part Number | Input Voltage | Output Voltage | Output Current | Efficiency |
|---|---|---|---|---|
| SIP4 Micro Size Pack. | (VDC) | (VDC) | (mA) | (%) |
| ROM-xx1.8S | 1.8, 3.3, 5, 9, 12, 15, 24 | 1.8 | 550 | 70 |
| ROM-xx3.3S | 1.8, 3.3, 5, 9, 12, 15, 24 | 3.3 | 303 | 75 |
| ROM-xx05S | 1.8, 3.3, 5, 9, 12, 15, 24 | 5 | 200 | 70-78 |
| ROM-xx09S | 1.8, 3.3, 5, 9, 12, 15, 24 | 9 | 111 | 70-78 |
| ROM-xx12S | 1.8, 3.3, 5, 9, 12, 15, 24 | 12 | 83 | 78-82 |
| ROM-xx15S | 1.8, 3.3, 5, 9, 12, 15, 24 | 15 | 66 | 80-84 |
| ROM-xx24S | 1.8, 3.3, 5, 9, 12, 15, 24 | 24 | 41 | 74-85 |

xx = Input Voltage

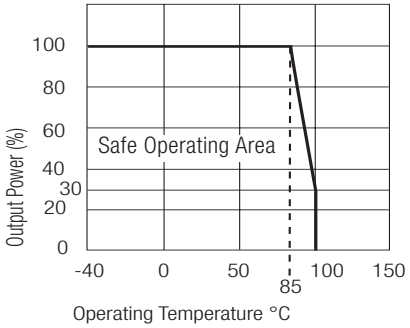
## Description

The ROM Micro Size DC/DC-Converter has been designed for isolating resp. converting DC Power Rails. It provides a small micro-size package, high efficiency, low output ripple, high 3kVDC Isolation and an extended –40°C to +85°C operating temperature range.
State of the art packaging and automated manufacturing ensures cost-effectiveness and short lead times.

## Specifications (Core Operating Area)

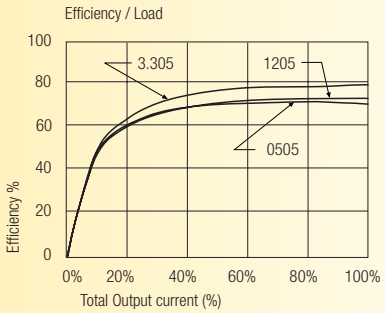
| | | |
|---|---|---|
| Input Voltage Range | | ±10% |
| Output Voltage Accuracy | | ±5% |
| Line Voltage Regulation | | 1.2%/1% of Vin max. |
| Load Voltage Regulation (10% to 100% full load) | 1.8V, 3.3V output types<br>5V output type<br>9V, 12V, 15V, 24V output types | 20% max.<br>15% max.<br>10% 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. |
| No Load Power Consumption | | 101mW min. / 126mW typ. / 171mW max. |
| Isolation Voltage<br>Rated Working Voltage | (tested for 1 second)<br>(long term isolation) | 3.000VDC min.<br>see Application Notes |
| Isolation Capacitance | | 20pF min. / 75pF max. |
| Isolation Resistance | | 15 GΩ min. |
| Short Circuit Protection | | 1 Second |
| Operating Temperature Range (free air convection) | | -40°C to +85°C (see Graph) |
| Storage Temperature Range | | -55°C to +125°C |
| Relative Humidity | MSL Level 1 | 95% RH |
| Package Weight | | 1g |
| MTBF (+25°C) } *Detailed Information see Application Notes chapter "MTBF"* | using MIL-HDBK 217F | 977 x $10^3$ hours |
| MTBF (+85°C) } *Detailed Information see Application Notes chapter "MTBF"* | using MIL-HDBK 217F | 189 x $10^3$ hours |

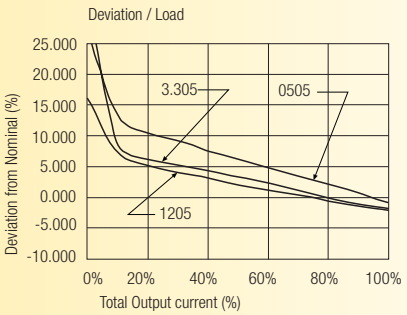
## Derating-Graph
(Ambient Temperature)



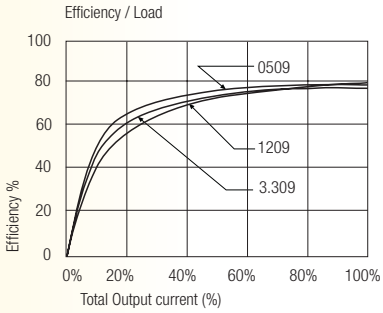
## Typical Characteristics

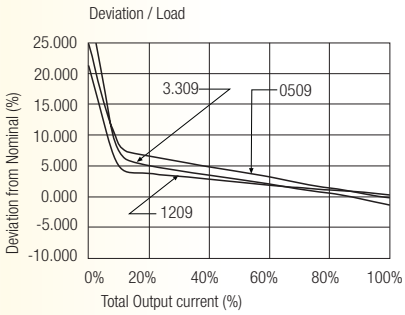
### ROM-xx05S



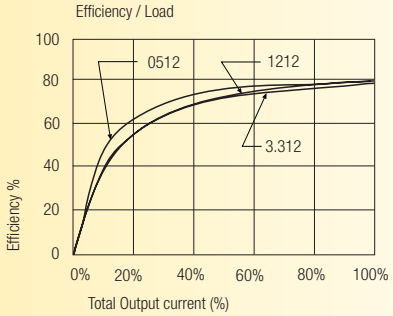



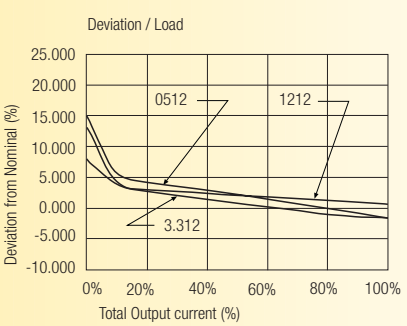

### ROM-xx09S



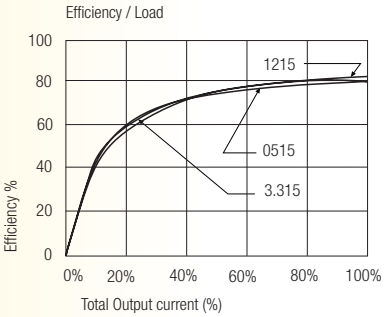



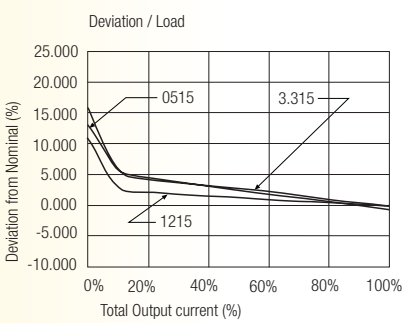

### ROM-xx12S




### ROM-xx15S

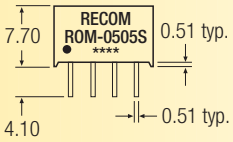


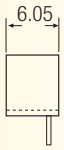



## Package Style and Pinning (mm)

3rd angle projection

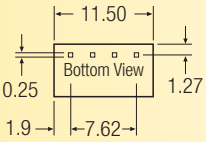
### 4 PIN SIP Micro Size Package



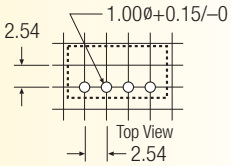










### Recommended Footprint Details




**RO Pin Connections**

| Pin # | Single |
|---|---|
| 1 | –Vin |
| 2 | +Vin |
| 3 | –Vout |
| 4 | +Vout |

XX.X ± 0.5 mm
XX.XX ± 0.25 mm