

## Features

### Regulated Converters

- 20W 2" x 2" Package (50.8x11.40x50.8mm)
- 1.6kVDC Isolation
- Wide Input 2:1 & 4:1
- Regulated Output
- Built-in Class A Input Filter
- Continuous Short Circuit Protection
- Vout Trim and ON/OFF Control Function
- Efficiency to 87%

### Selection Guide

Part Number	Input Voltage (VDC)	Output Voltage (VDC)	Output Current (mA)	Efficiency 12/24/48V (%)
<b>2:1</b>				
REC20-xx3.3SRWB/H	9-18, 18-36, 36-75	3.3	4000	76/78/76
REC20-xx05SRWB/H	9-18, 18-36, 36-75	5	4000	78/81/82
REC20-xx12SRWB/H	9-18, 18-36, 36-75	12	1670	81/86/84
REC20-xx15SRWB/H	9-18, 18-36, 36-75	15	1330	82/85/85
REC20-xx24SRWB/H	9-18, 18-36, 36-75	24	833	83/88/87
REC20-xx05DRWB/H	9-18, 18-36, 36-75	±5	±2000	77/82/83
REC20-xx12DRWB/H	9-18, 18-36, 36-75	±12	±833	81/84/85
REC20-xx15DRWB/H	9-18, 18-36, 36-75	±15	±660	82/85/84
REC20-xx0512TRWB/H	9-18, 18-36, 36-75	5/±12	2500/±300	79/83/83
REC20-xx0515TRWB/H	9-18, 18-36, 36-75	5/±15	2500/±250	77/81/84
<b>4:1</b>				<b>24/48V</b>
REC20-xx3.3SRWBZ/H	10-40, 18-75	3.3	4000	82/83
REC20-xx05SRWBZ/H	10-40, 18-75	5	4000	84/85
REC20-xx12SRWBZ/H	10-40, 18-75	12	1670	82/82
REC20-xx15SRWBZ/H	10-40, 18-75	15	1330	82/82
REC20-xx24SRWBZ/H	10-40, 18-75	24	833	82/82
REC20-xx05DRWBZ/H	10-40, 18-75	±5	±2000	81/81
REC20-xx12DRWBZ/H	10-40, 18-75	±12	±833	82/83
REC20-xx15DRWBZ/H	10-40, 18-75	±15	±660	82/82

#### 2:1

xx = 9-18Vin = 12  
xx = 18-36Vin = 24  
xx = 36-75Vin = 48

#### 4:1

xx = 10-40Vin = 24  
xx = 18-75Vin = 48

\* add suffix "CTRL" for optional Remote ON/OFF-Control

### Specifications (Core Operating Area)

Input Voltage Range	2:1 & 4:1	
Input Filter	π type	
Output Voltage Accuracy	±2% max.	
Line Voltage Regulation	Single & Dual	±0.5% max.
	Triple	±1%/±5%
Load Voltage Regulation (10% to 100% full load)	Single	±0.5% max.
	Dual	±3% max.
	Triple	±3%/±5%
Ripple	<0.2% Vout +20mVp-p max.	
Noise (measured with 100nF output capacitor)	<0.5% Vout +50mVp-p max.	
Trim	±10%	
Operating Frequency	2:1	200kHz typ.
	4:1	250kHz typ.

continued on next page

## ECONOLINE

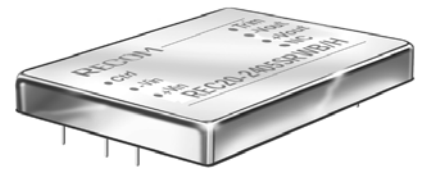
DC/DC-Converter

# REC20-S D TRWB (Z)/H Series

20 Watt

2" x 2"

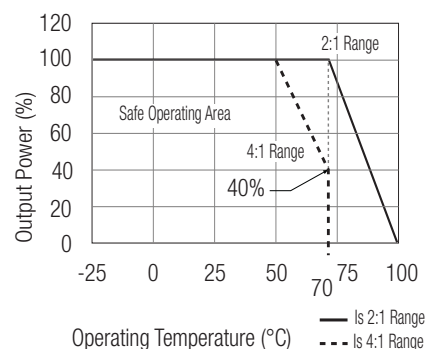
Single, Dual & Triple Output



Designed to meet EN-60950-1  
UL-60950-1 Pending

# RECOM

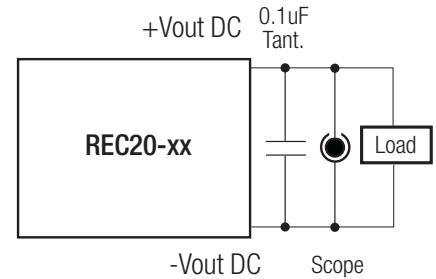
## Derating-Graph (Ambient Temperature)



**Specifications (Core Operating Area) cont.**

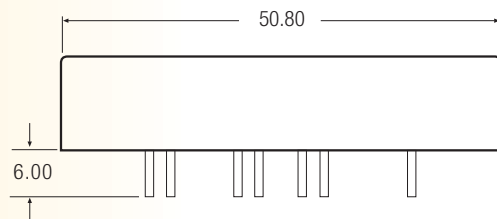
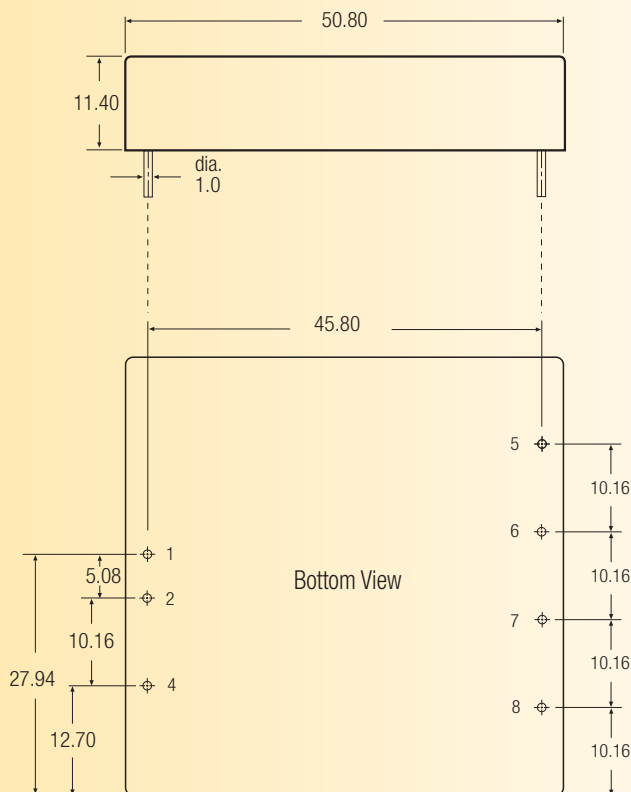
Remote On/Off	DC-DC ON	open or $2.2V > V_r > 5V$
	DC-DC OFF	short to 0V or $0V < V_r < 2.2V$
Remote Off input current	Nominal Vin	5mA max.
Remote pin drive current	$V_r = 0V$	-1.24mA max.
Over Load Protection	120% of rated load, recovers automatically	
Over Voltage Protection	Zener diode clamp	
Short Circuit Protection	Hiccup, auto-recovery	
Efficiency at full load	see table	
Isolation Voltage	(tested for 1 second)	1600VDC min.
Rated Working Voltage	(long term isolation)	see Application Notes
Isolation Capacitance	1000pF	
Isolation Resistance	100 MΩ min.	
Operating Temperature Range	2:1	-25°C to +100°C (see Graph)
(Natural convection, with derating)	4:1	-25°C to +70°C (see Graph)
Storage Temperature Range	-55°C to +105°C	
Case Temperature	+100°C max.	
Temperature Coefficient	±0.02%/°C	
Relative Humidity	95% RH	
Case Material	Nickel Plated Copper with Non-Conductive Base, Six-side Shielded	
Package Weight	70g	
EMI (Conducted & Radiated Emission)	EN 55022 Class A	
MTBF (+25°C)	Detailed Information see Application Notes chapter "MTBF"	using MIL-HDBK 217F >550 x 10 <sup>3</sup> hours
(+70°C)		using MIL-HDBK 217F 231 x 10 <sup>3</sup> hours

## Output Noise Measurement



**Package Style and Pinning (mm) 2" x 2", Wide Input 2:1 & 4:1**

2" x 2" PIN Package



Pin Connections

Pin #	Single	Dual	Triple
1	+Vin	+Vin	+Vin
2	-Vin	-Vin	-Vin
4	No Pin/CTRL	No Pin/CTRL	No Pin/CTRL
5	NC	+Vout	+Vout
6	+Vout	Com	+5Vout
7	-Vout	-Vout	Com
8	Trim	Trim	-Vout

XX.X ± 0.5 mm  
XX.XX ± 0.25 mm

