

## Features

### Regulated Converters

- 20W 2" x 2" Package (50.8x50.8x21.0mm)
- 1kVDC Isolation
- Wide Input 2:1
- Regulated Output
- UL94V-0 Package Material
- Continuous Short Circuit Protection
- No External Components Required
- Six-Side Shielded Case
- 100% Burned In
- Industry Standard Package
- Remote ON/OFF and Trim
- Efficiency to 85%

**ECONOLINE**

DC/DC-Converter

## REC20-S\_DRWB Series

**20 Watt  
2" x 2"  
Single &  
Dual Output**



**RECOM**

### Selection Guide

Part Number	Input Voltage	Output Voltage	Output Current	Input Current <sup>1)</sup> (mA)		Efficiency <sup>2)</sup> (%)
				Full Load	No Load	
2" x 2"	(VDC)	(VDC)	(mA)			
REC20-1205SRWB	9-18	5	4.000	2.083	30	80
REC20-1212SRWB	9-18	12	1.667	2.058	30	81
REC20-1215SRWB	9-18	15	1.333	2.058	28	81
REC20-2405SRWB	18-36	5	4.000	1.041	18	80
REC20-2412SRWB	18-36	12	1.667	980	18	85
REC20-2415SRWB	18-36	15	1.333	980	18	85
REC20-4805SRWB	36-72	5	4.000	521	10	80
REC20-4812SRWB	36-72	12	1.667	508	9	82
REC20-4815SRWB	36-72	15	1.333	508	9	82
REC20-1205DRWB	9-18	±5	±2.000	2.083	30	80
REC20-1212DRWB	9-18	±12	±833	2.033	30	82
REC20-1215DRWB	9-18	±15	±667	2.033	28	82
REC20-2405DRWB	18-36	±5	±2.000	1.041	18	80
REC20-2412DRWB	18-36	±12	±833	980	18	85
REC20-2415DRWB	18-36	±15	±667	980	18	85
REC20-4805DRWB	36-72	±5	±2.000	521	10	80
REC20-4812DRWB	36-72	±12	±833	508	9	82
REC20-4815DRWB	36-72	±15	±667	508	9	82

### Notes:

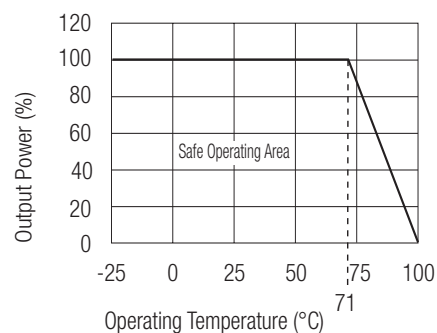
1. at Nominal Input Voltage.

2. at Nominal Input Voltage and Full Load.

## Specifications (Core Operating Area)

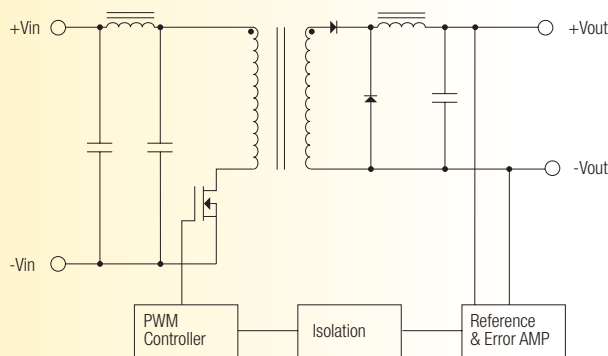
Input Voltage Range	2:1	
Output Voltage Accuracy	$\pm 2\%$ max.	
Line Regulation (HL-LL)	$\pm 0.2\%$ max.	
Load Regulation (for output load current change from 20% to 100%)	$\pm 0.2\%$ max.	
Over Voltage Protection	Built-In	
External Trim Adjustment Range	$\pm 10\%$	
Ripple and Noise (0,1 $\mu$ F capacitor on output, 20MHz BW)	100mVp-p max.	
Switching Frequency at Full Load	100kHz typ.	
Input Filter	Pi Network	
Efficiency at Full Load	75% min.	
Isolation Voltage	(tested for 1 second)	1.000VDC min.
Rated Working Voltage	(long term isolation)	see Application Notes
Isolation Capacitance	1200pF max.	
Isolation Resistance	1 G $\Omega$ min.	
Short Circuit Protection	Continuous	
Operating Temperature (free air convection)	-25°C to +71°C (see Graph)	
Storage Temperature Range	-55°C to +100°C	
Relative Humidity	MSL Level 1	95% RH
Case Material	Six-Side Shielded Case	
Package Weight	110 g	
MTBF (+25°C)	} Detailed Information see Application Notes chapter "MTBF"	using MIL-HDBK 217F 700 x 10 <sup>3</sup> hours
(+71°C)		using MIL-HDBK 217F 560 x 10 <sup>3</sup> hours

## Derating-Graph (Ambient Temperature)

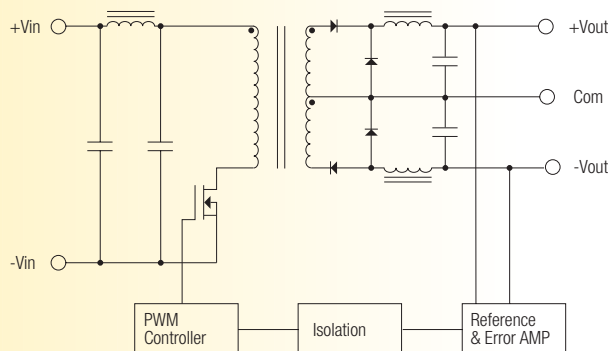


## Simplified Schematic

### Single Output



### Dual Output

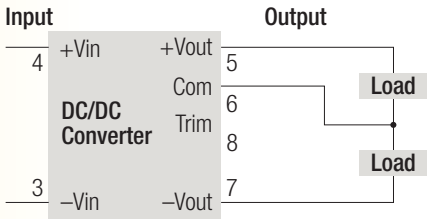
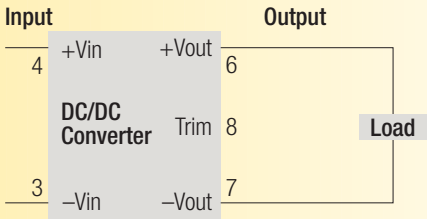


Typical Characteristics

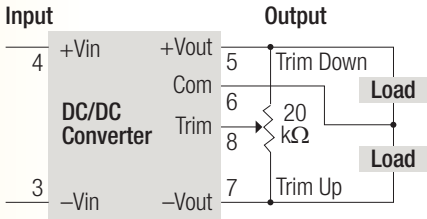
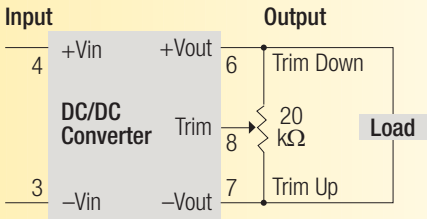
Single Output

Dual Output

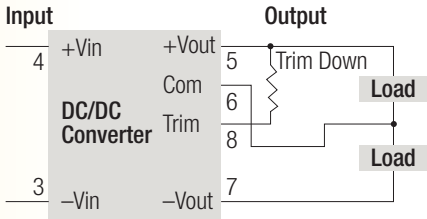
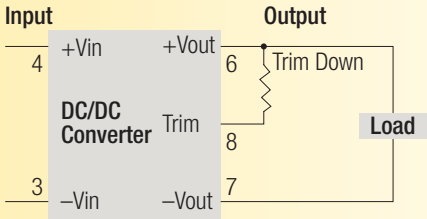
Fixed Voltage Output



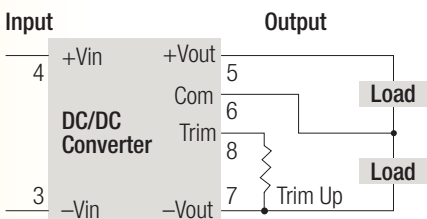
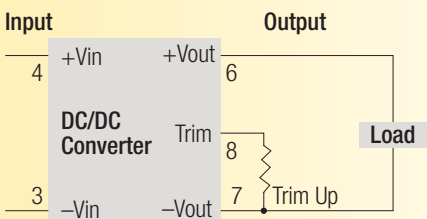
Trim Connections Using a Trimpot



Fixed-Value Trim Down Resistor

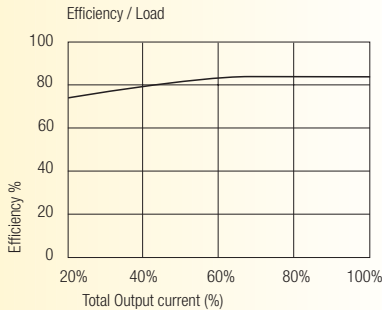


Fixed-Value Trim Up Resistor



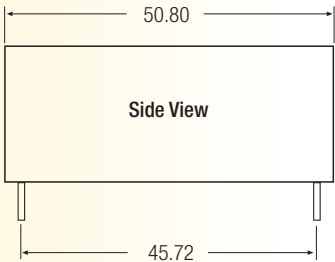
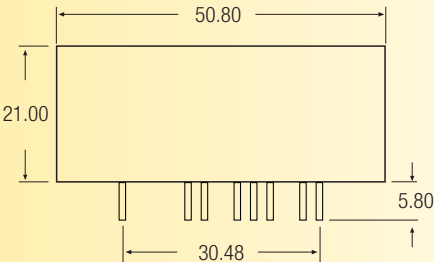
Typical Characteristics

REC20 - types

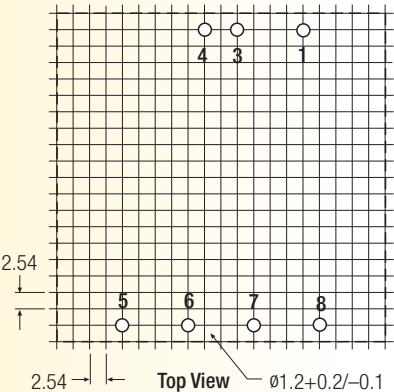
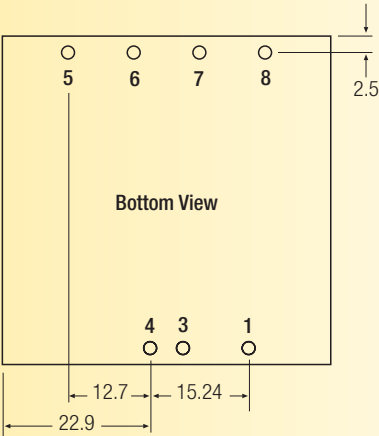


Package Style and Pinning (mm) 2" x 2", Wide Input 2:1

2" x 2" PIN Package



Recommended Footprint Details



Pin Connections		
Pin #	Single	Dual
1	Remote On/Off	Remote On/Off
3	-Vin	-Vin
4	+Vin	+Vin
5	No Pin	+ Vout
6	+ Vout	Com
7	- Vout	- Vout
8	Trim	Trim

XX.X ± 0.5 mm  
XX.XX ± 0.25 mm

Remote On/Off Control			
Control Input	Pin 1	Control Common	Pin 3
Control Voltage		Converter Shutdown Idle Current	10mA
ON	> +2.5VDC or Open Circuit	Logic Compatibility	CMOS or Open
Off	> +0.8VDC or Jumper to Pin 3		Collector TTL