Features

Regulated Converters

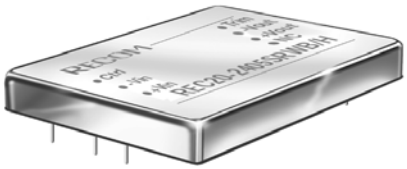
- 20W 2"x 2" Package (50.8x11.40x50.8mm)
- 1.6kVDC Isolation
- Wide Input 2:1 & 4:1
- Regulated Output
- Built-in Class A Input Filter
- Continuous Short Circuit Protection
- Vout Trim and ON/OFF Control Function
- Efficiency to 87%

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

Selection Guide

Part Number	Input Voltage	Output Voltage	Output Current	Efficiency 12/24/48V
2:1	(VDC)	(VDC)	(mA)	(%)
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
4:1				24/48V
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

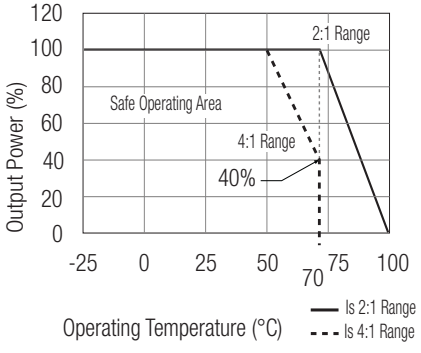
2:1
xx = 9-18Vin = 12
xx = 18-36Vin = 24
xx = 36-75Vin = 48

4:1
xx = 10-40Vin = 24
xx = 18-75Vin = 48

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

Derating-Graph

(Ambient Temperature)



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.

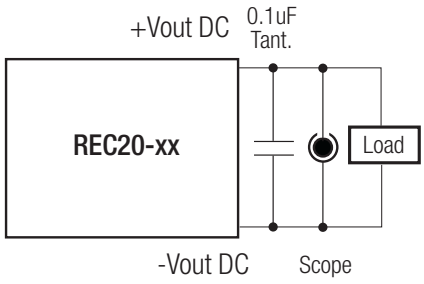
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REC20-S_D_TRWB(Z)/H Series

Specifications (Core Operating Area) cont.

Remote On/Off	DC-DC ON	open or 2.2V>Vr>5V
	DC-DC OFF	short to 0V or 0V<Vr<2.2V
Remote Off input current	Nominal Vin	5mA max.
Remote pin drive current	Vr=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*	using MIL-HDBK 217F	>550 x 10^3 hours
(+70°C) *Application Notes chapter "MTBF"*	using MIL-HDBK 217F	231 x 10^3 hours

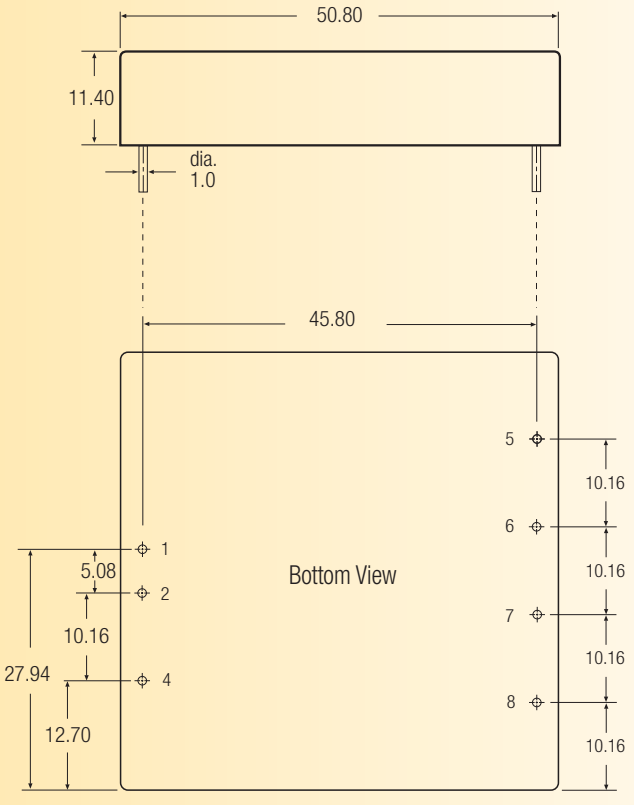
Output Noise Measurement

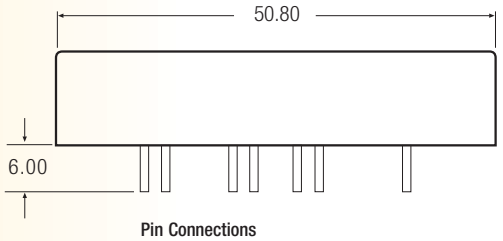


Package Style and Pinning (mm) 2" x 2" , Wide Input 2:1 & 4:1

2" x 2" PIN Package

3rd angle projection





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

