

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 ⁽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.

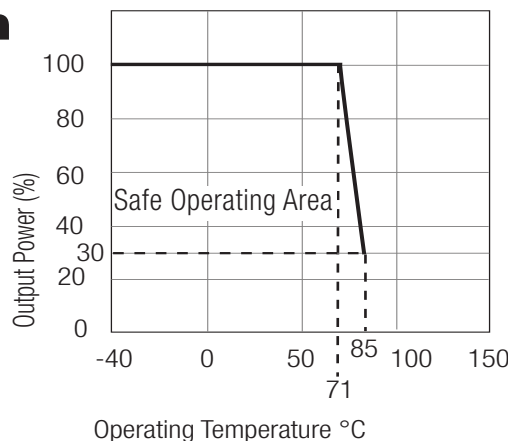
- * add suffix /H1 for 1kVDC Isolation, /H2 for 2kVDC isolation or /H3 for 3kVDC Isolation (not available in H3/A/M/SMD combination)
- * add suffix "/SMD" for SMD package, e.g. REC7.5-2405DRW/H1/A/M/SMD
- * add suffix "/CTRL" for Remote Pin option
- no plastic case is available for REC7.5

2:1

- xx = 9-18Vin = 12V,
- xx = 18-36Vin = 24,
- xx = 36-72Vin = 48

Derating

Derating-Graph (Ambient Temperature)



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
(* /H suffix)
UL-60950-1 Certified

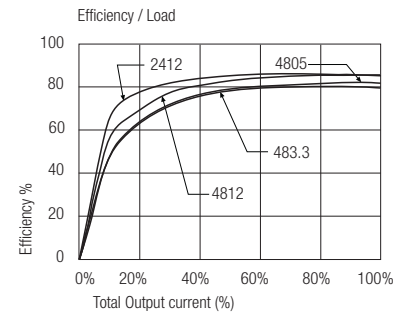
REC 7.5

Refer to Application Notes

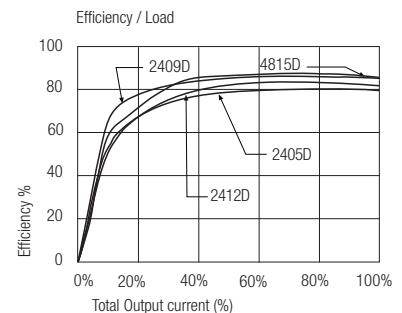
Specifications (measured at $T_A = 25^\circ\text{C}$, nominal input voltage, full load and after warm-up)

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	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)	1000VDC
	/H2 Version	(rated for 1 minute)	500VAC / 60Hz
	/H3 Version	(tested for 1 second)	2000VDC
	/H2 Version	(rated for 1 minute)	1000VAC / 60Hz
	/H3 Version	(tested for 1 second)	3000VDC
	/H3 Version	(rated for 1 minute)	1500VAC / 60Hz
Isolation Capacitance	50pFtyp.		
Isolation Resistance	1 G Ω 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)	} 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: SPCLVD1212007 EN60950-1:2006 +1:2010+A12:2011			
EN Medical Safety Report: MDD1205098-3 + RM1205098-3			
IEC/EN 60601-1 3rd Edition; Medical Report + ISO14971 Risk Assessment			

Single

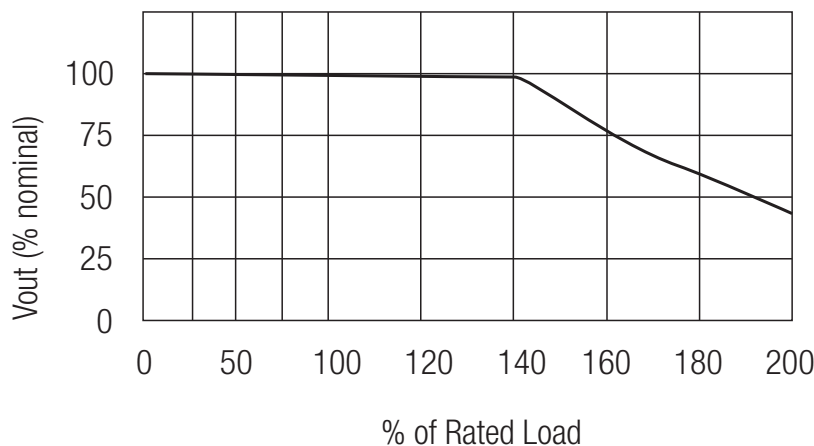


Dual



Typical Characteristics

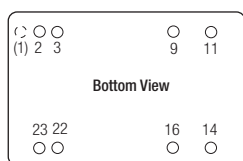
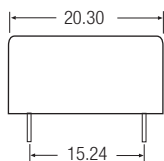
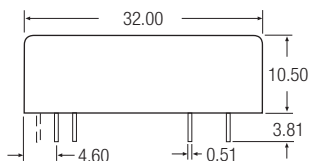
Overload Response



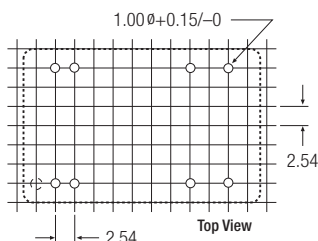
Package Style and Pinning (mm)



24 PIN DIP Package



Recommended Footprint Details



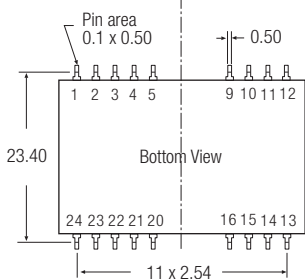
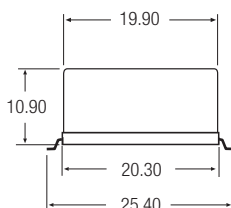
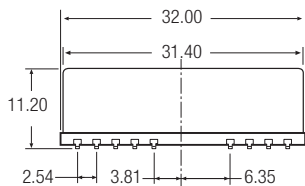
Pin Connections DIP24

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

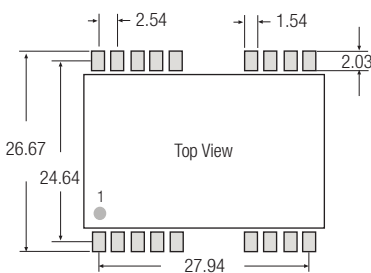
XX.X ± 0.5 mm
XX.XX ± 0.25 mm

24 PIN SMD Package

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



Recommended Footprint Details



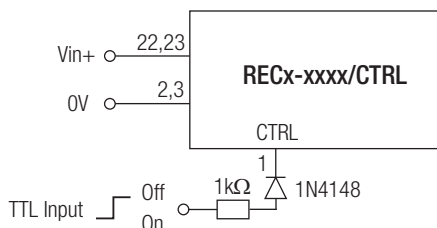
Pin Connections DIP24 SMD

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	
13,15,20,21,24	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