

# 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%

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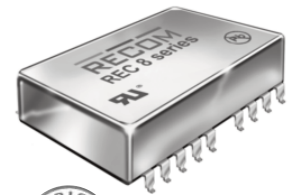
# ECONOLINE

## DC/DC-Converter

with 3 year Warranty

# RECOM

## 8 Watt DIP24 & SMD Single & Dual Output



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

# REC8

Refer to Application Notes

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

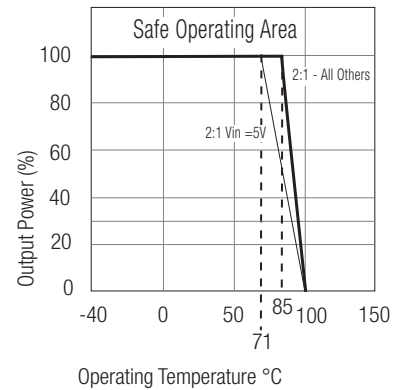
Input Surge Voltage (100ms max.)	5V Input	15VDC	
	12V Input	36VDC	
	24V Input	50VDC	
	48V Input	100VDC	
Isolation Voltage	H2-Suffix and SMD	(tested for 1 second)	2000VDC
	H3-Suffix	(rated for 1 minute**)	1000VAC / 60Hz
		(tested for 1 second)	3000VDC
		(rated for 1 minute**)	1500VAC / 60Hz
Isolation Capacitance			1200pF typ.
Isolation Resistance			1 G $\Omega$ 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		$\pm 0.05\%$ 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)	} Detailed Information see Application Notes chapter "MTBF"	using MIL-HDBK 217F	1200 x 10 <sup>3</sup> hours
		using MIL-HDBK 217F	>300 x 10 <sup>3</sup> hours

**Certifications**

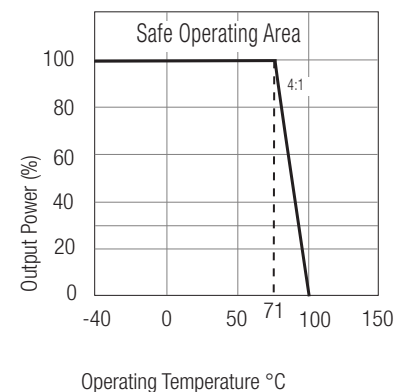
EN General Safety	Report: SPLVD1211033-2	EN60950-1:2006 +A12:2011
UL General Safety	Report: E224736	UL 60950-1 1st Ed. C22.2 No. 60950-1-03
EN Medical Safety	Report: MDD12060585 + RM1206085	IEC/EN 60601-1 3rd Edition Medical Report + ISO14971 Risk Assessment

## Derating-Graph (Ambient Temperature)

### 2:1 Converters



### 4:1 Converters

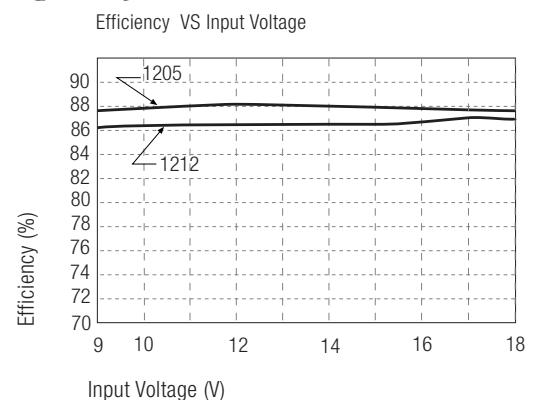
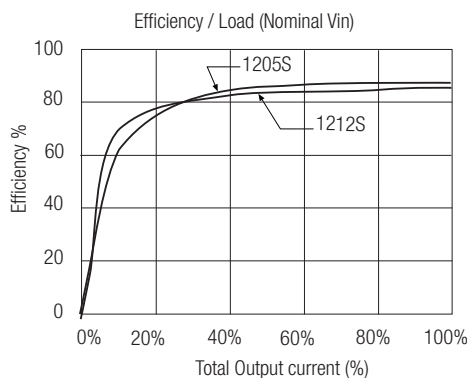


\*\*Any data referred to in this datasheet are of indicative nature and based on our practical experience only.

For further details, please refer to our Application Notes.

## Typical Characteristics

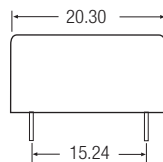
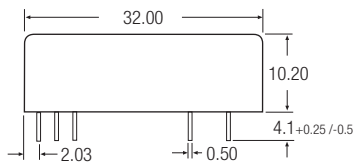
### REC8-1205SRW/H2/A/M (/SMD) REC8-1212SRW/H2/A/M (/SMD)



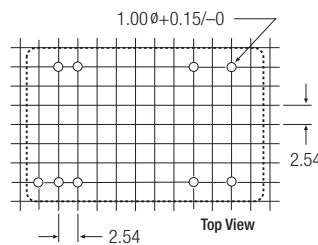
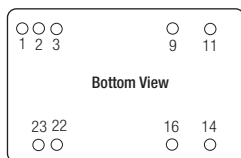
Note: Refer to Application Notes for EMC Class B Filter suggestion

**Package Style and Pinning (mm)**

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



**Recommended Footprint Details**



**Pin Connections DIP24**

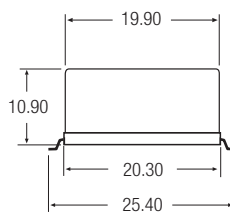
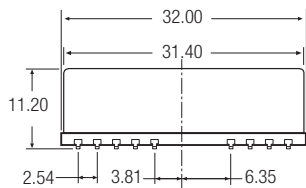
Pin #	Single	Dual
1	CTRL	CTRL
2	-Vin	-Vin
3	-Vin	-Vin
9	NC	Com
11	NC	-Vout
14	+Vout	+Vout
16	-Vout	Com
22	+Vin	+Vin
23	+Vin	+Vin

NC = No Connection

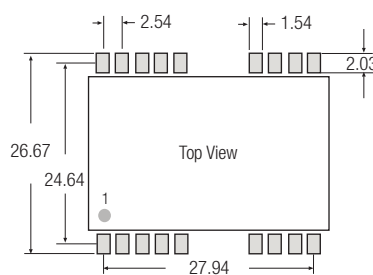
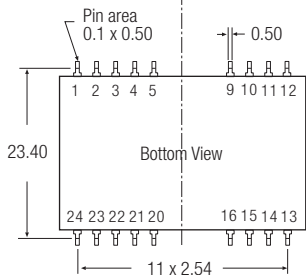
XX.X ± 0.5 mm

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

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