

## 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 for 1 Minute
- Internal SMD Construction
- Wide Temperature Performance at full 1 Watt Load, -40°C to +85°C
- 2 chamber-isolated-transformers used for meeting extra-high-isolation
- UL94V-0 Package Material
- Efficiency to 80%

**EUROLINE**  
DC/DC-Converter

## RxxPxxD Series

**1 Watt**  
**SIP 7**  
**Dual Output**

### Selection Guide

| Part Number | Input Voltage    | Output Voltage | Output Current | Efficiency |
|-------------|------------------|----------------|----------------|------------|
| SIP 7       | (VDC)            | (VDC)          | (mA)           | (%)        |
| RxxP3.3D    | 5, 9, 12, 15, 24 | ±3.3           | ±151           | 70         |
| RxxP05D     | 5, 9, 12, 15, 24 | ±5             | ±100           | 70-75      |
| RxxP09D     | 5, 9, 12, 15, 24 | ±9             | ±55            | 70-75      |
| RxxP12D     | 5, 9, 12, 15, 24 | ±12            | ±41            | 70-75      |
| RxxP15D     | 5, 9, 12, 15, 24 | ±15            | ±33            | 75-80      |

xx = Input Voltage

### Description

The RxxPxx Series of DC/DC Converters are fully certified to EN 60950: 2000. This makes them ideal for all Telecom and safety applications where approved isolation is required and UL-60950-1 / CSA C22.2.

### Specifications

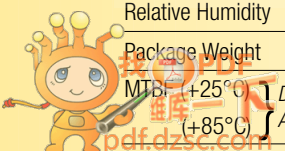
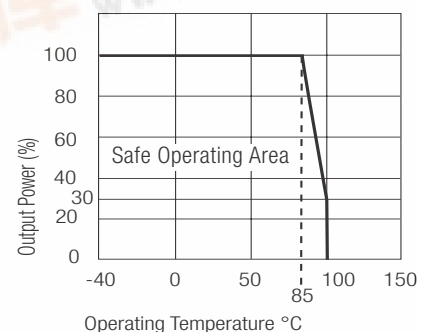
(measured at  $T_A = 25^\circ\text{C}$ , at nominal input voltage and rated output current unless otherwise specified)

|                                                   |                                            |                                                  |
|---------------------------------------------------|--------------------------------------------|--------------------------------------------------|
| Input Voltage Range                               | ±10%                                       |                                                  |
| Output Voltage Accuracy                           | ±5%                                        |                                                  |
| Line Voltage Regulation                           | 1.2%/1% of $V_{in}$ max.                   |                                                  |
| Load Voltage Regulation (10% to 100% full load)   | 3.3, 5V output types<br>other output types | 15% max.<br>10% max.                             |
| Output Ripple and Noise (20MHz BW)                | 200mVp-p max.                              |                                                  |
| Operating Frequency                               | 20kHz min. / 50kHz typ. / 85kHz max.       |                                                  |
| Efficiency at Full Load                           | 65% min. / 70% typ.                        |                                                  |
| No Load Power Consumption                         | 148mW min. / 220mW typ. / 355mW max.       |                                                  |
| Isolation Voltage (tested for 1 minute)           | 5.200VDC min.                              |                                                  |
| Rated Working Voltage (long term isolation)       | see Application Notes                      |                                                  |
| Isolation Capacitance                             | 4pF min. / 10pF max.                       |                                                  |
| 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                                    | 4.3g                                       |                                                  |
| MTBF (+25°C)                                      | Detailed Information see                   | using MIL-HDBK 217F 1450 x 10 <sup>3</sup> hours |
| MTBF (+85°C)                                      | Application Notes chapter "MTBF"           | using MIL-HDBK 217F 230 x 10 <sup>3</sup> hours  |



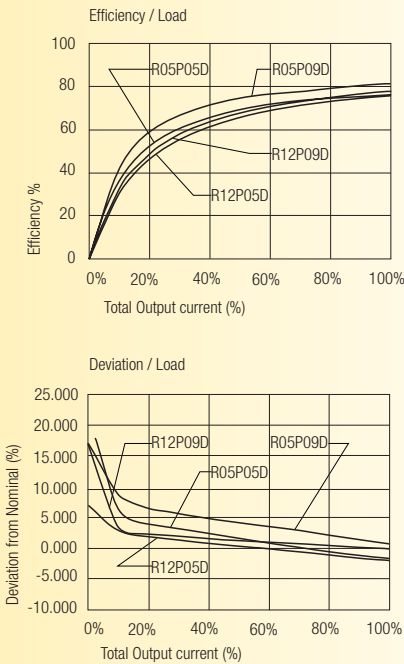
**RECOM**

## Derating-Graph (Ambient Temperature)

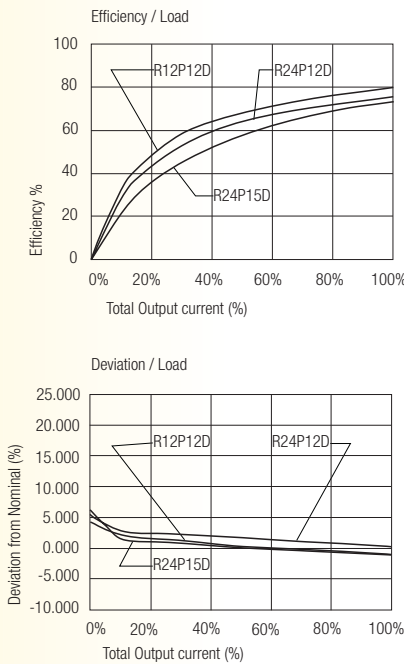


Typical Characteristics, Tolerance Envelope

**RxxP05/09D**

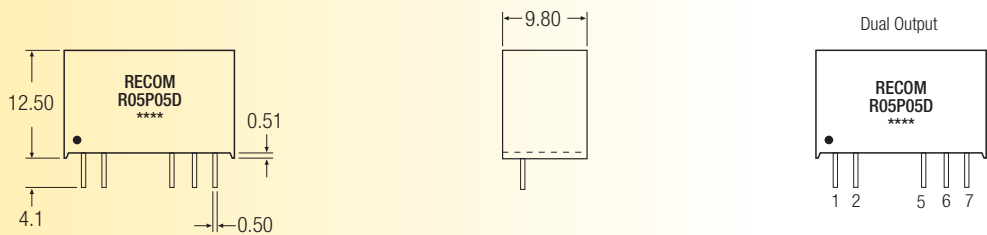


**RxxP12/15D**

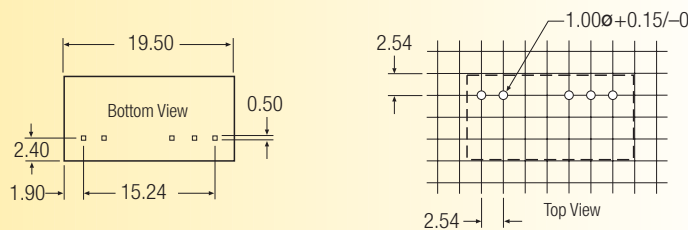


Package Style and Pinning (mm)

7 PIN SIP Package



Recommended Footprint Details



Pin Connections

| Pin #           | Dual  |
|-----------------|-------|
| 1               | +Vin  |
| 2               | -Vin  |
| 5               | -Vout |
| 6               | Com   |
| 7               | +Vout |
| XX.X ± 0.5 mm   |       |
| XX.XX ± 0.25 mm |       |