

Features

Unregulated Converters

Rev.0

- High Isolation 2W Converter
- Approved for Medical Applications
- EN and UL Safety Certificates
- 6kVDC Isolation
- Skinny DIP24 Package
- Optional Continuous Short Circuit Protected
- Fully Encapsulated
- Very Low Isolation Capacitance

Description

High isolation in a small size are the main features of this miniature DIP16 converter, ideal for highly sophisticated industrial and medical designs where board space is at a premium.

Selection Guide

Part Number	Input	Rated Output	Output Current
	Voltage (VDC)	Voltage (VDC)	Full Load (mA)
DIP24 (SMD) Miniature			
RV-xx3.3S	3.3, 5, 9, 12, 15, 24	3.3	600
RV-xx05S	3.3, 5, 9, 12, 15, 24	5	400
RV-xx09S	3.3, 5, 9, 12, 15, 24	9	222
RV-xx12S	3.3, 5, 9, 12, 15, 24	12	167
RV-xx15S	3.3, 5, 9, 12, 15, 24	15	133
RV-xx24S	3.3, 5, 9, 12, 15, 24	24	83
RV-xx3.3D	3.3, 5, 12, 15, 24	±3.3	±300
RV-xx05D	3.3, 5, 12, 15, 24	±5	±200
RV-xx09D	3.3, 5, 12, 15, 24	±9	±111
RV-xx12D	3.3, 5, 12, 15, 24	±12	±83
RV-xx15D	3.3, 5, 12, 15, 24	±15	±67
RV-xx24D	3.3, 5, 12, 15, 24	±24	±42

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

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)		200mVp-p max.	
Operating Frequency		20kHz min. / 50kHz typ. / 85kHz max.	
Efficiency at Full Load		70% min. / 75% typ.	
No Load Power Consumption		282mW min. / 338mW typ. / 430mW max.	
Maximum Capacitive Load		47µF	
Isolation Voltage	(tested for 1 second)	6000VDC min.	
Rated Working Voltage	(long term isolation)	see Application Notes	
Isolation Capacitance		2pF min. / 12pF 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		9g	
MTBF (+25°C)	Detailed Information see Application Notes chapter "MTBF"	using MIL-HDBK 217F	1154 x 10 ³ hours
(+85°C)		using MIL-HDBK 217F	168 x 10 ³ hours

ECONOLINE

DC/DC-Converter

RV Series

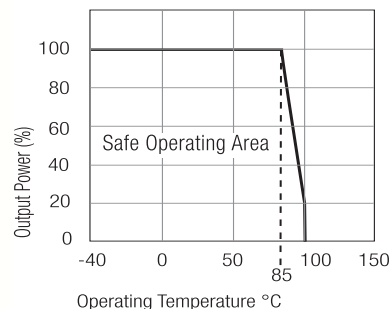
2 Watt DIP24 Miniature Single & Dual Output



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

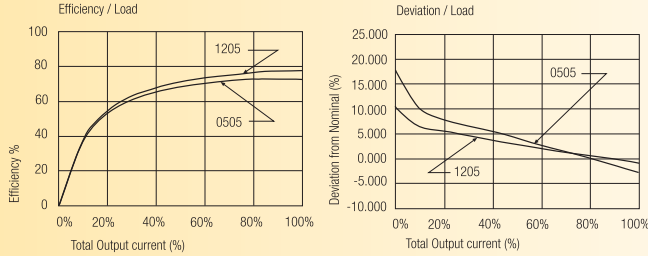
RECOM

Derating-Graph (Ambient Temperature)

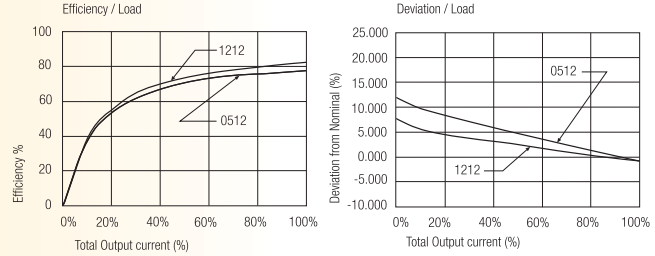


Typical Characteristics

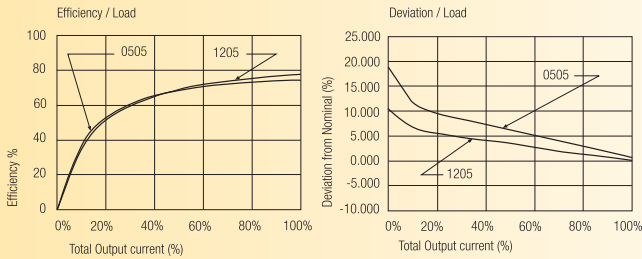
RV-xx05S



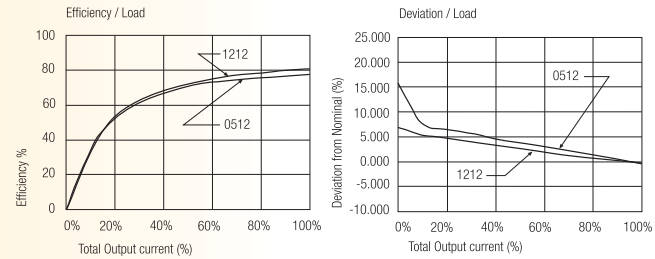
RV-xx12S



RV-xx05D

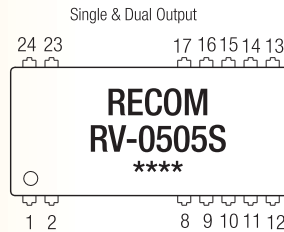
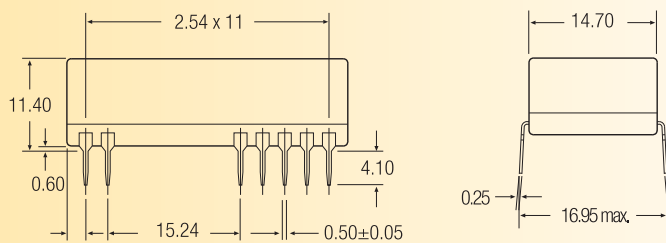


RV-xx12D

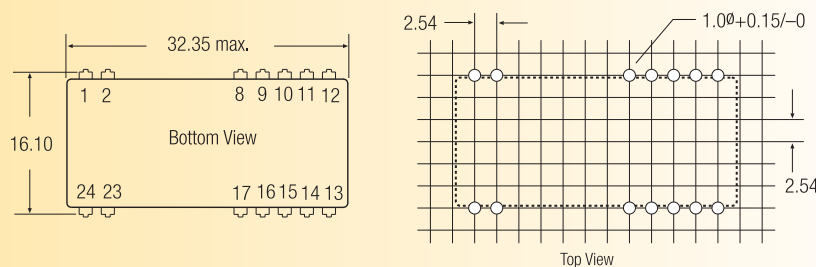


Package Style and Pinning (mm)

24 PIN DIP Miniature Package Style



Recommended Footprint Details



Pin Connections		Pin Connections	
Pin #	Single	Pin #	Dual
1	+Vin	1	+Vin
2	-Vin	2	-Vin
8, 9, 11, 14	NC	8, 17	-Vout
10, 15	-Vout	9, 11, 14, 16, 23, 24	NC
12 & 13	+Vout	10 & 15	Com
16, 17, 23, 24	NC	12, 13	+Vout

NC = No Connection

XX.X ± 0.5 mm
XX.XX ± 0.25 mm