

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 and Lab Applications
- UL and EN Certified
- Efficiency to 82 %

ECONOLINE

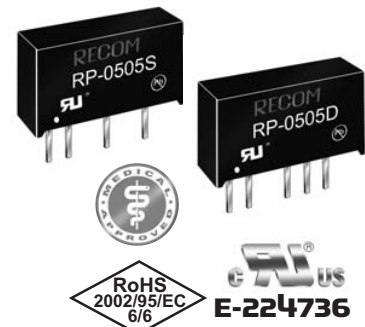
DC/DC-Converter

with 3 year Warranty

RECOM

1 Watt

SIP 7 Single & Dual Output



EN-60950-1 Certified
UL-60950-1 Certified
EN-60601-1 Certified
EN-61010-1 Certified

Selection Guide

Part Number SIP 7	Input Voltage (VDC)	Output Voltage (VDC)	Output Current (mA)	Efficiency (%)	Max Capacitive Load ⁽¹⁾
RP-xx3.3S	5, 9, 12, 15, 24	3.3	303	70	2200µF
RP-xx05S	5, 9, 12, 15, 24	5	200	70-72	1000µF
RP-xx09S	5, 9, 12, 15, 24	9	111	75	1000µF
RP-xx12S	5, 9, 12, 15, 24	12	84	75-78	470µF
RP-xx15S	5, 9, 12, 15, 24	15	66	80	470µF
RP-xx24S	5, 9, 12, 15, 24	24	42	80	220µF
RP-xx3.3D	5, 9, 12, 15, 24	±3.3	±152	70	±1000µF
RP-xx05D	5, 9, 12, 15, 24	±5	±100	74-76	±470µF
RP-xx09D	5, 9, 12, 15, 24	±9	±56	75	±470µF
RP-xx12D	5, 9, 12, 15, 24	±12	±42	79-82	±220µF
RP-xx15D	5, 9, 12, 15, 24	±15	±33	80-82	±220µF
RP-xx24D	5, 9, 12, 15, 24	±24	±21	80	±100µF

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

* add Suffix "/X2" for single output with alternative pinning e.g. RP-0505S/X2, RP-0505S/P/X2

RP

Specifications (measured at T_A = 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 Vin 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.
Minimum Load = 0%		Specifications valid for 10% minimum load only.
Isolation Voltage	(tested for 1 second) (rated for 1 minute)	5200VDC 2600VAC / 60Hz
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
(+85°C)		using MIL-HDBK 217F
		928 x 10 ³ hours
		150 x 10 ³ hours

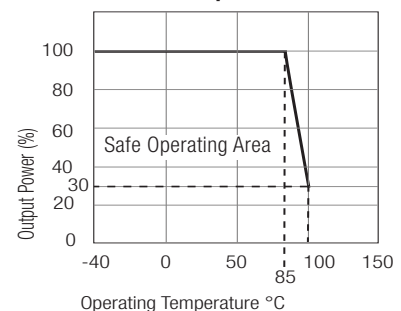
RP

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. They also have EN-61010-1 certification for laboratory use.

The /X2 version has rearranged pins to permit an input/output separation of more than 9mm.

Derating-Graph (Ambient Temperature)

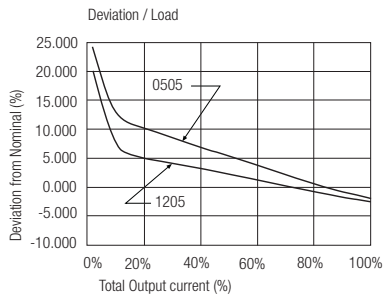
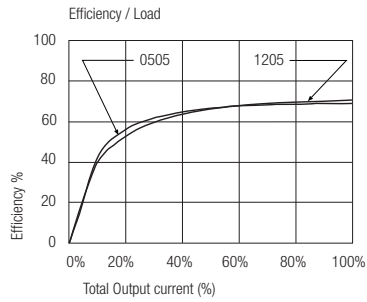


Refer to Application Notes

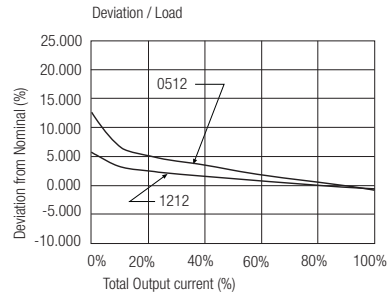
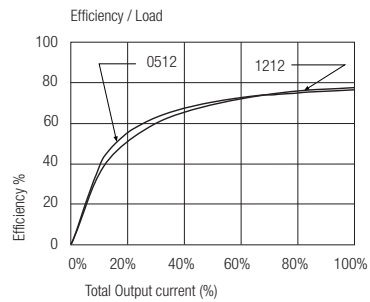
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Typical Characteristics

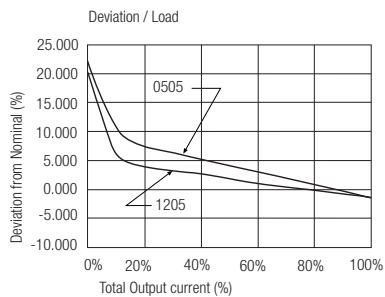
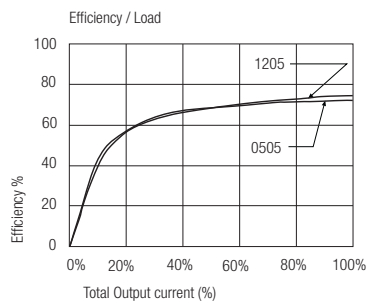
RP-xx05S



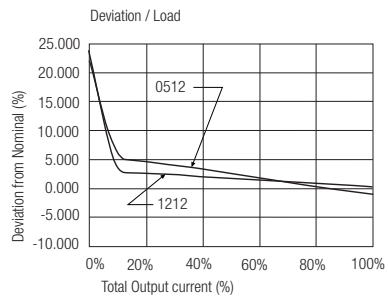
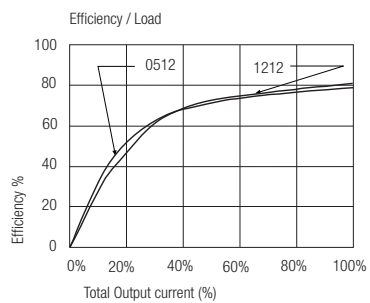
RP-xx12S



RP-xx05D



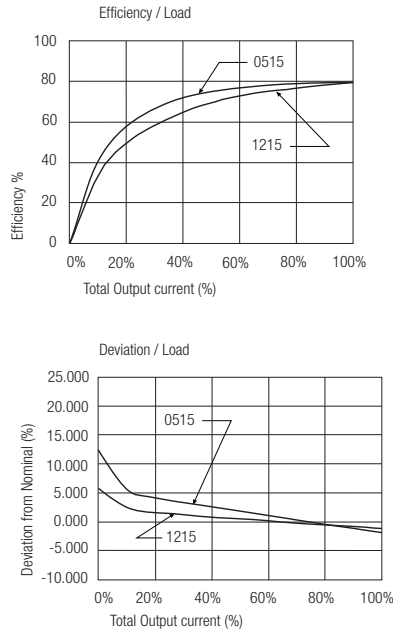
RP-xx12D



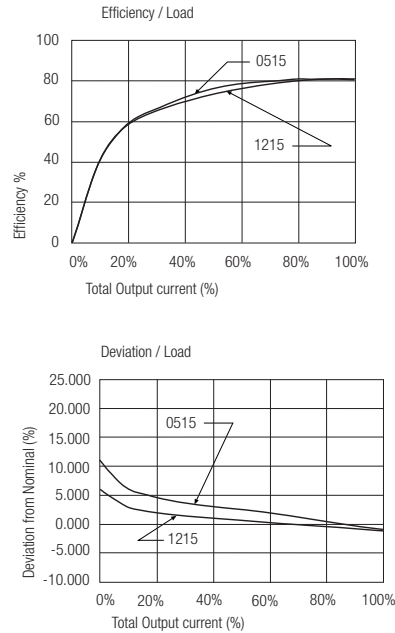
RP

Typical Characteristics

RP-xx15S



RP-xx15D



Notes

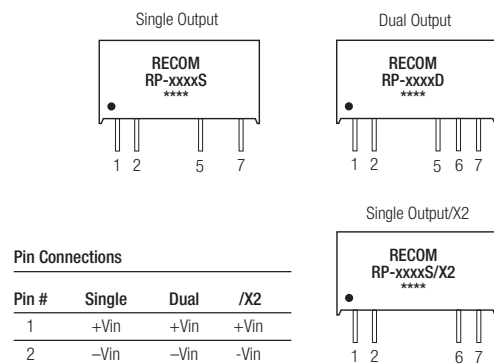
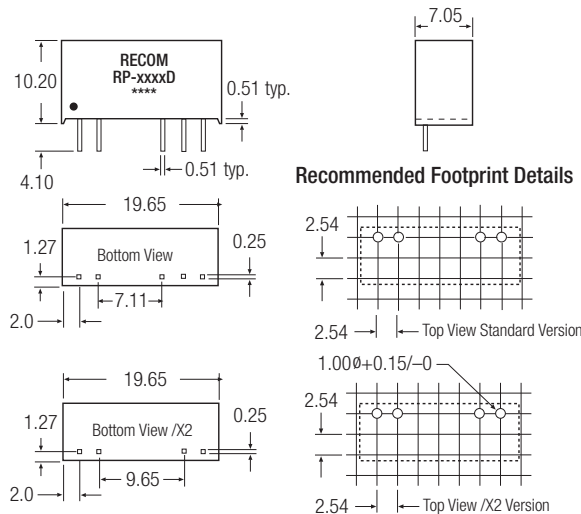
Note 1 Maximum capacitive load is defined as the capacitive load that will allow start up in under 1 second without damage to the converter.

Certifications

CSA General Safety	Report: E248550	CSA C22.2 No. 60950-1-03
UL General Safety	Report: E248550	UL 60950-1 1st Ed.
EN General Safety	Report: PS-R7219C1	EN60950-1:2001 + A11:2004
EN Medical safety	Report: PS090301601	EN 60601-1
EN Laboratory Safety	Report: PS080601010	EN61010-1:2001

Package Style and Pinning (mm)

7 PIN SIP Package



Pin Connections

Pin #	Single	Dual	/X2
1	+Vin	+Vin	+Vin
2	-Vin	-Vin	-Vin
5	-Vout	-Vout	No Pin
6	No Pin	Com	-Vout
7	+Vout	+Vout	+Vout

XX.X ± 0.5 mm
XX.XX ± 0.25 mm

