

# Features

## Regulated Converters

- 7.5W DIP24 Package
- 1KVDC, 2KVDC and 3kVDC Isolation Options
- Approved for Medical Applications (/H)
- 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-xxxSRW/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 <sup>(1)</sup>
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

\* 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

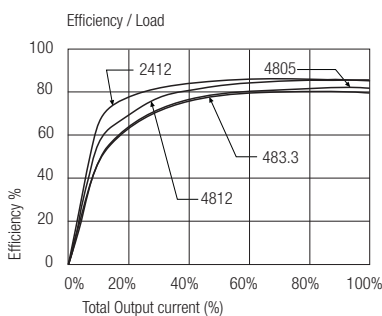
xx = 9-18Vin = 12V,

xx = 18-36Vin = 24,

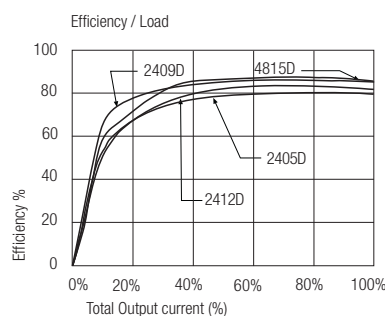
xx = 36-72Vin = 48

### Specifications (measured at T<sub>A</sub> = 25°C, nominal input voltage, full load and after warm-up)

#### Single



#### Dual



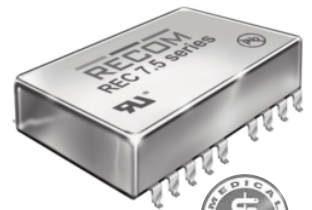
## ECONOLINE

DC/DC-Converter

with 3 year Warranty

# RECOM

## 7.5 Watt DIP24 & SMD Single & Dual Output



**E-358085**

**EN-60950-1 Certified**

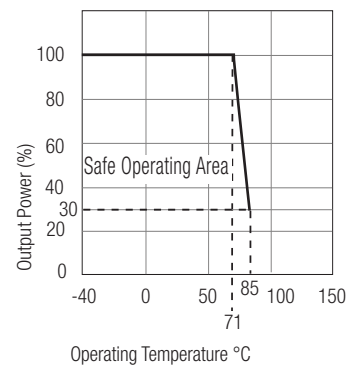
**EN-60601-1 Certified**

**UL-60950-1 Certified**

## REC 7.5

## Derating-Graph

(Ambient Temperature)



\*\*Any data referred to in this datasheet are of indicative nature and based on our practical experience only. For further details, please refer to our Application Notes.

Refer to Application Notes

**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			10% <sup>(2)</sup>
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-Suffix	(tested for 1 second) (rated for 1 minute**)	1000VDC
	H2-Suffix	(tested for 1 second) (rated for 1 minute**)	500VAC / 60Hz 2000VDC
	H3-Suffix	(tested for 1 second) (rated for 1 minute**)	1000VAC / 60Hz 3000VDC 1500VAC / 60Hz
Isolation Capacitance			50pFtyp.
Isolation Resistance			1 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°C (see Graph)
Storage Temperature Range			-55°C to +125°C
Relative Humidity			95% RH
Case Material			Nickel Plated Metal with Non-Conductive Base
Thermal Impedance	Natural convection		12°C/W
Package Weight			16g
Packing Quantity			15 pcs per Tube
MTBF (+25°C)	} <i>Detailed Information see Application Notes chapter "MTBF"</i>	using MIL-HDBK 217F	800 x 10 <sup>3</sup> hours
(+71°C)		using MIL-HDBK 217F	>200 x 10 <sup>3</sup> hours
Certifications			
UL General Safety	Report: E358085		UL 60950-1 1st Ed. C22.2 No. 60950-1-03 EN60950-1:2006 +A12:2011
EN General Safety	Report: SPCLVD1212007		
EN Medical Safety	Report: MDD1205098-3 + RM1205098-3 IEC/EN 60601-1 3rd Edition; Medical Report + ISO14971 Risk Assessment		

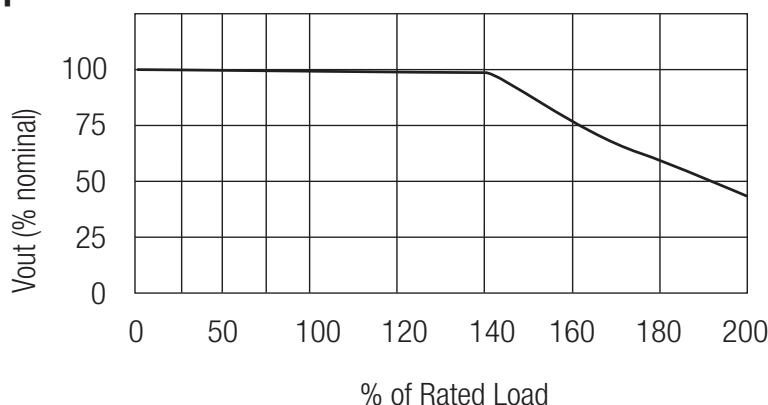
Notes

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.

Note 2: The REC 7.5 series requires a minimum of 10% load on the output to maintain specified regulation. Operating under no-load conditions will not damage these devices; however, they may not meet all listed specifications.

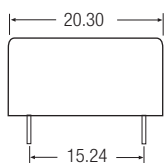
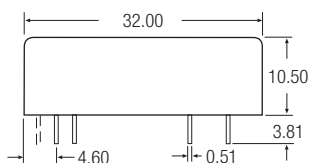
**Typical Characteristics**

## Overload Response

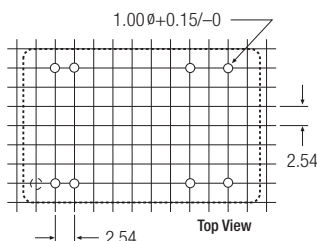
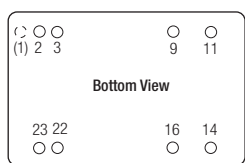


**Package Style and Pinning (mm)**

**24 PIN DIP Package**



**Recommended Footprint Details**



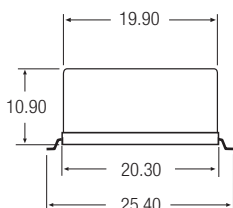
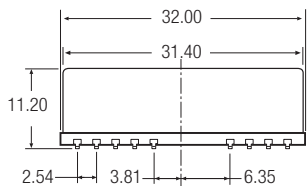
**Pin Connections DIP24**

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

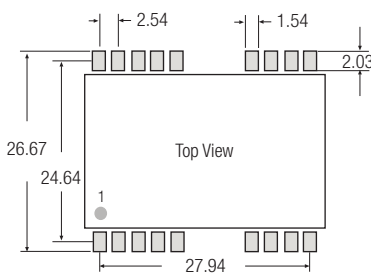
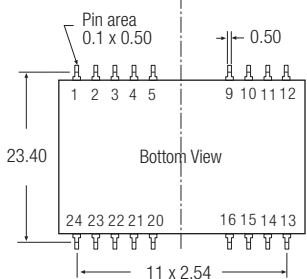
XX.X ± 0.5 mm  
XX.XX ± 0.25 mm

**24 PIN SMD Package**

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



**Recommended Footprint Details**



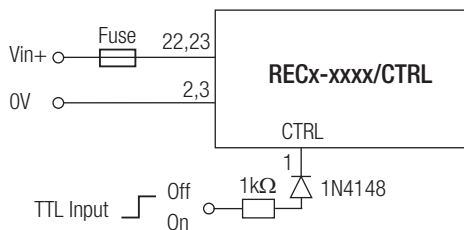
**Pin Connections DIP24 SMD**

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

**CTRL Option**

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



REC7.5