



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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Features

Regulated Converters

- Compact AC-DC Power Supply
- 20 Watt PCB Mount Package
- Universal Input Voltage Range
- 3000VAC Isolation
- Low Output Ripple and Noise
- Short Circuit Protected
- High Efficiency
- UL Certified, CE Marked

Description

Compact universal input voltage switching power module for PCB or DIN-rail mounting available with single, dual or triple output voltages

Selection Guide

Part Number	Input Range (VAC)	Output Voltage (VDC)	Output Current (mA)	Efficiency (%)	Capacitive Load (max)
RAC20-3.3SA	90-264	3.3	4500	75	25000µF
RAC20-05SA	90-264	5	4000	79	13000µF
RAC20-09SA	90-264	9	2230	82	1100µF
RAC20-12SA	90-264	12	1670	83	920µF
RAC20-15SA	90-264	15	1340	83	820µF
RAC20-24SA	90-264	24	840	84	600µF
RAC20-05DA	90-264	±5	±2000	79	±4300µF
RAC20-12DA	90-264	±12	±833	82	±560µF
RAC20-15DA	90-264	±15	±677	82	±220µF
RAC20-0512TA	90-264	5/±12	2800/±250	81	3500/±200µF
RAC20-0515TA	90-264	5/±15	2800/±200	81	3500/±150µF

*add suffix "-ST" for screw terminal module e.g. RAC20-05SA-ST, RAC20-05DA-ST, RAC20-0512TA-ST

Specifications (typical at 25°C and after warm up time unless otherwise specified)

Input Voltage Range	90-264VAC or 100-375VDC	
Rated Power	20 Watts max	
Input Frequency Range (for AC Input)	47-440Hz	
Input Current (full load)	115VAC/230VAC	400mA/ 230mA max.
No Load Power Consumption	115VAC/230VAC	470mW max.
Inrush Current (<2ms)	115VAC/230VAC	30A/ 50A max.
Leakage Current	0.25mA max	
Output Voltage Accuracy (Full load)	±2% max	
Line Voltage Regulation (low line, high line at full load)	- Single /Dual Output - Triple Output	±0.5% max ±1%/ ±5% max
Load Voltage Regulation (10% to 100% symmetric load)	- Single - Dual - Triple	±1% max ±3% max ±2% /±5% max
Output Ripple and Noise ⁽¹⁾	Noise Ripple	<0.9% Vout + 50mVp-p max. <0.2% Vout + 40mVp-p max.
Minimum Load	Single/Dual = 0%, Triple = 10% main /20% auxilliary	
Operating Frequency	100kHz typ	
RMS Isolation Voltage (input to output)	3kVAC / 1 minute	
Temperature Coefficient	±0.02%/°C typ	
Over-Current Protection	105% typ	
Short Circuit Protection	Continuous, Automatic Restart	
Over-Voltage Protection	Zener Diode Clamp	
Operating Temperature Range (free air convection, with derating) ⁽³⁾	-25°C to +70°C	
Storage Temperature Range	-40°C to +85°C	

continued on next page

POWERLINE

AC/DC-Converter

with 3 year Warranty

RECOM

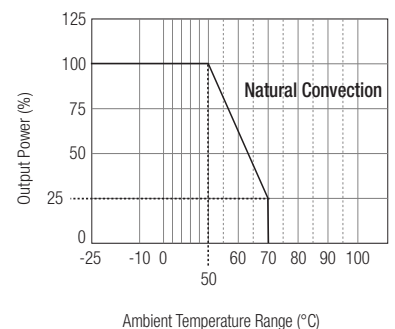
20 Watt Single/Dual & Triple Output



UL-60950-1 Certified

RAC20-A

Derating-Graph (Ambient Temperature)



Refer to Application Notes

Specifications (typical at 25°C and after warm up time unless otherwise specified)

Humidity	95% RH max.
Case Material	Epoxy with Fibreglass (UL94V-0)
Package Weight	110g
Packing Quantity	3 pcs (-ST Version: 1 pc)
EMC	EN 55022 Class B / EN 55024
MTBF (+25°C)	using MIL-HDBK-217F >200 x 10 ³ hours

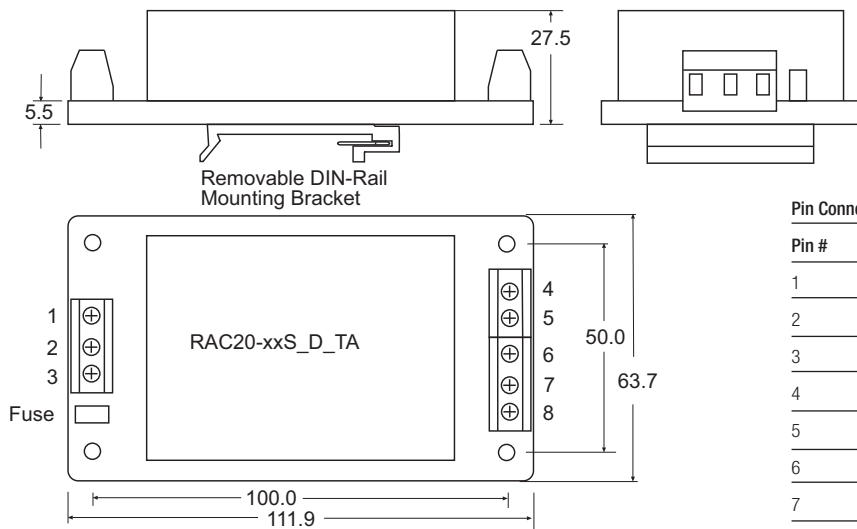
Notes:

Note 1: Ripple & Noise measured with 20MHz BW probe and 0.1µF + 47µF capacitors in parallel across the outputs.

Note 2: Suggested input fuse rating 2A Slow Blow

Note3: Start up only is guaranteed at temperatures down to -25°C. Other specifications may not be met.

Screw Terminal Module Option (suffix -ST)

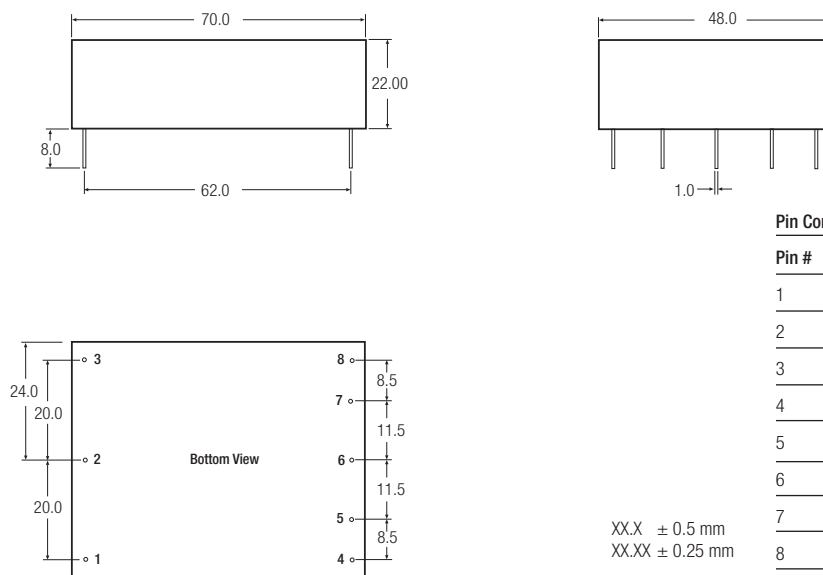


Pin Connections

Pin #	Single Out	Dual Out	Triple Out
1	FG	FG	FG
2	VAC in (N)	VAC in (N)	VAC in (N)
3	VAC in (L)	VAC in (L)	VAC in (L)
4	NC	NC	-VDC out
5	-VDC Out	-VDC Out	Com
6	NC	Com	-VDC out
7	+VDC out	+VDC out	+5V Rtn
8	NC	NC	+5Vout

NC = No Connection

Package Style and Pinning



Pin Connections

Pin #	Single Out	Dual Out	Triple Out
1	FG	FG	FG
2	VAC in (N)	VAC in (N)	VAC in (N)
3	VAC in (L)	VAC in (L)	VAC in (L)
4	No Pin	No Pin	-VDC Out
5	-VDC Out	-VDC Out	Com
6	No Pin	Com	+ VDC Out
7	+ VDC Out	+ VDC Out	+ 5V Rtn (Com)
8	No Pin	No Pin	+ 5V Out

XX.X ± 0.5 mm
XX.XX ± 0.25 mm

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