

Features

Regulated Converters

- Low Cost 3W converter in DIP24 Package
- 1kVDC Isolation
- Regulated Output
- Continuous Short Circuit Protection
- Internal SMD design
- 3 Pinout Options, 3 Case Styles.
- Efficiency to 75%

Description

The REC3-SR/DR series is a low cost converter containing a built in linear regulator to give a regulated, load independent constant voltage output. The converter is designed to run from a regulated supply and is typically used to provide an isolated output or to generate dual rails from a single rail supply. The converters can deliver 140% rated power for short periods of time to cope with applications with large capacitive loads or high start up currents.

Selection Guide

Part Number DIP24 (SMD)	Input Voltage (VDC)	Output Voltage (VDC)	Output Current (mA)	Max Capacitive Load ⁽¹⁾
REC3-xx05SR/H1	5, 12, 24	5	600	4700µF
REC3-xx12SR/H1	5, 12, 24	12	250	2200µF
REC3-xx15SR/H1	5, 12, 24	15	200	2200µF
REC3-xx05DR/H1	5, 12, 24	±5	±300	±2200µF
REC3-xx12DR/H1	5, 12, 24	±12	±125	±1000µF
REC3-xx15DR/H1	5, 12, 24	±15	±100	±1000µF

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

* add suffix "/SMD" for SMD package, e.g. REC3-0505SR/H1/SMD

* add suffix "/M" for Metal Case, e.g. REC3-0505SR/H1/M

* add suffix "-R" for Tape and Reel packaging, e.g. REC3-0505SR/H1/SMD-R

Specifications (measured at $T_A = 25^\circ\text{C}$, nominal input voltage, full load and after warm-up)

Input Voltage Range	5V	4.5V - 5.75V
	12V	10.2V - 13.8V
	24V	20.4V - 27.6V
Output Voltage Accuracy		±3% typ.
Line Voltage Regulation		±0.5% max
Load Voltage Regulation (10% to 100% full load)		±1% max.
Minimum Load		0%
Output Ripple and Noise (at 20MHz BW)		100mVp-p max.
Operating Frequency		75kHz min.
Efficiency at Full Load		65% min.
No Load Power Consumption		300mW max.
Isolation Voltage	(tested for 1 second)	1000VDC
	(rated for 1 minute)	500VAC / 60Hz
Isolation Capacitance		30pF typ.
Isolation Resistance		1 GΩ min.
Short Circuit Protection		Continuous
Operating Temperature Range (free air convection)		-40°C to +80°C (see Graph)
Storage Temperature Range		-55°C to +125°C
Relative Humidity		95% RH
Thermal Impedance	Natural convection	20°C/W for plastic case
		12°C/W for metal case
Package Weight		12g
Packing Quantity		15 pcs per Tube
		100 pcs per Reel
MTBF (+25°C)	} Detailed Information see Application Notes chapter "MTBF"	using MIL-HDBK 217F
		950 x 10 ³ hours
(+80°C)		using MIL-HDBK 217F
		145 x 10 ³ hours

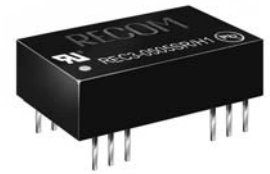
ECONOLINE

DC/DC-Converter

with 3 year Warranty

RECOM

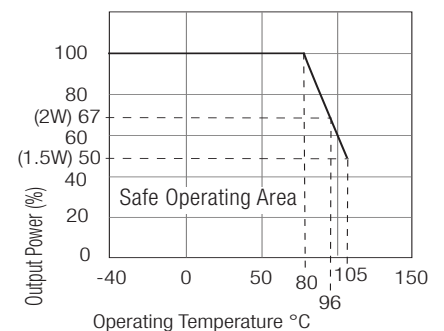
3 Watt DIP24 & SMD Single & Dual Output



EN-60950-1 Certified

REC3-S_DR

Derating-Graph (Ambient Temperature)



Refer to Application Notes

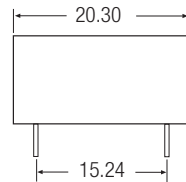
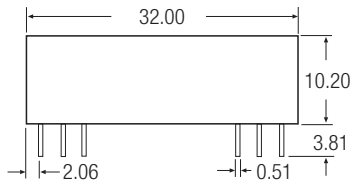
Specifications (continued)

Certifications EN General Safety Report: SPCLVD1212007 EN60950-1:2006 + A11:2009+A1:2010+A12:2011

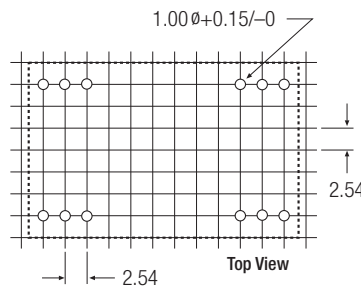
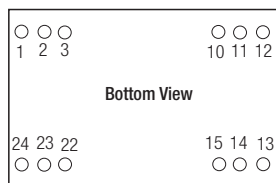
Notes
Note 1 Maximum capacitive load is defined as the capacitive load that will allow start up in under 1 second without damage to the converter

Package Style and Pinning (mm)

24 PIN DIP Package



Recommended Footprint Details



Pin Connections

Pin #	Single	Dual
1	+Vin	+Vin
2	No Pin	-Vout
3	No Pin	Com
10	-Vout	Com
11	+Vout	+Vout
12	-Vin	-Vin
13	-Vin	-Vin
14	+Vout	+Vout
15	-Vout	Com
22	No Pin	Com
23	No Pin	-Vout
24	+Vin	+Vin

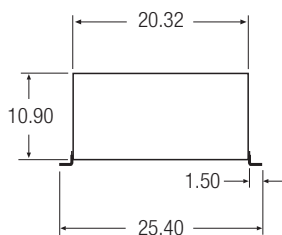
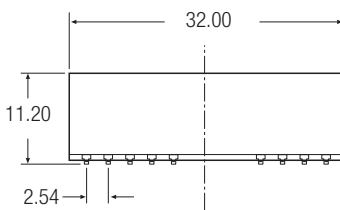
NC = No Connection

XX.X ± 0.5 mm
XX.XX ± 0.25 mm

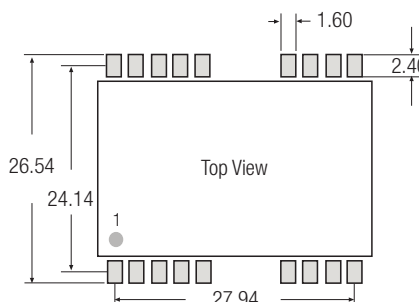
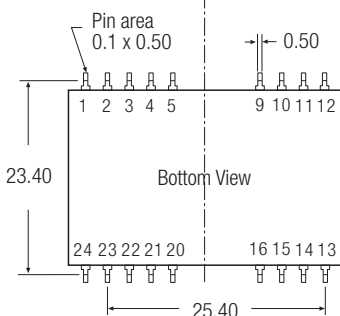


REC3-R

24 PIN DIP SMD Package



Recommended Footprint Details



Pin Connections

Pin #	Single	Dual
1	+Vin	+Vin
2	NC	-Vout
3	NC	Com
4	NC	NC
5	NC	NC
9	NC	NC
10	-Vout	Com
11	+Vout	+Vout
12	-Vin	-Vin
13	-Vin	-Vin
14	+Vout	+Vout
15	-Vout	Com
16	NC	NC
20	NC	NC
21	NC	NC
22	NC	Com
23	NC	-Vout
24	+Vin	+Vin

SMD pin connections follow standard package pinning.

All unused pins are NC (No Connection).