

## Features

### Regulated Converters

- 2.2W DIP Package
- 1kVDC Isolation
- Regulated Output
- UL94V-0 Package Material
- Continuous Short Circuit Protection
- Internal SMD design
- 100% Burned In
- Efficiency to 75%

## ECONOLINE

DC/DC-Converter

# REC2.2-S\_DR/H1 Series

2.2 Watt

DIP24 & SMD

Single & Dual Output

### Selection Guide

| Part Number       | Input Voltage (VDC) | Output Voltage (VDC) | Max Cap. Load (μF) | Output Current (mA) |
|-------------------|---------------------|----------------------|--------------------|---------------------|
| DIP24 (SMD)       | (VDC)               | (VDC)                | (μF)               | (mA)                |
| REC2.2-xx3.3SR/H1 | 5, 12, 24, 48       | 3.3                  | 1000               | 600                 |
| REC2.2-xx05SR/H1  | 5, 12, 24, 48       | 5                    | 470                | 440                 |
| REC2.2-xx09SR/H1  | 5, 12, 24, 48       | 9                    | 220                | 244                 |
| REC2.2-xx12SR/H1  | 5, 12, 24, 48       | 12                   | 120                | 183                 |
| REC2.2-xx15SR/H1  | 5, 12, 24, 48       | 15                   | 100                | 146                 |
| REC2.2-xx05DR/H1  | 5, 12, 24, 48       | ±5                   | ±220               | ±220                |
| REC2.2-xx09DR/H1  | 5, 12, 24, 48       | ±9                   | ±100               | ±122                |
| REC2.2-xx12DR/H1  | 5, 12, 24, 48       | ±12                  | ±68                | ±92                 |
| REC2.2-xx15DR/H1  | 5, 12, 24, 48       | ±15                  | ±47                | ±73                 |

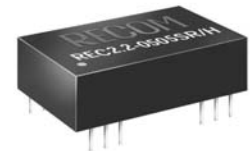
xx = Input Voltage

\* add suffix "/SMD" for SMD package, e.g. REC2.2-0505SR/H1/SMD

\* add suffix "/M" for Metal Case, e.g. REC2.2-0505SR/H1/M

### Specifications (Core Operating Area)

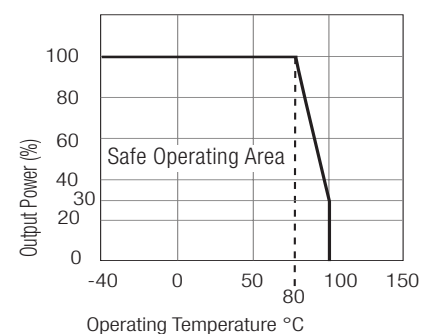
|   |   |                       |                              |
|---|---|-----------------------|------------------------------|
| Input Voltage Range                               | ±15%  |                       |                              |
| Output Voltage Accuracy                           | ±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                         | 200mW 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                         | -50°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   | 1000 x 10 <sup>3</sup> hours |
| (+80°C)   |   | using MIL-HDBK 217F   | 150 x 10 <sup>3</sup> hours  |



UL-60950-1 Certified

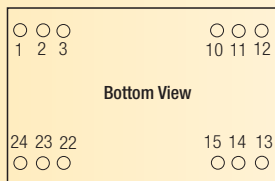
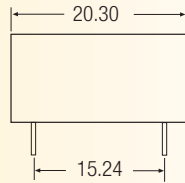
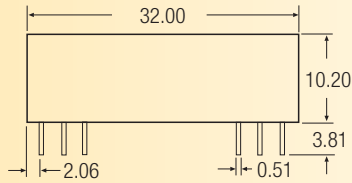


## Derating-Graph (Ambient Temperature)

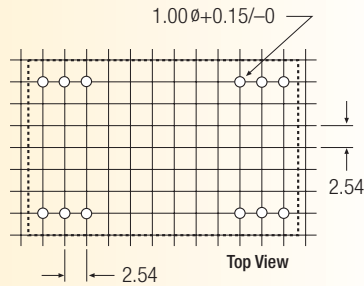


Package Style and Pinning (mm)

24 PIN DIP Package



Recommended Footprint Details

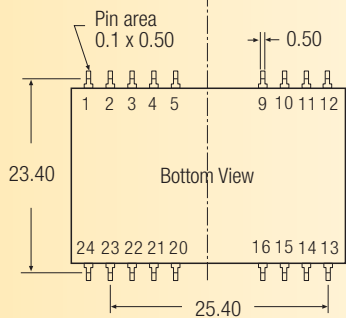
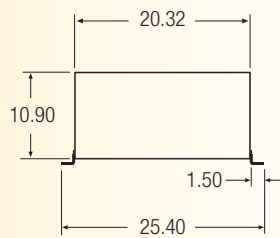
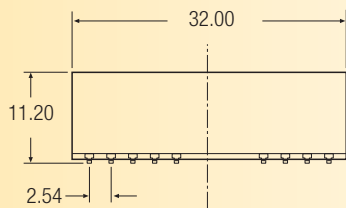


Pin Connections

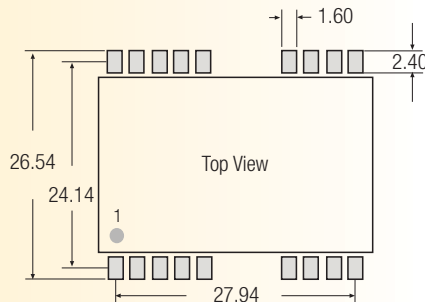
| Pin # | Single | Dual   |
|-------|--------|--------|
| 1     | +Vin   | +Vin   |
| 2     | No Pin | -Vout  |
| 3     | No Pin | Com    |
| 10    | -Vout  | Com    |
| 11    | + Vout | + Vout |
| 12    | -Vin   | -Vin   |
| 13    | -Vin   | -Vin   |
| 14    | + Vout | + Vout |
| 15    | -Vout  | Com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

XX.X ± 0.5 mm  
XX.XX ± 0.25 mm

24 PIN DIP SMD Package



Recommended Footprint Details



XX.X ± 0.5 mm  
XX.XX ± 0.25 mm

**All unused pins are NC (No Connection). SMD pin connections follow standard package pinning.**