

Features

Regulated Converters

Rev.0

- Low Cost 3W converter in DIP24 Package
- 1kVDC Isolation
- Regulated Output
- UL Approved
- 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.

Selection Guide

| Part Cap. Load | Input Number | Output Voltage | Output Voltage | Max. Current |
|----------------|--------------|----------------|----------------|--------------|
| DIP24 (SMD) | (VDC) | (VDC) | (mA) | |
| REC3-xx05SR/H1 | 5, 12, 24 | 5 | 600 | 1000µF |
| REC3-xx12SR/H1 | 5, 12, 24 | 12 | 250 | 220µF |
| REC3-xx15SR/H1 | 5, 12, 24 | 15 | 200 | 120µF |
| REC3-xx05DR/H1 | 5, 12, 24 | ±5 | ±300 | ±470µF |
| REC3-xx12DR/H1 | 5, 12, 24 | ±12 | ±125 | ±100µF |
| REC3-xx15DR/H1 | 5, 12, 24 | ±15 | ±100 | ±68µF |

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

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

| | | | |
|---|---|----------------------------|-----------------------------|
| Input Voltage Range | | ±15% | |
| Output Voltage Accuracy | | ±3% typ. | |
| Line Voltage Regulation | | ±0.5% max | |
| Load Voltage Regulation (10% to 100% full load) | | ±1% max. | |
| 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 min. | |
| Rated Working Voltage | (long term isolation) | see Application Notes | |
| 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 metal case | |
| Package Weight | | 12g | |
| 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

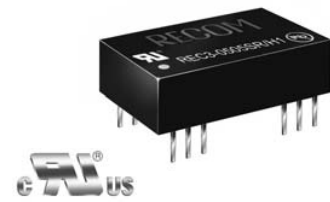
REC3-S_DR/H1 Series

3 Watt

DIP24 & SMD

Single & Dual

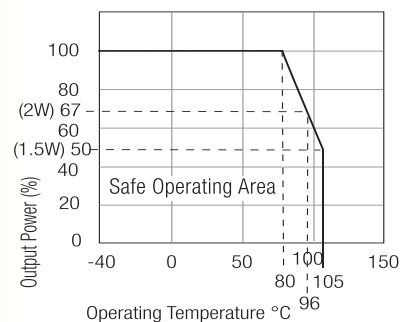
Output



UL-60950-1 Certified

RECOM

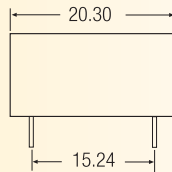
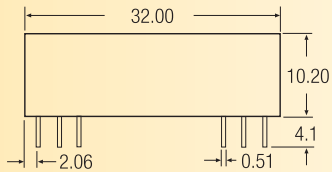
Derating-Graph (Ambient Temperature)



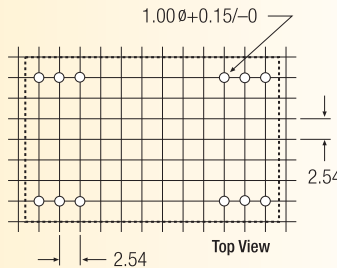
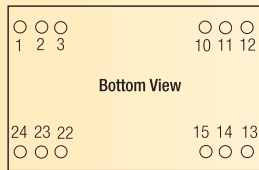
Package Style and Pinning (mm)



24 PIN DIP Package



Recommended Footprint Details

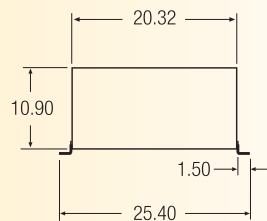
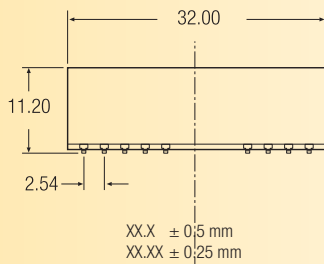


Pin Connections

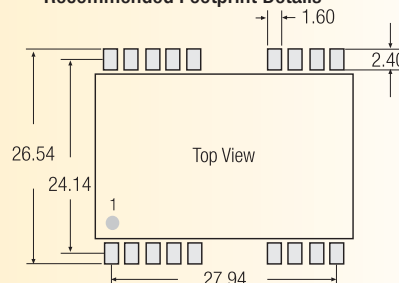
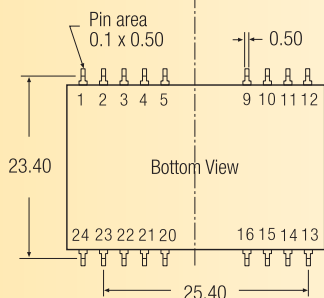
| Pin # | Single | Dual |
|-------|--------|-------|
| 1 | +Vin | +Vin |
| 2 | No Pin | -Vout |
| 3 | No Pin | Com |
| 10 | -Vout | Com |
| 11 | +Vout | +Vout |
| 12 | -Vin | -Vin |
| 13 | -Vin | -Vin |
| 14 | +Vout | +Vout |
| 15 | -Vout | Com |
| 22 | No Pin | Com |
| 23 | No Pin | -Vout |
| 24 | +Vin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

NC = No Connection
XX.X ± 0.5 mm
XX.XX ± 0.25 mm

24 PIN DIP SMD Package



Recommended Footprint Details



SMD pin connections follow standard package pinning.

All unused pins are NC (No Connection).

Pin Connections

| Pin # | Single | Dual |
|-------|--------|-------|
| 1 | +Vin | +Vin |
| 2 | NC | -Vin |
| 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 |