

## Features

## Unregulated Converters

Rev.0

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

### Description

RP series converters have very high isolation, making them suitable for IGBT driver and medical 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)

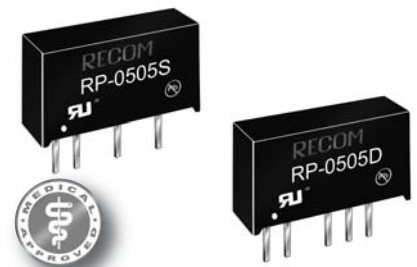
Input Voltage Range			±10%
Output Voltage Accuracy			±5%
Line Voltage Regulation			1.2%/1% of $V_{in}$ typ.
Load Voltage Regulation (10% to 100% full load)	3.3V output types	20% max.	
	5V output type	15% max.	
	9V, 12V, 15V, 24V output types	10% max.	
Output Ripple and Noise (20MHz limited)			100mVp-p max.
Operating Frequency			57kHz min. / 100kHz typ. / 105kHz 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 P-Suffix			1 Second 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
MTBF (+25°C)	} Detailed Information see Application Notes chapter "MTBF"	using MIL-HDBK 217F	928 x 10 <sup>3</sup> hours
(+85°C)		using MIL-HDBK 217F	150 x 10 <sup>3</sup> hours

## ECONOLINE

DC/DC-Converter

# RP Series

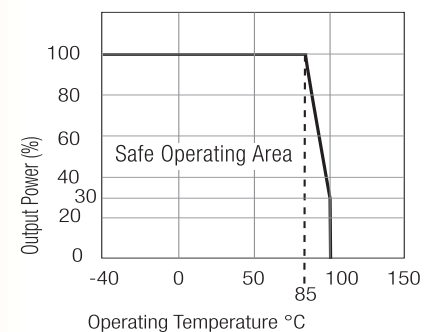
## 1 Watt SIP 7 Single & Dual Output



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

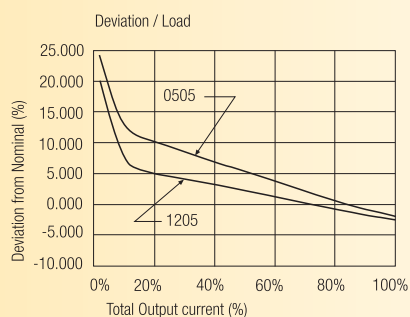
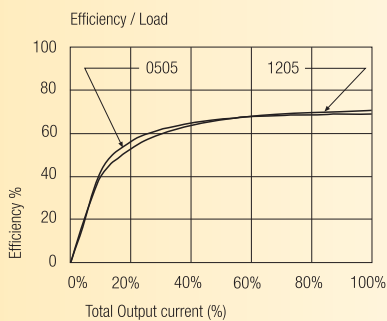
# RECOM

## Derating-Graph (Ambient Temperature)

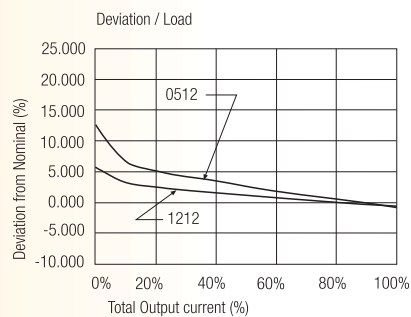
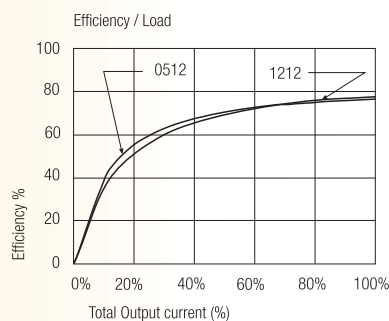


**Typical Characteristics**

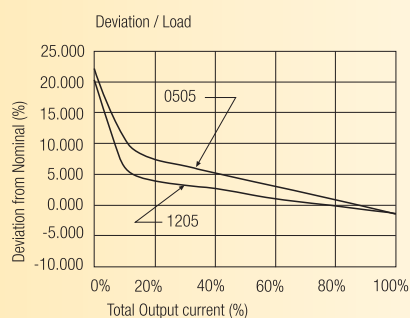
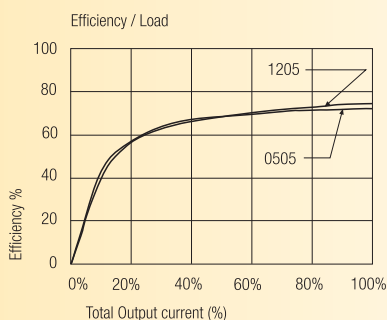
**RP-xx05S**



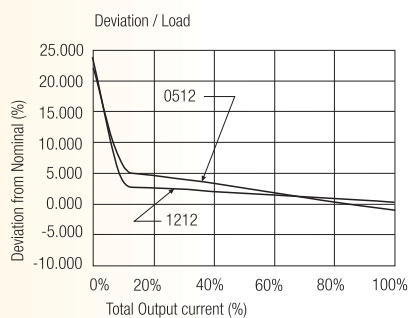
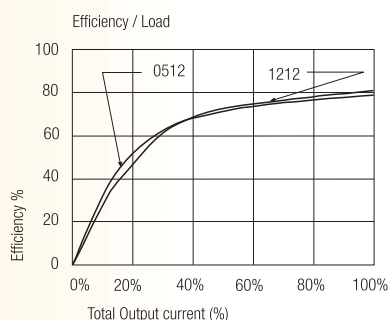
**RP-xx12S**



**RP-xx05D**

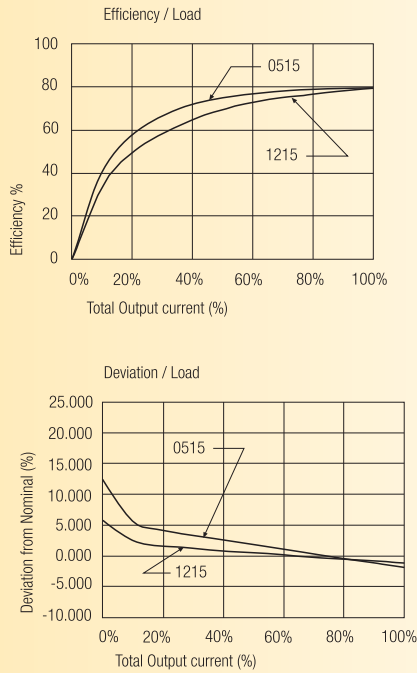


**RP-xx12D**

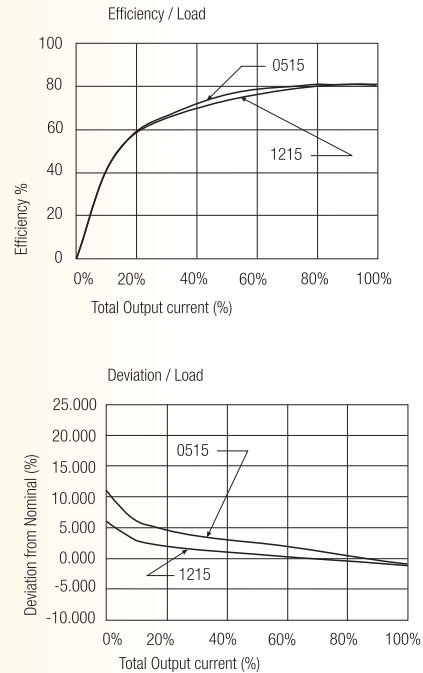


**Typical Characteristics**

**RP-xx15S**

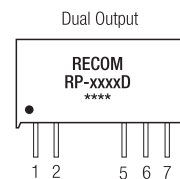
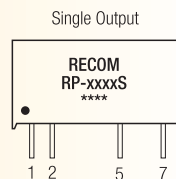
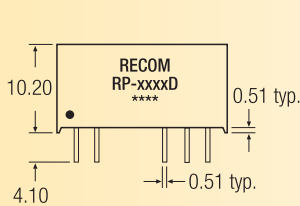


**RP-xx15D**

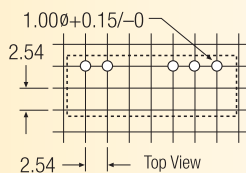
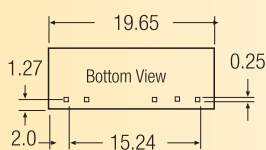


**Package Style and Pinning (mm)**

**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 ± 0.5 mm  
XX.XX ± 0.25 mm