

Features

Regulated Converters

- 7.5W DIP24 Package
- 1KVDC, 2KVDC and 3kVDC Isolation Options
- Approved for Medical Applications (/H3)
- UL and EN Safety Approvals
- Continuous Short Circuit Protection (power limiting)
- 5 Side Shielded Metal Case
- Full SMD design
- 2 Case Style Options
- Remote Pin Option
- Efficiency to 86 %

Description

The REC7.5-xxxxSRW/DRW-series offer single and dual regulated outputs in a DIP24 package with 1kV, 2kV or 3kV options and are suitable for higher power industrial or medical applications. Remote on/off control is possible with the /CTRL option and SMD pinning is offered with the /SMD option. 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 | Input Voltage (VDC) | Output Voltage (VDC) | Output Current (mA) | Efficiency (%) | Max Capacitive Load ⁽¹⁾ |
|------------------------|---------------------|----------------------|---------------------|----------------|------------------------------------|
| REC7.5-xx3.3SRW/H*/A/M | 9-18, 18-36, 36-72 | 3.3 | 1800 | 78 | 6800µF |
| REC7.5-xx05SRW/H*/A/M | 9-18, 18-36, 36-72 | 5 | 1500 | 79-82 | 6800µF |
| REC7.5-xx09SRW/H*/A/M | 9-18, 18-36, 36-72 | 9 | 833 | 81-84 | 6800µF |
| REC7.5-xx12SRW/H*/A/M | 9-18, 18-36, 36-72 | 12 | 625 | 82-85 | 6800µF |
| REC7.5-xx15SRW/H*/A/M | 9-18, 18-36, 36-72 | 15 | 500 | 83-86 | 6800µF |
| REC7.5-xx05DRW/H*/A/M | 9-18, 18-36, 36-72 | ±5 | ±750 | 79-82 | ±2200µF |
| REC7.5-xx09DRW/H*/A/M | 9-18, 18-36, 36-72 | ±9 | ±417 | 81-84 | ±2200µF |
| REC7.5-xx12DRW/H*/A/M | 9-18, 18-36, 36-72 | ±12 | ±312 | 82-85 | ±2200µF |
| REC7.5-xx15DRW/H*/A/M | 9-18, 18-36, 36-72 | ±15 | ±250 | 83-86 | ±2200µF |

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.

* add suffix /H1 for 1kVDC Isolation, /H2 for 2kVDC Isolation or /H3 for 3kVDC Isolation (not available in H3/A/M/SMD combination)

* add suffix "/SMD" for SMD package, e.g. REC7.5-2405DRW/H1/A/M/SMD

* add suffix "/CTRL" for Remote Pin option
no plastic case is available for REC7.5

2:1

xx = 9-18Vin = 12V,

xx = 18-36Vin = 24,

xx = 36-72Vin = 48

ECONOLINE

DC/DC-Converter

with 3 year Warranty

RECOM

7.5 Watt DIP24 & SMD Single & Dual Output



E-224736

EN-60950-1 Certified

EN-60601-1 Certified

(Suffix H3)

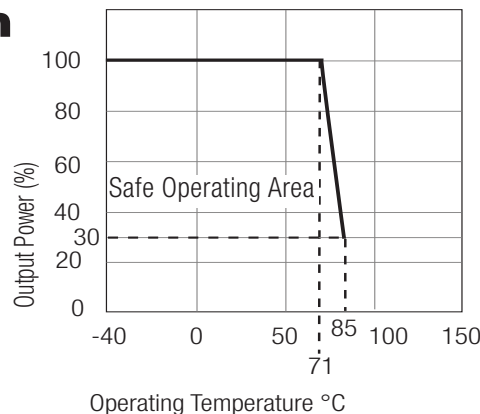
UL-60950-1 Certified

REC 7.5

Derating

Derating-Graph

(Ambient Temperature)

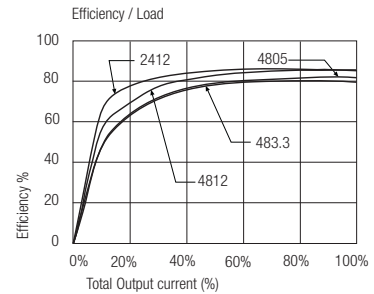


Specifications (measured at $T_A = 25^\circ\text{C}$, nominal input voltage, full load and after warm-up)

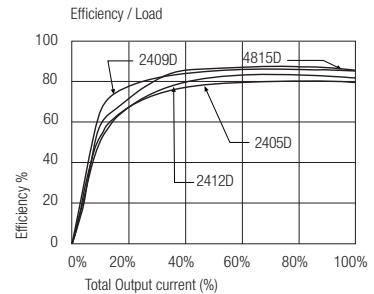
| | | | |
|---|--|---|------------------------------|
| Input Voltage Range | 2:1 | | |
| Output Voltage Accuracy | $\pm 2\%$ max. | | |
| Line Voltage Regulation | 0.4% max. | | |
| Load Voltage Regulation (25% to 100% full load) | 0.8% max. | | |
| Minimum Load | 0% | | |
| Output Ripple and Noise (at 20MHz BW) | 3.3V output type | 100mVp-p max. | |
| | 5, 9, 12 and 15V output types | 50mVp-p max. | |
| Operating Frequency (Full Load) | 150kHz min. / 240kHz max. | | |
| Input Filter | PI Network | | |
| Efficiency at Full Load | see Selection Guide | | |
| No Load Power Consumption | 300mW max. | | |
| Isolation Voltage | /H1 Version | (tested for 1 second) (rated for 1 minute) | 1000VDC 500VAC / 60Hz |
| | /H2 Version | (tested for 1 second) (rated for 1 minute) | 2000VDC 1000VAC / 60Hz |
| | /H3 Version | (tested for 1 second) (rated for 1 minute) | 3000VDC 1500VAC / 60Hz |
| Isolation Capacitance | 50pFtyp. | | |
| Isolation Resistance | 1 $\text{G}\Omega$ min. | | |
| Short Circuit Protection (Max temp. = 50°C during short circuit conditions) | Continuous, Auto Restart | | |
| Operating Temperature Range (free air convection) | -40°C to $+71^\circ\text{C}$ (see Graph) | | |
| Storage Temperature Range | -55°C to $+125^\circ\text{C}$ | | |
| Relative Humidity | 95% RH | | |
| Case Material | Nickel Plated Metal with Non-Conductive Base | | |
| Thermal Impedance | Natural convection | 12 $^\circ\text{C}/\text{W}$ | |
| Package Weight | 16g | | |
| Packing Quantity | 15 pcs per Tube | | |
| MTBF ($+25^\circ\text{C}$) | } Detailed Information see Application Notes chapter "MTBF" | using MIL-HDBK 217F | 800 x 10 ³ hours |
| | | using MIL-HDBK 217F | >200 x 10 ³ hours |
| Certifications | UL General Safety Report: E248550 | UL 60950-1 1st Ed. C22.2 No. 60950-1-03 | |
| | | EN General Safety Report: LVD-2K05230 | EN60950-1:2001 |
| | EN Medical Safety Report: ETS-060065 | EN60601-1:1988 + A1: 1991 + A2: 1995 | |

REC7.5

Single

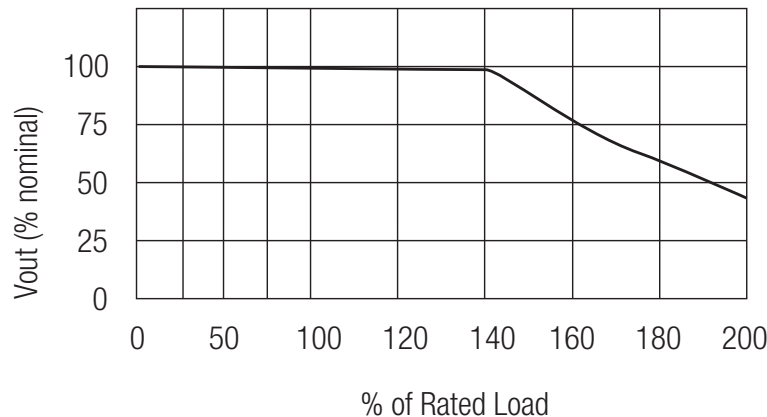


Dual



Typical Characteristics

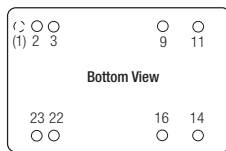
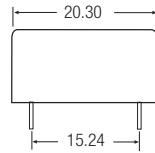
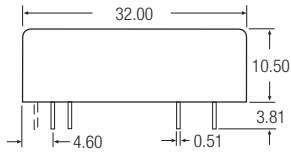
Overload Response



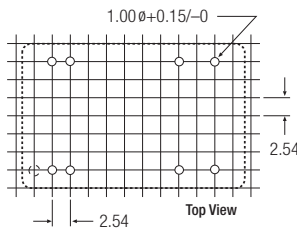
Package Style and Pinning (mm)



24 PIN DIP Package



Recommended Footprint Details



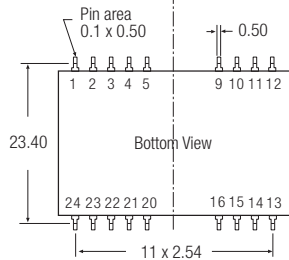
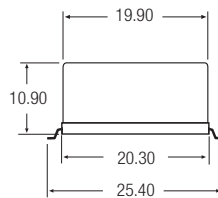
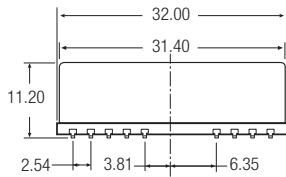
Pin Connections DIP24

| Pin # | Single | Dual |
|-------|-------------|-------------|
| 1 | CTRL/No Pin | CTRL/No Pin |
| 2 | -Vin | -Vin |
| 3 | -Vin | -Vin |
| 9 | NC | Com |
| 11 | NC | -Vout |
| 14 | +Vout | +Vout |
| 16 | -Vout | Com |
| 22 | +Vin | +Vin |
| 23 | +Vin | +Vin |

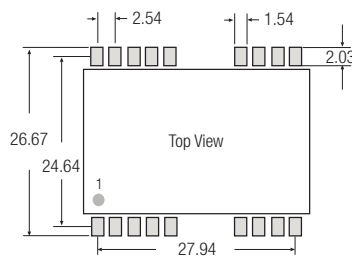
XX.X ± 0.5 mm
XX.XX ± 0.25 mm

24 PIN SMD Package

/H3/A/M/SMD combination is not allowed



Recommended Footprint Details



Pin Connections DIP24 SMD

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

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

REC7.5

CTRL Option

ON = Open or $0V < V_{ctrl} < 1.2V$
OFF = $2.2V < V_{ctrl} < 12V$

