

Features

Unregulated Converters

- EN and UL Safety Certified
- Approved for Medical applications
- 5.2kVDC Isolation for 1 Minute
- Optional Continuous Short Circuit Protected
- Wide Operating Temperature Range at full Load
- Twin Chamber Transformer System
- UL94V-0 Package Material
- Efficiency to 80 %

Description

The RxxP2xx_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 SIP 7	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 Vin typ.		
Load Voltage Regulation (10% to 100% full load)	3.3, 5V output types other output types	15% max. 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 (see Note)	148mW min. / 450mW 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 10³ hours
			Dual types 2434 x 10³ hours
(+85°C)		using MIL-HDBK 217F	Single types 299 x 10³ hours
			Dual types 334 x 10³ hours

ECONOLINE

DC/DC-Converter

RECOM

2 Watt

SIP 7

Single & Dual Output

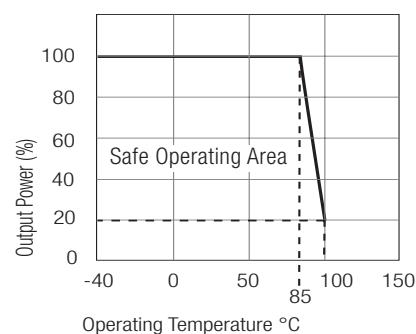


E-224736

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

RxxP2xx

Derating-Graph (Ambient Temperature)

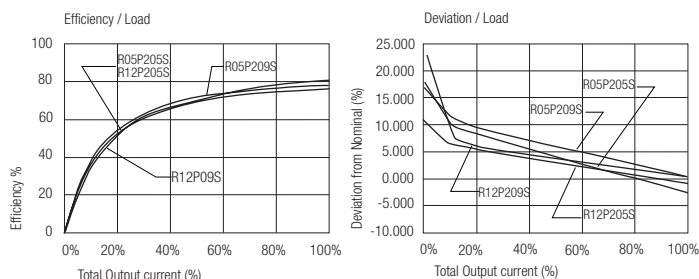


Refer to Application Notes

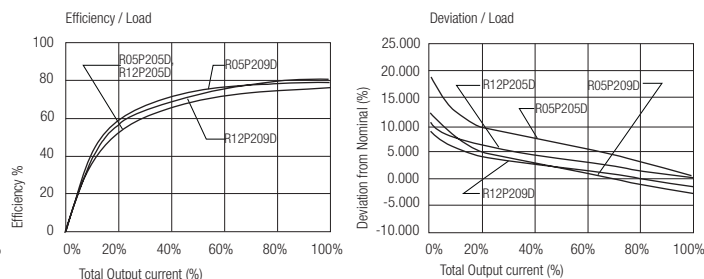
www.recom-electronic.com

Typical Characteristics, Tolerance Envelope

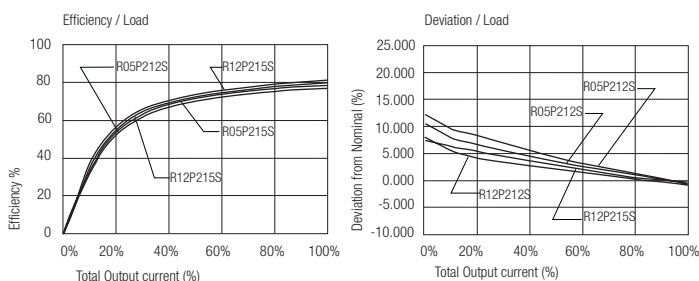
RxxP205/09S



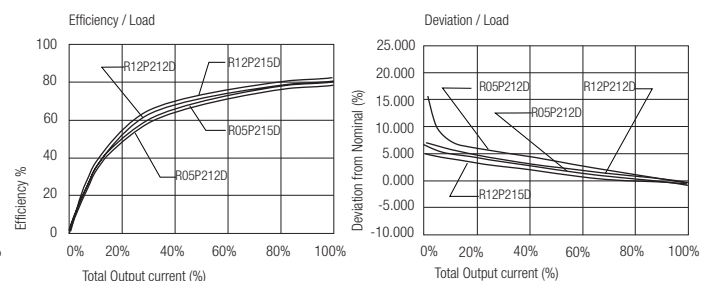
RxxP205/09D



RxxP212/15S

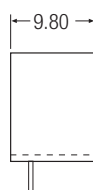
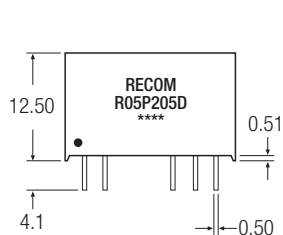


RxxP212/15D

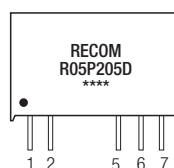


Package Style and Pinning (mm)

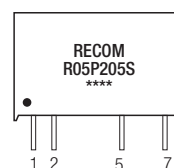
7 PIN SIP Package



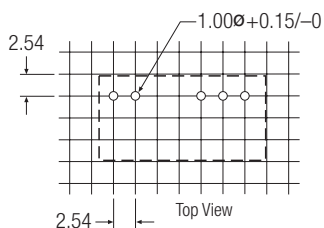
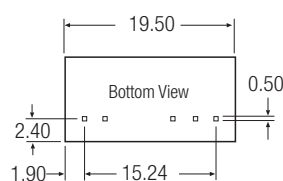
Dual Output



Single Output



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		

Note: No Load Power Consumption (including /P Options):

Vin = 5V	345mW typ. / 450mW max.
Vin = 12V	310mW typ. / 450mW max.
Vin = 15V	290mW typ. / 450mW max.
Vin = 24V	320mW typ. / 450mW max.