

Features

Unregulated Converters

- Pot-Core Transformer - separated windings
- High 5.2kVDC Isolation in compact size
- Optional Continuous Short Circuit Protected
- Pin Compatible with RH and RK Series
- Approved for Medical Applications
- UL and EN Certified
- Efficiency to 82 %

Description

The RP series has very high isolation of 5.2 kVDC in a compact size. The converters are EN-60601-1 certified, making them suitable for medical as well as IGBT driver applications

Selection Guide

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

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

* add Suffix "P" for Continuous Short Circuit Protection, e.g. RP-0505S/P, RP-0505D/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)	3.3V output types 5V output type 9V, 12V, 15V, 24V output types	20% max. 15% max. 10% max.
Output Ripple and Noise (20MHz limited)	100mVp-p max.	
Operating Frequency	57kHz min. / 100kHz typ. / 125kHz max.	
Efficiency at Full Load	70% min. / 80% typ.	
No Load Power Consumption	120mW min. / 156mW typ. / 460mW max.	
Maximum Capacitive Load	33µF / ±10µF	
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	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	2.4g	
Packing Quantity	25 pcs per Tube	
MTBF (+25°C)	Detailed Information see Application Notes chapter "MTBF"	using MIL-HDBK 217F 928 x 10 ³ hours
(+85°C)		using MIL-HDBK 217F 150 x 10 ³ hours

ECONOLINE

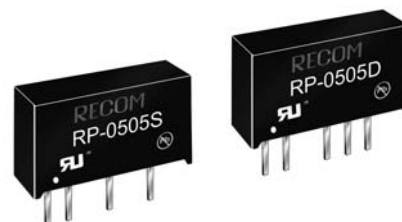
DC/DC-Converter

RECOM

1 Watt

SIP 7

Single & Dual Output



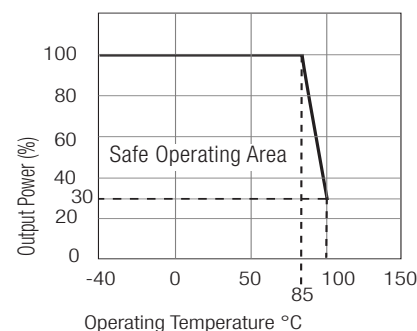
EN-60950-1 Certified

UL-60950-1 Certified

EN-60601-1 Certified

RP

Derating-Graph (Ambient Temperature)

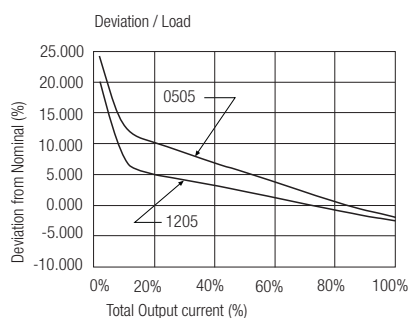
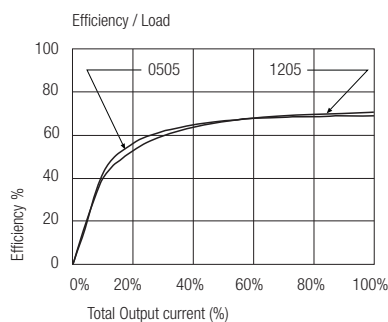


Refer to Application Notes

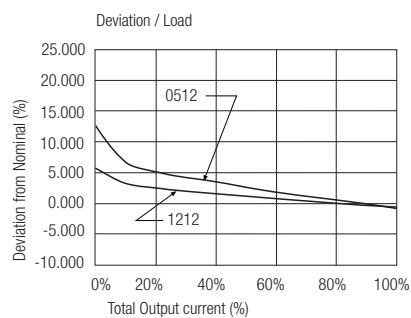
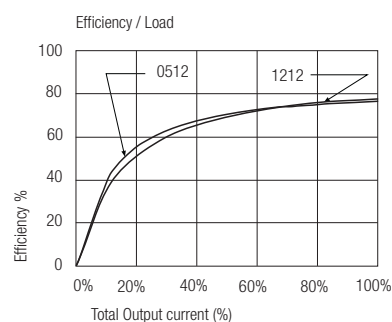
www.recom-electronic.com

Typical Characteristics

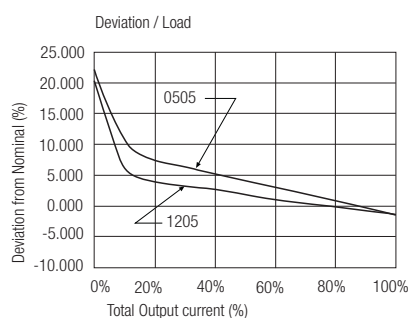
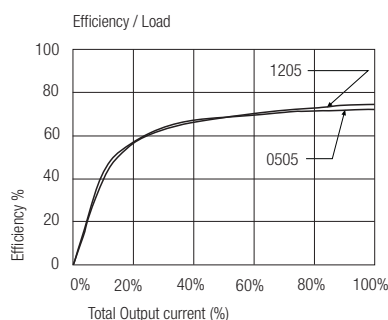
RP-xx05S



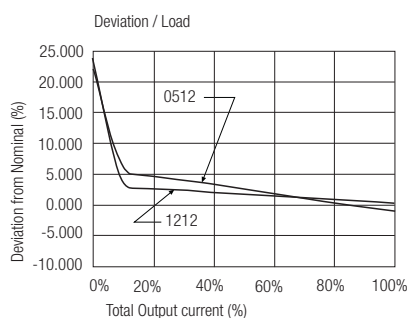
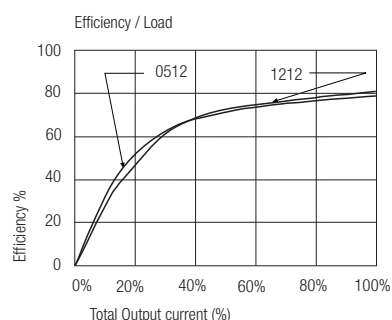
RP-xx12S



RP-xx05D

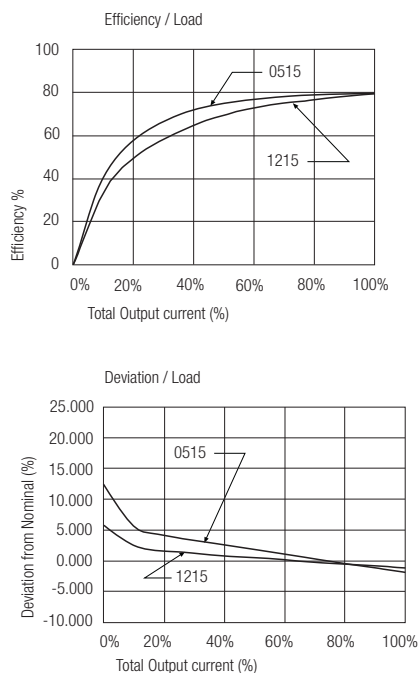


RP-xx12D

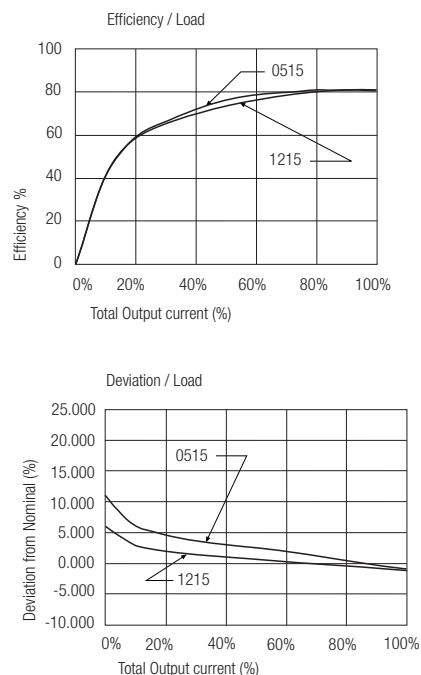


Typical Characteristics

RP-xx15S

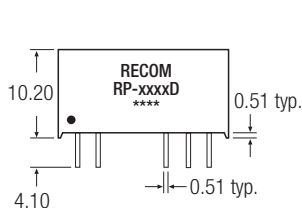


RP-xx15D

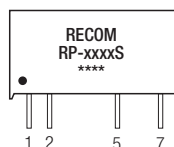


Package Style and Pinning (mm)

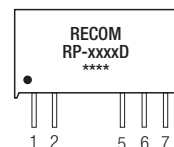
7 PIN SIP Package



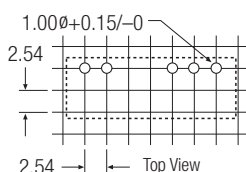
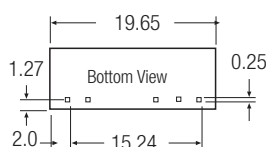
Single Output



Dual 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