

## 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 RxxP2xxS\_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<sub>A</sub> = 25°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 <sub>in</sub> 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				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				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

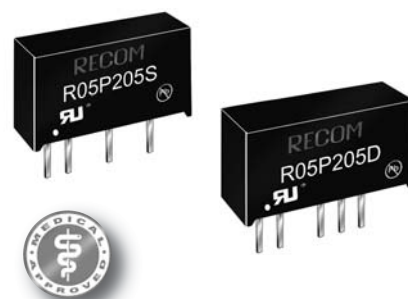
DC/DC-Converter

# RxxP2xx S\_D Series

2 Watt

SIP 7

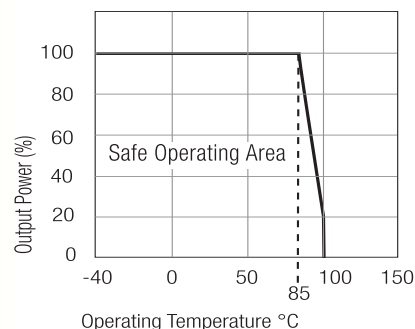
Single & Dual  
Output



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

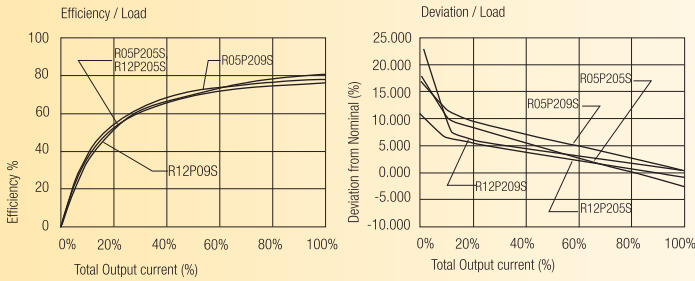
RECOM

## Derating-Graph (Ambient Temperature)

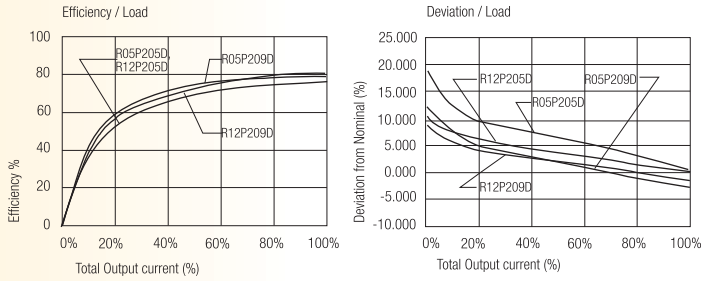


Typical Characteristics, Tolerance Envelope

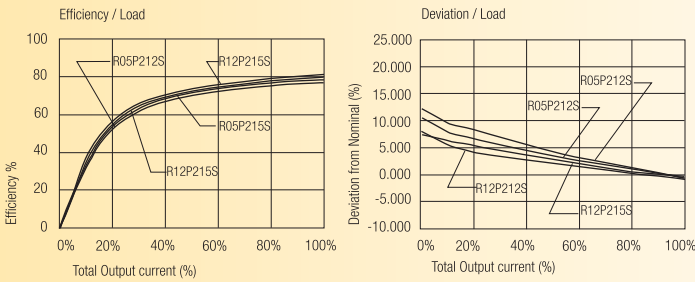
## RxxP205/09S



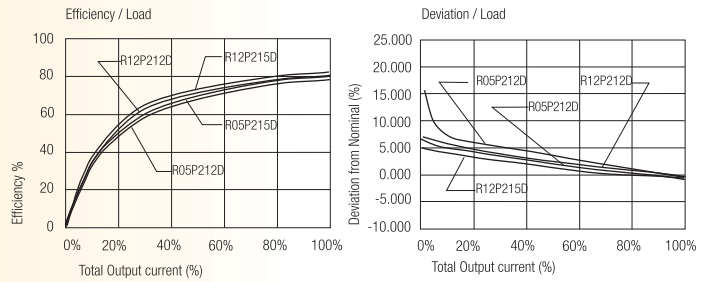
## RxxP205/09D



## RxxP212/15S

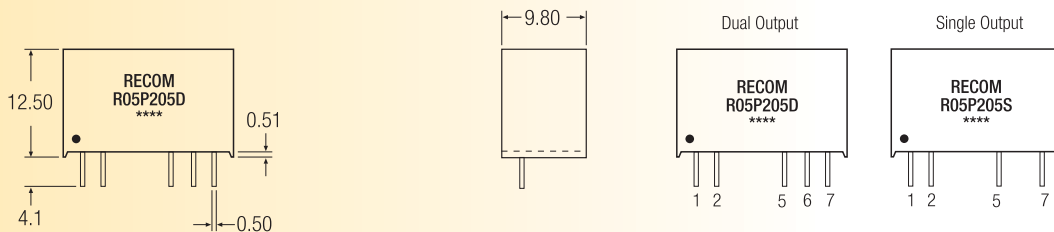


## RxxP212/15D

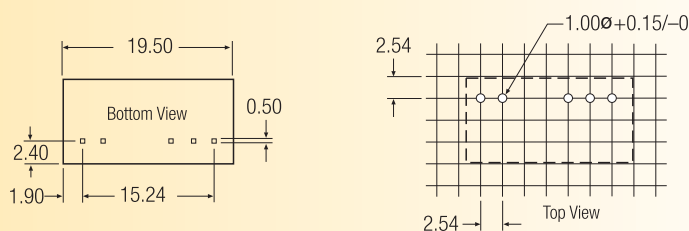


Package Style and Pinning (mm)

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