

Features

Regulated Converters

- Ultracompact Low Profile AC-DC Power Supply
- 3 Watt PCB Mount Package
- Universal Input Voltage Range
- Class II Power Supply with 3kVAC Isolation
- Only 80mW Consumption in Standby
- -25°C to +85°C Operating Temperature
- Low Output Ripple/Noise
- Short Circuit Protected Outputs
- EN and CE Certified

Selection Guide

Part Number	Input Range (VAC)	Output Voltage (VDC)	Output Current (mA)	Efficiency (%)	Max Capacitive Load
RAC03-3.3SC	90-264	3.3	900	63	2200µF
RAC03-3.8SC	90-264	3.8	900	63	2200µF
RAC03-05SC	90-264	5	600	73	2200µF
RAC03-09SC	90-264	9	333	76	1200µF
RAC03-12SC	90-264	12	250	76	1000µF
RAC03-15SC	90-264	15	200	76	680µF
RAC03-24SC	90-264	24	125	78	330µF

Specifications

(Ta=25°C and after warm up time, measured at 115VAC/60Hz and 230VAC/50Hz)

Input Voltage Range	90-264VAC or 120-370VDC	
Rated Power	3 Watts max.	
Input Frequency Range (for AC Input)	40-63Hz	
Input Current (full load)	115/230VAC	85mA/40mA max.
No Load Power Consumption	80mW typ.	
Inrush Current (<0.5ms)	115/230VAC	10/20A max.
Leakage Current	1.5mA max.	
Output Voltage Tolerance (combined Tolerance, Line Reg and Load Reg at full load)	±5% max.	
Line Voltage Regulation	low line, high line at full load	±3% max.
Load Voltage Regulation	10% to 100% full load	±6% max.
Output Ripple and Noise (20MHz BW limited)	3.3V, 3.8V Output All others	120mVp-p max. 100mVp-p max.
Operating Frequency	45kHz typ	
Leakage Current	1.5mA max.	
Minimum Load = 0%	specifications valid for 10% minimum load only	
RMS Isolation Voltage (input to output)	3kVAC / 1 minute	
Isolation Resistance	1 GΩ min.	
Isolation Capacitance	1000pF typ.	
Short Circuit Protection	Automatic Restart	
Overtemperature Protection	Internal Junction Temperature	135°C typ.
	Temperature Hysteresis	20°C typ.
Operating Temperature Range	(natural convection, without derating)	-25°C to +75°C
	(natural convection, with derating)	-25°C to +85°C
Storage Temperature Range	-40°C to +85°C	
Humidity	non-condensing	95% RH max
Case Material	Plastic Case, Epoxy filled (UL94V-0)	
Package Weight	30g	
Packing Quantity	12 pcs	

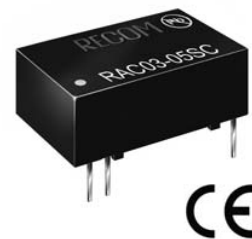
POWERLINE

AC/DC-Converter

with 3 year Warranty

RECOM

3 Watt Single Output



EN-60950-1 Pending

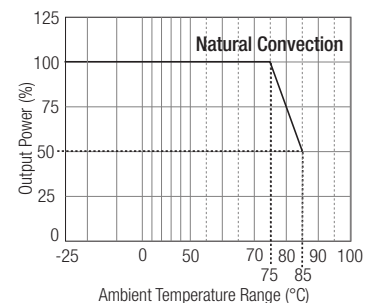
UL-60950-1 Pending

RAC03-C

Description

The RAC03-C series is an ultra-compact universal input AC/DC power module for PCB mounting. It features high efficiency, low standby power, high operating temperature, soft start, low output ripple/noise, overload and short-circuit protection as well as a built-in EMC Class B filter. Output voltages range from 3.3VDC to 24VDC, including a 3.8VDC version designed for battery chargers and GSM modems.

Derating Graph (Ambient)



Please Read Application Notes

www.recom-electronic.com

RAC03-C

POWERLINE

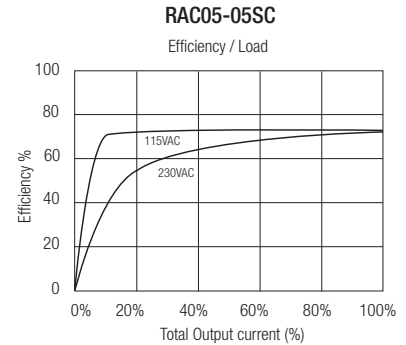
AC/DC-Converter

RAC03-SC

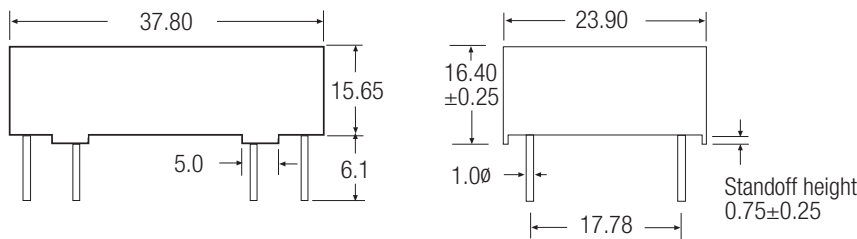
Series

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

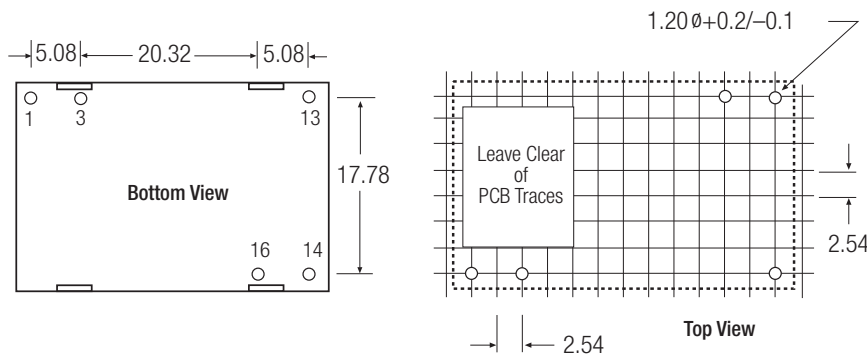
EMC	Conducted and Radiated Noise Immunity	EN 55022 Class B EN 55024
MTBF	+25°C	>550 x 10 ³ hours
230VAC	+55°C	>285 x 10 ³ hours
using MIL-HDBK-217F	+80°C	>76 x 10 ³ hours
Certifications:		
UL General Safety	(Pending)	UL-60950-1, 2nd Edition
EN General Safety	(Pending)	EN-60950-1, 2nd Edition
CE	Report: 2011-04-19	EN55022 Class B



Standard Package Style and Pinning



Allow 5mm clearance around converter for air circulation



Pin Connections

Pin #	Single Output
1	VAC in (L)
3	VAC in (N)
13	NC
14	-VDC out
16	+VDC out
NC = No Connection	

Tolerance ± 0.5 mm unless otherwise specified

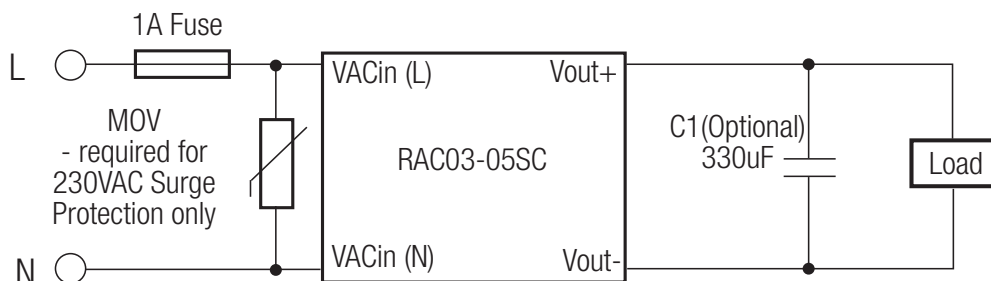
RAC03-C

Recommended Application Circuit

Compact single output regulated power supply

Suggested fuse rating: 1A Slow Blow

An external MOV is required for 230VAC operation. The varistor should comply with IEC-61051-2. e.g. Epcos S14 Series



Add C1 to reduce output ripple (use low ESR type)