

## Features

## Unregulated Converters

Rev.0

- EN 60950 certified, rated for 250VAC
- UL-60950-1 / CSA C22.2 certified
- 5.2kVDC Isolation for 1 Minute
- Optional Continuous Short Circuit Protected
- Wide Operating Temperature Range at full 2 Watts Load, -40°C to +85°C
- Twin Chamber Transformer System
- UL94V-0 Package Material
- Efficiency to 80 %

## Description

The RxxP2xx\_S\_D Series of DC/DC Converters are fully certified to EN 60950/ UL-60950-1 and CSA C22.2. This makes them ideal for all telecom and safety applications where approved isolation is required.

## Selection Guide

Part Number	Input Voltage (VDC)	Output Voltage (VDC)	Output Current (mA)	Efficiency (%)
RxxP23.3S	5, 12, 15, 24	3.3	600	70
RxxP205S	5, 12, 15, 24	5	400	70-75
RxxP209S	5, 12, 15, 24	9	222	70-75
RxxP212S	5, 12, 15, 24	12	167	70-75
RxxP215S	5, 12, 15, 24	15	132	75-80
RxxP23.3D	5, 12, 15, 24	±3.3	±300	70
RxxP205D	5, 12, 15, 24	±5	±200	70-75
RxxP209D	5, 12, 15, 24	±9	±111	70-75
RxxP212D	5, 12, 15, 24	±12	±85	70-75
RxxP215D	5, 12, 15, 24	±15	±66	75-80

xx = Input Voltage. Other input and output voltage combinations available on request.

\* add Suffix "P" for Continuous Short Circuit Protection, e.g. R05P205S/P, R05P205D/P

## Specifications (measured at $T_A = 25^\circ\text{C}$ , nominal input voltage, full load and after warm-up)

Input Voltage Range			±10%
Output Voltage Accuracy			±5%
Line Voltage Regulation			1.2%/1% of $V_{in}$ typ.
Load Voltage Regulation (10% to 100% full load)	3.3, 5V output types		15% max.
	other output types		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. / 80% max.
No Load Power Consumption			148mW min. / 220mW typ. / 355mW max.
Isolation Voltage (tested for 1 minute)			5200VDC min.
Rated Working Voltage (long term isolation)			see Application Notes
Isolation Capacitance			1.5pF min. / 10pF max.
Isolation Resistance			15 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			4.3g
MTBF (+25°C)	} Detailed Information see Application Notes chapter "MTBF"	using MIL-HDBK 217F Single types	2113 x 10 <sup>3</sup> hours
		Dual types	2434 x 10 <sup>3</sup> hours
(+85°C)	}	using MIL-HDBK 217F Single types	299 x 10 <sup>3</sup> hours
		Dual types	334 x 10 <sup>3</sup> hours

## ECONOLINE

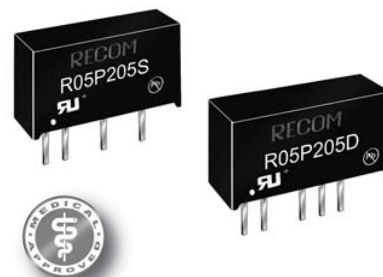
DC/DC-Converter

# RxxP2xx S\_D Series

## 2 Watt

## SIP 7

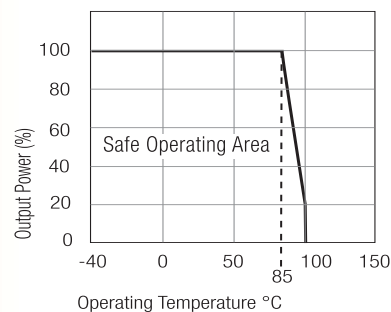
## Single & Dual Output



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

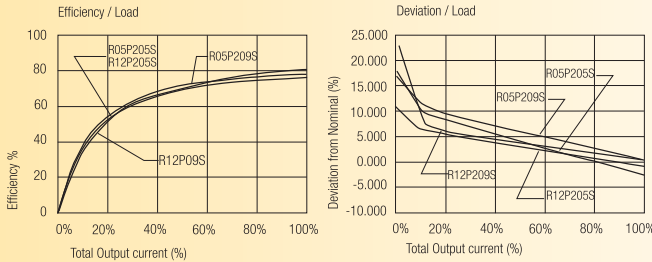
# RECOM

## Derating-Graph (Ambient Temperature)

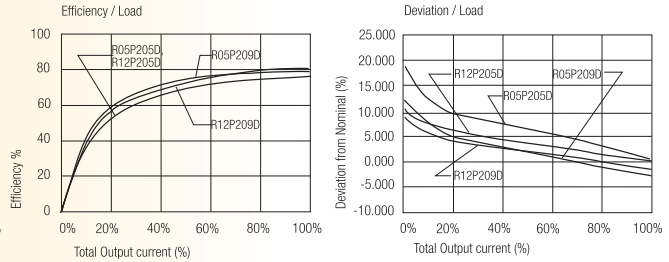


**Typical Characteristics, Tolerance Envelope**

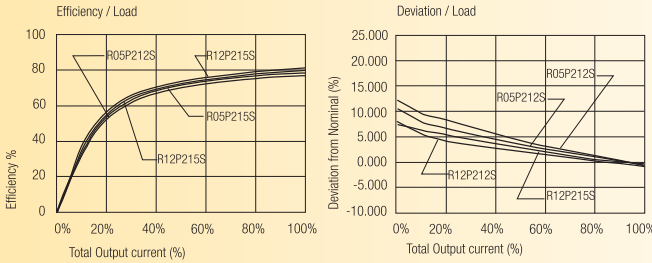
## RxxP205/09S



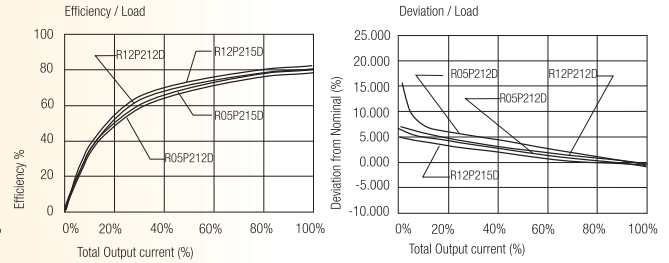
## RxxP205/09D



## RxxP212/15S

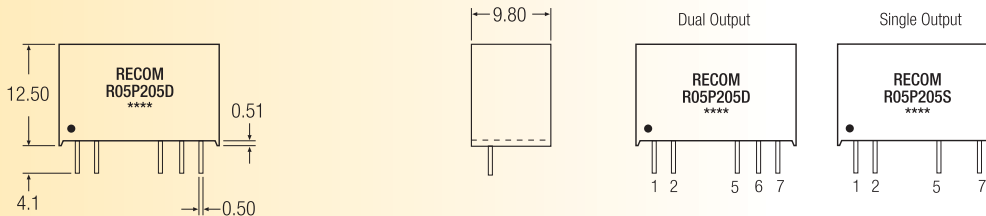


## RxxP212/15D

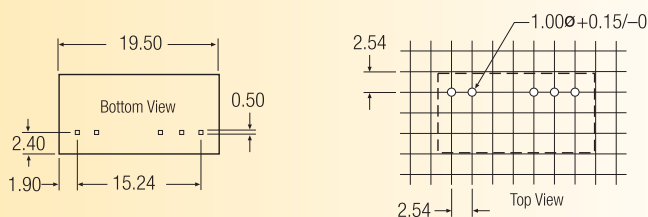


**Package Style and Pinning (mm)**

**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