

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	20% max.	
	5V output type	15% max.	
	9V, 12V, 15V, 24V output types	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) (+85°C)	} Detailed Information see Application Notes chapter "MTBF"	using MIL-HDBK 217F	928 x 10 ³ hours
		using MIL-HDBK 217F	150 x 10 ³ hours

ECONOLINE

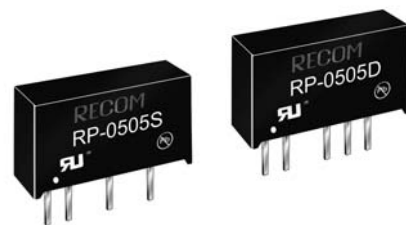
DC/DC-Converter

RECOM

1 Watt

SIP 7

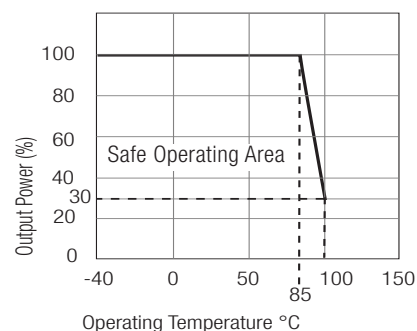
Single & Dual Output



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

RP

Derating-Graph (Ambient Temperature)

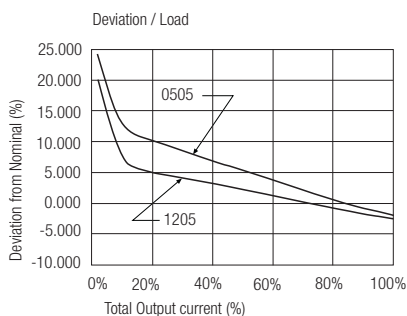
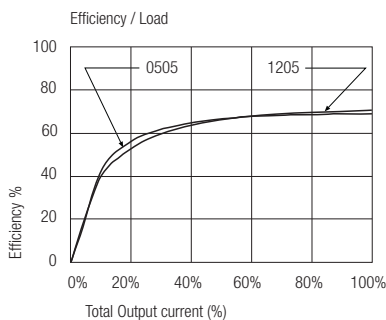


Refer to Application Notes

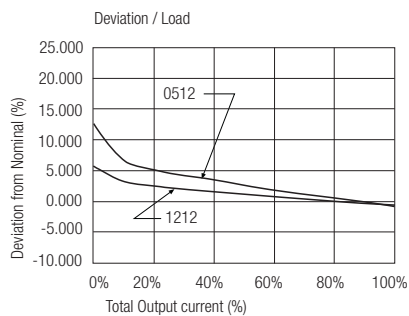
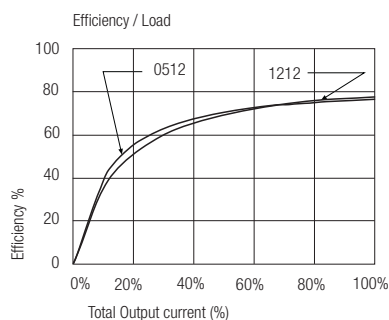
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Typical Characteristics

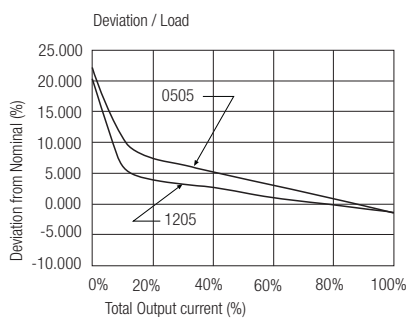
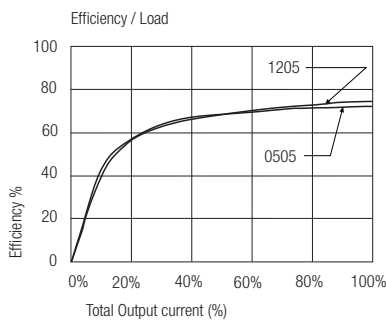
RP-xx05S



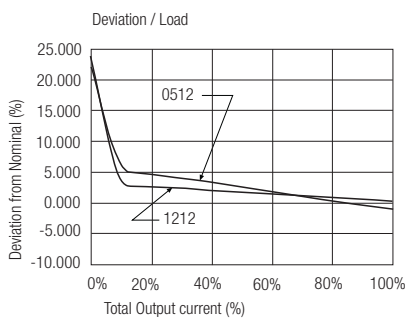
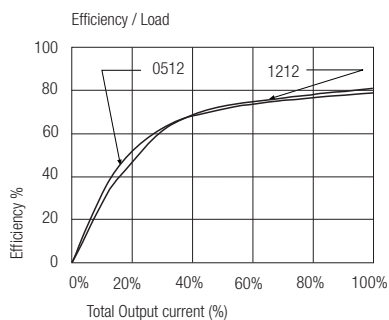
RP-xx12S



RP-xx05D

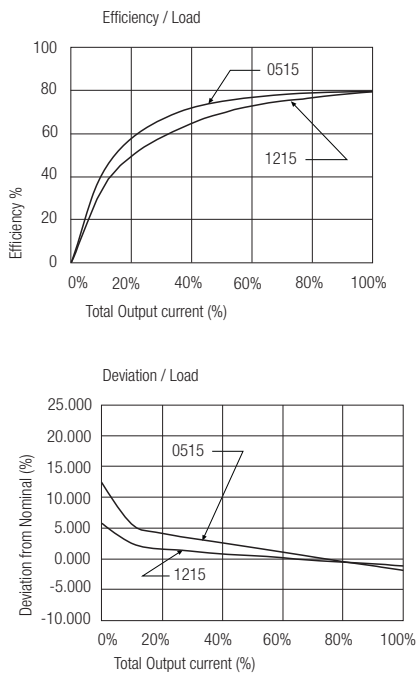


RP-xx12D

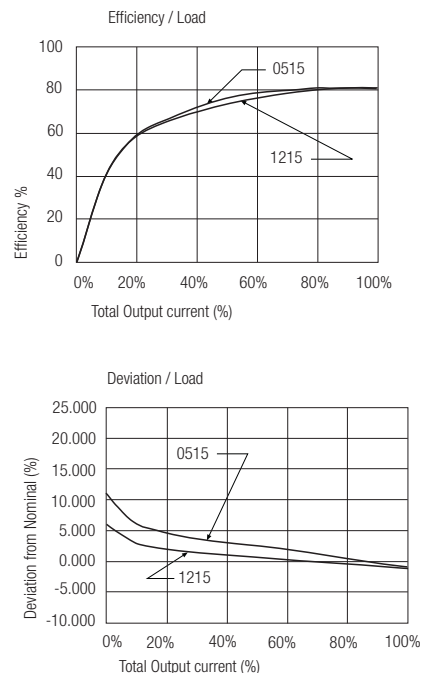


Typical Characteristics

RP-xx15S

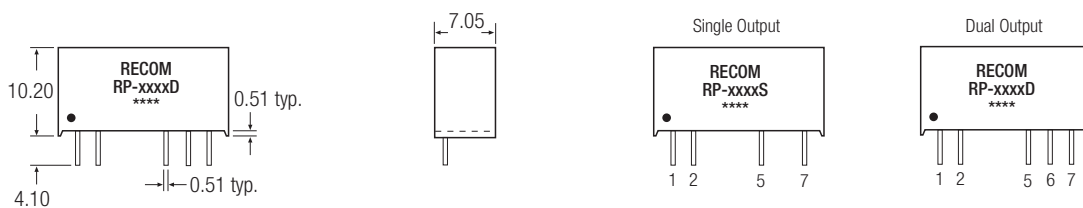


RP-xx15D

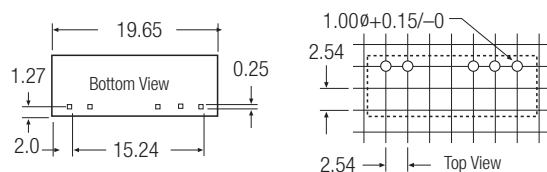


Package Style and Pinning (mm)

7 PIN SIP Package



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 \pm 0.5 mm
XX.XX \pm 0.25 mm