

Features

Regulated Converters

- 8W DIP24 Package
- 2KVDC and 3kVDC Isolation Options
- 2:1 and 4:1 Versions
- Continuous Short Circuit Protection (power limiting)
- Synchronous Rectification on 3.3, 5V outputs
- Full SMD internal design
- Through Hole or SMD Pinning Options
- Remote Control Pin
- Efficiency to 87%

Description

The REC8-xxxxSRW/DRW-series offer single and dual regulated outputs in a DIP24 package with 2kV or 3kV isolation options and are suitable for higher power industrial or medical applications. Remote on/off control is standard and SMD pinning is offered with the /SMD option. The converters can deliver 150% 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
REC8-xx3.3SRW/H*/A/M	4.5-9, 9-18, 18-36, 36-75	3.3	1600	83-85	2200µF
REC8-xx05SRW/H*/A/M	4.5-9, 9-18, 18-36, 36-75	5	1600	85-87	2200µF
REC8-xx12SRW/H*/A/M	4.5-9, 9-18, 18-36, 36-75	12	666	84-86	470µF
REC8-xx15SRW/H*/A/M	4.5-9, 9-18, 18-36, 36-75	15	533	84-86	220µF
REC8-xx05DRW/H*/A/M	9-18, 18-36, 36-75	±5	±800	84	±1000µF
REC8-xx12DRW/H*/A/M	4.5-9, 9-18, 18-36, 36-75	±12	±333	84-86	±220µF
REC8-xx15DRW/H*/A/M	4.5-9, 9-18, 18-36, 36-75	±15	±267	84-86	±100µF
REC8-xx3.3SRWZ/H*/A/M	9-36, 18-75	3.3	1600	84	2200µF
REC8-xx05SRWZ/H*/A/M	9-36, 18-75	5	1600	86	2200µF
REC8-xx12SRWZ/H*/A/M	9-36, 18-75	12	666	85	470µF
REC8-xx15SRWZ/H*/A/M	9-36, 18-75	15	533	85	220µF
REC8-xx05DRWZ/H*/A/M	9-36, 18-75	±5	±800	83	±1000µF
REC8-xx12DRWZ/H*/A/M	9-36, 18-75	±12	±333	85	±220µF
REC8-xx15DRWZ/H*/A/M	9-36, 18-75	±15	±267	85	±100µF

* Standard is /H2 for 2kVDC isolation, use /H3 for 3kVDC Isolation (not SMD)

* add suffix "/SMD" for SMD package, e.g. REC8-2405SRW/H2/A/M/SMD

* add suffix -R for Tape and Reel packaging (only available for SMD package)
e.g. REC8-2405SRW/H2/A/M/SMD-R

2:1
xx = 4.5-9Vin = 05,
xx = 9-18Vin = 12,
xx = 18-36Vin = 24,
xx = 36-75Vin = 48

4:1
xx = 9-36Vin = 24,
xx = 18-75Vin = 48

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

Input Voltage Range	2:1 & 4:1
Input Filter	PI Network
Output Voltage Accuracy	±1.5% max.
Line Voltage Regulation (VL to VH at full load)	±0.5% max.
Load Voltage Regulation	Single ±0.5% max.
(25% to 100% full load)	Dual ±1.2% max.
Cross Regulation (100%: 25% to 100% full load)	±5% max.
Output Ripple and Noise (with 100n output capacitor and 20MHz BW)	50mVp-p max.
Start-up time	300ms typ.
Operating Frequency (Full Load)	330kHz typ.
Efficiency at Full Load	see Selection Guide
Minimum Load	0%

continued on next page

ECONOLINE

DC/DC-Converter

with 3 year Warranty

RECOM

8 Watt DIP24 & SMD Single & Dual Output



E-224736

EN-60950-1 Certified
UL-60950-1 Certified
EN-60601-1 Certified

REC8

Refer to Application Notes

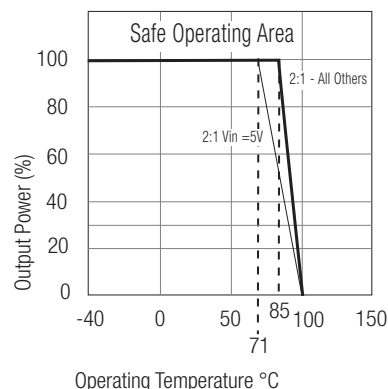
www.recom-power.com

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

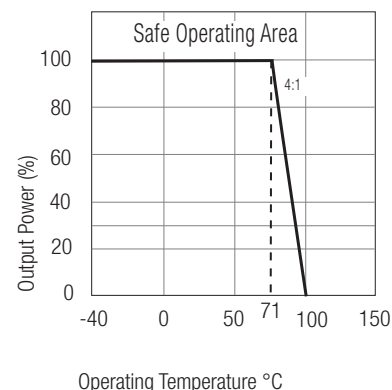
Input Surge Voltage (100ms max.)		5V Input	15VDC
		12V Input	36VDC
		24V Input	50VDC
		48V Input	100VDC
Isolation Voltage	H2-Suffix and SMD	(tested for 1 second)	2000VDC
	H3-Suffix	(rated for 1 minute**)	1000VAC / 60Hz
		(tested for 1 second)	3000VDC
		(rated for 1 minute**)	1500VAC / 60Hz
Isolation Capacitance			1200pF typ.
Isolation Resistance			1 GΩ min.
Overload Protection			150% typ.
Short Circuit Protection			Continuous, Auto Restart
Operating Temperature Range (free air convection)	4:1	-40°C to +71°C (see Graph)	
	2:1 - Vin=5V	-40°C to +71°C (see Graph)	
	2:1 - All Others	-40°C to +85°C (see Graph)	
Remote On/Off	DC/DC ON	Open or 3.5V<Vr<12V	
	DC/DC OFF	Short or 0V<Vr<1.2V	
Storage Temperature Range			-55°C to +105°C
Temperature Coefficient			±0.05% max.
Relative Humidity			95% RH max.
Case Material			Nickel Plated Metal with Non-Conductive Base
Thermal Impedance		Natural convection	12°C/W
Maximum Case Temperature			100°C
Vibration		10-55Hz, 2G, 30mins along X,Y & Z	
Package Weight			18g
Packing Quantity		Tube	15 pcs
		Tape and Reel	100 pcs
MTBF (+25°C) (+71°C)	} Detailed Information see Application Notes chapter "MTBF"	using MIL-HDBK 217F	1200 x 10³hours
		using MIL-HDBK 217F	>300 x 10³hours
Certifications			
EN General Safety	Report: SPCLVD1211033-2	EN60950-1:2006 +A12:2011	
UL General Safety	Report: E224736	UL 60950-1 1st Ed.	
		C22.2 No. 60950-1-03	
EN Medical Safety	Report: MDD12060585 + RM1206085	IEC/EN 60601-1 3rd Edition	
		Medical Report + ISO14971 Risk Assessment	

Derating-Graph (Ambient Temperature)

2:1 Converters



4:1 Converters

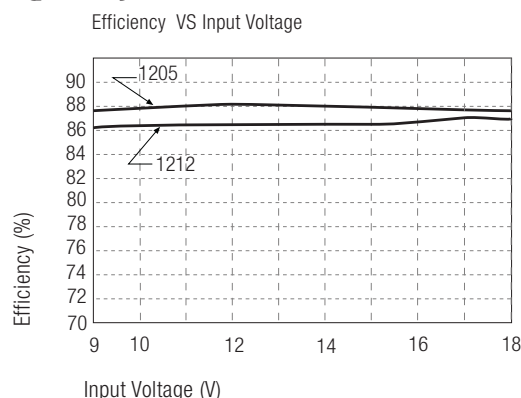
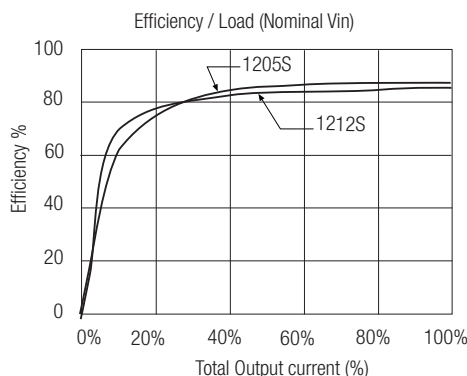


**Any data referred to in this datasheet are of indicative nature and based on our practical experience only.

For further details, please refer to our Application Notes.

Typical Characteristics

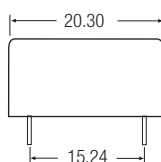
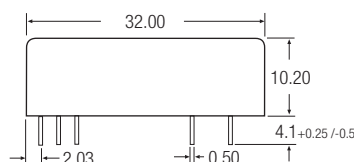
REC8-1205SRW/H2/A/M (/SMD) REC8-1212SRW/H2/A/M (/SMD)



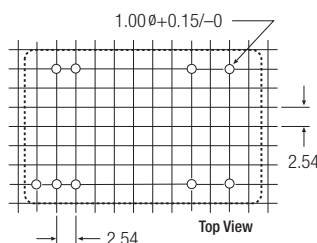
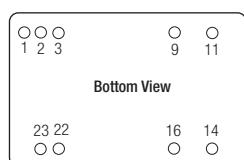
Note: Refer to Application Notes for EMC Class B Filter suggestion

Package Style and Pinning (mm)

24 PIN DIP Package - Available with /H2 and /H3 Options



Recommended Footprint Details



Pin Connections DIP24

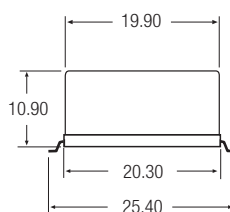
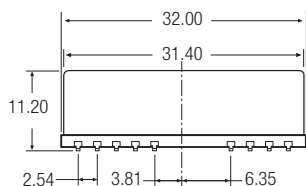
Pin #	Single	Dual
1	CTRL	CTRL
2	-Vin	-Vin
3	-Vin	-Vin
9	NC	Com
11	NC	-Vout
14	+Vout	+Vout
16	-Vout	Com
22	+Vin	+Vin
23	+Vin	+Vin

NC = No Connection

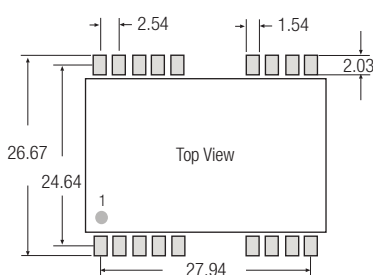
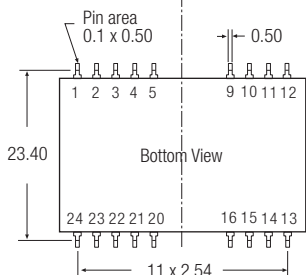
XX.X ± 0.5 mm

XX.XX ± 0.25 mm

24 PIN SMD Package - available with /H2 option only.



Recommended Footprint Details



Pin Connections DIP24 SMD

Pin #	Single	Dual
1	CTRL	CTRL
2	-Vin	-Vin
3	-Vin	-Vin
9	NC	Com
11	NC	-Vout
14	+Vout	+Vout
16	-Vout	Com
22	+Vin	+Vin
23	+Vin	+Vin
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

Mouser Electronics

Authorized Distributor

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RECOM:

[REC8-0505SRW/H3/A/M](#) [REC8-1205SRW/H3/A/M](#) [REC8-123.3SRW/H3/A/M](#) [REC8-2405SRWZ/H3/A/M](#) [REC8-2412DRWZ/H3/A/M](#) [REC8-2412SRWZ/H3/A/M](#) [REC8-2415DRWZ/H3/A/M](#) [REC8-2415SRWZ/H3/A/M](#) [REC8-243.3SRWZ/H3/A/M](#) [REC8-4805SRWZ/H3/A/M](#) [REC8-4812DRWZ/H3/A/M](#) [REC8-4812SRWZ/H3/A/M](#) [REC8-0505SRW/H2/A/M](#) [REC8-0505SRW/H2/A/M/SMD](#) [REC8-0505SRW/H2/A/M/SMD-R](#) [REC8-0512DRW/H2/A/M](#) [REC8-0512DRW/H2/A/M/SMD](#) [REC8-0512DRW/H2/A/M/SMD-R](#) [REC8-0512DRW/H3/A/M](#) [REC8-0512SRW/H2/A/M](#) [REC8-0512SRW/H2/A/M/SMD](#) [REC8-0512SRW/H2/A/M/SMD-R](#) [REC8-0512SRW/H3/A/M](#) [REC8-0515DRW/H2/A/M](#) [REC8-0515DRW/H2/A/M/SMD](#) [REC8-0515DRW/H2/A/M/SMD-R](#) [REC8-0515DRW/H3/A/M](#) [REC8-0515SRW/H2/A/M](#) [REC8-0515SRW/H2/A/M/SMD](#) [REC8-0515SRW/H2/A/M/SMD-R](#) [REC8-0515SRW/H3/A/M](#) [REC8-053.3SRW/H2/A/M](#) [REC8-053.3SRW/H2/A/M/SMD](#) [REC8-053.3SRW/H2/A/M/SMD-R](#) [REC8-053.3SRW/H3/A/M](#) [REC8-1205DRW/H2/A/M](#) [REC8-1205DRW/H2/A/M/SMD](#) [REC8-1205DRW/H2/A/M/SMD-R](#) [REC8-1205DRW/H3/A/M](#) [REC8-1205SRW/H2/A/M](#) [REC8-1205SRW/H2/A/M/SMD](#) [REC8-1205SRW/H2/A/M/SMD-R](#) [REC8-1212DRW/H2/A/M](#) [REC8-1212DRW/H2/A/M/SMD](#) [REC8-1212DRW/H2/A/M/SMD-R](#) [REC8-1212DRW/H3/A/M](#) [REC8-1212SRW/H2/A/M](#) [REC8-1212SRW/H2/A/M/SMD](#) [REC8-1212SRW/H2/A/M/SMD-R](#) [REC8-1212SRW/H3/A/M](#) [REC8-1215DRW/H2/A/M](#) [REC8-1215DRW/H2/A/M/SMD](#) [REC8-1215DRW/H2/A/M/SMD-R](#) [REC8-1215DRW/H3/A/M](#) [REC8-1215SRW/H2/A/M](#) [REC8-1215SRW/H2/A/M/SMD](#) [REC8-1215SRW/H2/A/M/SMD-R](#) [REC8-1215SRW/H3/A/M](#) [REC8-123.3SRW/H2/A/M](#) [REC8-123.3SRW/H2/A/M/SMD](#) [REC8-123.3SRW/H2/A/M/SMD-R](#) [REC8-2405DRW/H2/A/M](#) [REC8-2405DRW/H2/A/M/SMD](#) [REC8-2405DRW/H2/A/M/SMD-R](#) [REC8-2405DRW/H3/A/M](#) [REC8-2405DRWZ/H2/A/M](#) [REC8-2405DRWZ/H2/A/M/SMD](#) [REC8-2405DRWZ/H2/A/M/SMD-R](#) [REC8-2405DRWZ/H3/A/M](#) [REC8-2405SRW/H2/A/M](#) [REC8-2405SRW/H2/A/M/SMD](#) [REC8-2405SRW/H2/A/M/SMD-R](#) [REC8-2405SRW/H3/A/M](#) [REC8-2405SRWZ/H2/A/M](#) [REC8-2405SRWZ/H2/A/M/SMD](#) [REC8-2405SRWZ/H2/A/M/SMD-R](#) [REC8-2412DRW/H2/A/M](#) [REC8-2412DRW/H2/A/M/SMD](#) [REC8-2412DRW/H2/A/M/SMD-R](#) [REC8-2412DRW/H3/A/M](#) [REC8-2412DRWZ/H2/A/M](#) [REC8-2412DRWZ/H2/A/M/SMD](#) [REC8-2412DRWZ/H2/A/M/SMD-R](#) [REC8-2412SRW/H2/A/M](#) [REC8-2412SRW/H2/A/M/SMD](#) [REC8-2412SRW/H2/A/M/SMD-R](#) [REC8-2412SRW/H3/A/M](#) [REC8-2412SRWZ/H2/A/M](#) [REC8-2412SRWZ/H2/A/M/SMD](#) [REC8-2412SRWZ/H2/A/M/SMD-R](#) [REC8-2415DRW/H2/A/M](#) [REC8-2415DRW/H2/A/M/SMD](#) [REC8-2415DRW/H2/A/M/SMD-R](#) [REC8-2415DRW/H3/A/M](#) [REC8-2415DRWZ/H2/A/M](#) [REC8-2415DRWZ/H2/A/M/SMD](#) [REC8-2415DRWZ/H2/A/M/SMD-R](#) [REC8-2415SRW/H2/A/M](#) [REC8-2415SRW/H2/A/M/SMD](#) [REC8-2415SRW/H2/A/M/SMD-R](#)