

## Features

### Unregulated Converters

- Safety standards and approvals: EN 60950 certified, rated for 250VAC (LVD test report)
- UL-60950-1 / CSA C22.2 certified
- 5.2kVDC Isolation
- Optional Continuous Short Circuit Protected
- Pin Compatible with RH & RK Series, SIP DC-DC Converters
- UL94V-0 Package Material
- Efficiency to 82%

### Selection Guide

| Part Number | Input Voltage         | Output Voltage | Output Current | Efficiency |
|-------------|-----------------------|----------------|----------------|------------|
| SIP 7       | (VDC)                 | (VDC)          | (mA)           | (%)        |
| RP-xx3.3S   | 5, 9, 12, 15, 24      | 3.3            | 303            | 70         |
| RP-xx05S    | 3.3, 5, 9, 12, 15, 24 | 5              | 200            | 70-72      |
| RP-xx09S    | 3.3, 5, 9, 12, 15, 24 | 9              | 111            | 75         |
| RP-xx12S    | 3.3, 5, 9, 12, 15, 24 | 12             | 84             | 75-78      |
| RP-xx15S    | 3.3, 5, 9, 12, 15, 24 | 15             | 66             | 80         |
| RP-xx24S    | 3.3, 5, 9, 12, 15, 24 | 24             | 42             | 80         |
| RP-xx3.3D   | 5, 9, 12, 15, 24      | ±3.3           | ±152           | 70         |
| RP-xx05D    | 3.3, 5, 9, 12, 15, 24 | ±5             | ±100           | 74-76      |
| RP-xx09D    | 3.3, 5, 9, 12, 15, 24 | ±9             | ±56            | 75         |
| RP-xx12D    | 3.3, 5, 9, 12, 15, 24 | ±12            | ±42            | 79-82      |
| RP-xx15D    | 3.3, 5, 9, 12, 15, 24 | ±15            | ±33            | 80-82      |
| RP-xx24D    | 3.3, 5, 9, 12, 15, 24 | ±24            | ±21            | 80         |

xx = Input Voltage

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

### Specifications (Core Operating Area)

|                                                   |                                                             |                     |                             |
|---------------------------------------------------|-------------------------------------------------------------|---------------------|-----------------------------|
| Input Voltage Range                               | ±10%                                                        |                     |                             |
| Output Voltage Accuracy                           | ±5%                                                         |                     |                             |
| Line Voltage Regulation                           | 1.2%/1% of Vin typ.                                         |                     |                             |
| Load Voltage Regulation (10% to 100% full load)   | 3.3V output types                                           | 20% max.            |                             |
|                                                   | 5V output type                                              | 15% max.            |                             |
|                                                   | 9V, 12V, 15V, 24V output types                              | 10% max.            |                             |
| Output Ripple and Noise (20MHz limited)           | 100mVp-p max.                                               |                     |                             |
| Operating Frequency                               | 57kHz min. / 100kHz typ. / 105kHz max.                      |                     |                             |
| Efficiency at Full Load                           | 70% min. / 80% typ.                                         |                     |                             |
| No Load Power Consumption                         | 120mW min. / 156mW typ. / 460mW max.                        |                     |                             |
| Isolation Voltage (tested for 1 second)           | 5200VDC min.                                                |                     |                             |
| Rated Working Voltage (long term isolation)       | see Application Notes                                       |                     |                             |
| Isolation Capacitance                             | 4pF min. / 10pF max.                                        |                     |                             |
| Isolation Resistance                              | 20 GΩ min.                                                  |                     |                             |
| Short Circuit Protection P-Suffix                 | 1 Second 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                                    | 2.4g                                                        |                     |                             |
| MTBF (+25°C)                                      | } Detailed Information see Application Notes chapter "MTBF" | using MIL-HDBK 217F | 928 x 10 <sup>3</sup> hours |
| (+85°C)                                           |                                                             | using MIL-HDBK 217F | 150 x 10 <sup>3</sup> hours |

**ECONOLINE**  
DC/DC-Converter

## RP Series

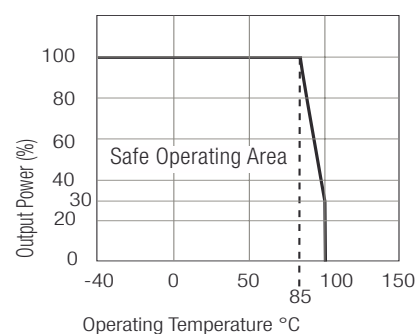
**1 Watt**  
**SIP 7**  
**Single & Dual**  
**Output**



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

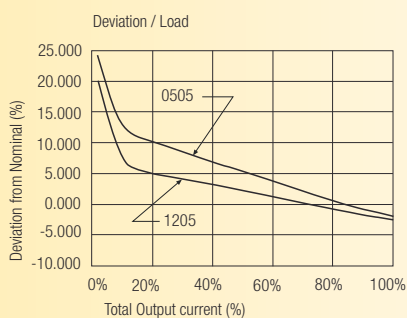
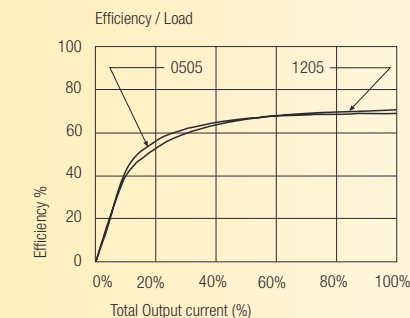
**RECOM**

### Derating-Graph (Ambient Temperature)

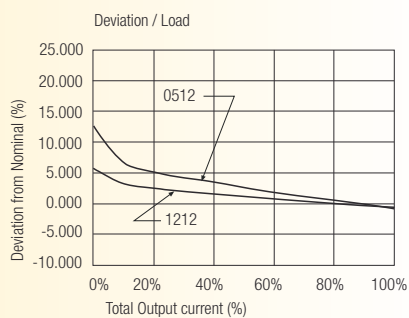
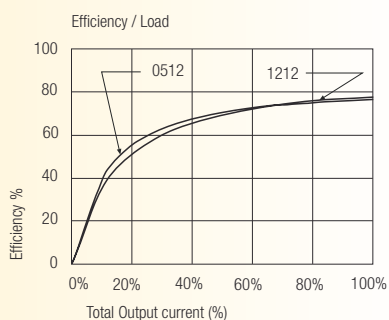


**Typical Characteristics**

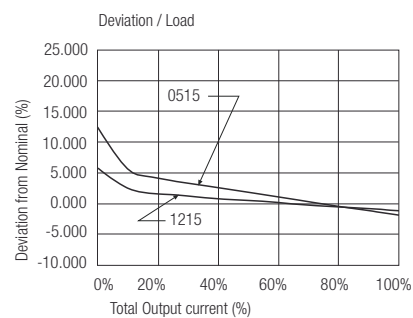
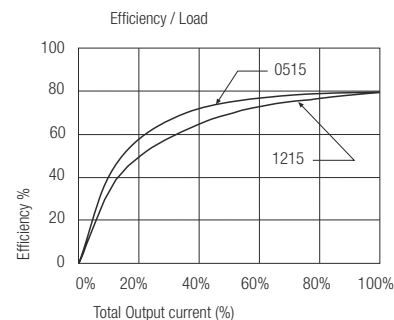
**RP-xx05S**



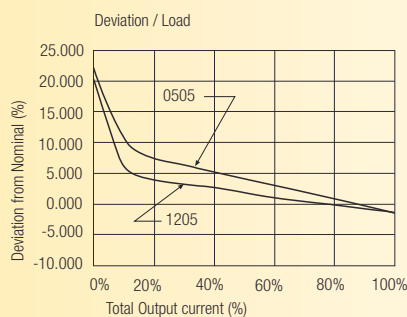
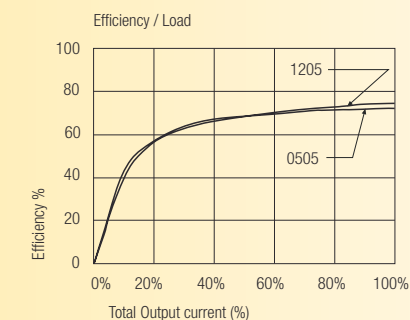
**RP-xx12S**



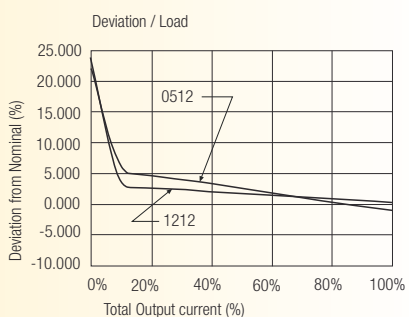
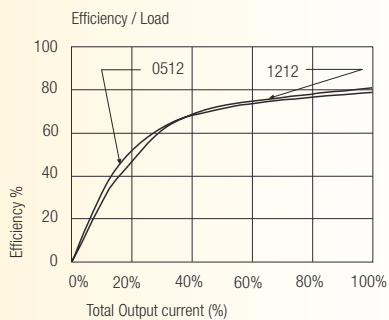
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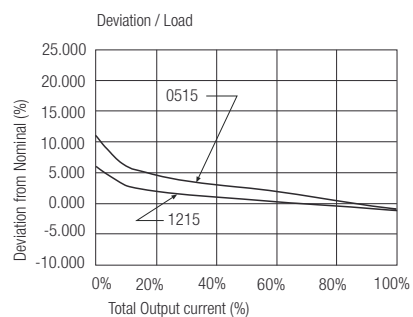
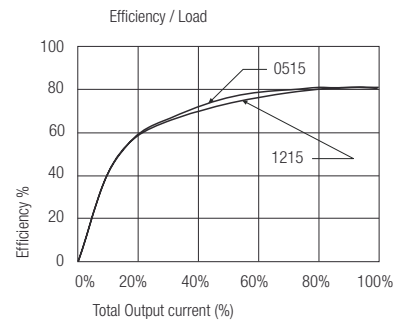
**RP-xx05D**



**RP-xx12D**

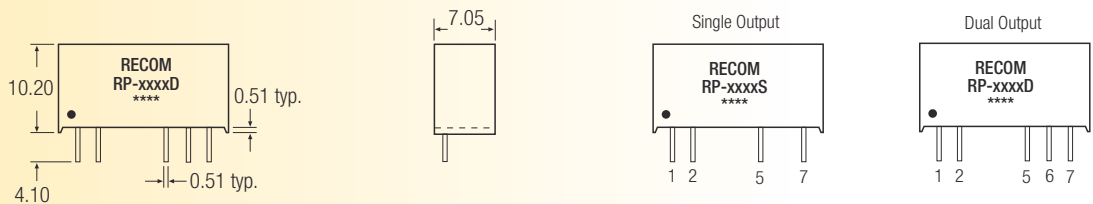


**RP-xx15D**

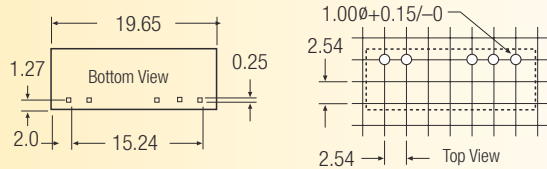


Package Style and Pinning (mm)

7 PIN SIP Package



Recommended Footprint Details



| Pin Connections |        |       |
|-----------------|--------|-------|
| Pin #           | Single | Dual  |
| 1               | +Vin   | +Vin  |
| 2               | -Vin   | -Vin  |
| 5               | -Vout  | -Vout |
| 6               | No Pin | Com   |
| 7               | +Vout  | +Vout |
| XX.X ± 0.5 mm   |        |       |
| XX.XX ± 0.25 mm |        |       |