Features

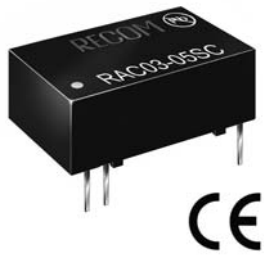
Regulated Converters

- 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

POWERLINE
AC/DC-Converter
with 3 year Warranty

RECOM

3 Watt Single Output



RoHS 2002/95/EC 6/6

EN-60950-1 Pending
UL-60950-1 Pending

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)

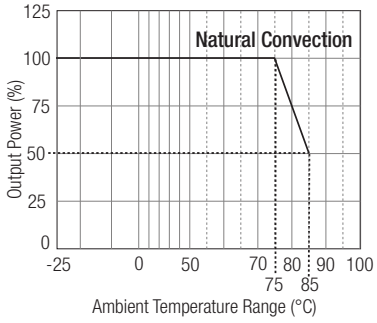
Input Voltage Range		90-264VAC or 120-370VDC
Rated Power		3 Watts max.
Input Frequency Range (for AC Input)		40-63Hz
Input Current (full load)	115/230VAC	85mA/40mA max.
No Load Power Consumption		80mW typ.
Inrush Current (<0.5ms)	115/230VAC	10/20A max.
Leakage Current		1.5mA max.
Output Voltage Tolerance	(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 Temperature Hysteresis	135°C typ. 20°C typ.
Operating Temperature Range	(natural convection, without derating) (natural convection, with derating)	-25°C to +75°C -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

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

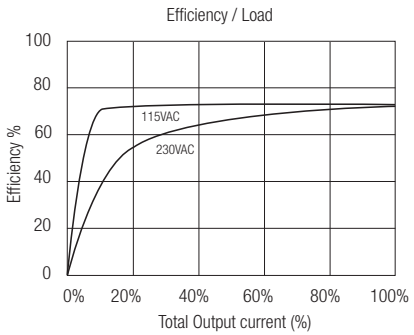
www.recom-electronic.com

RAC03-C

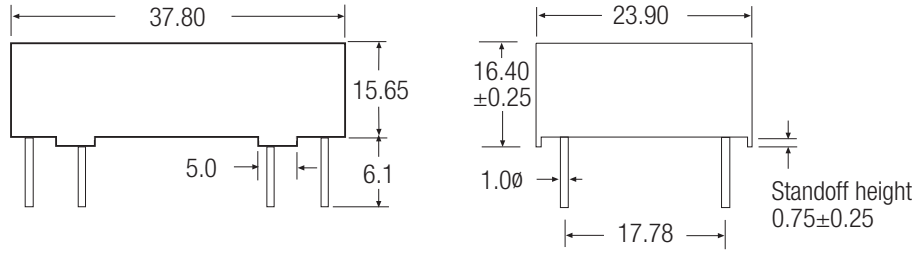
Specifications (typical at 25°C and after warm up time unless otherwise specified)

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

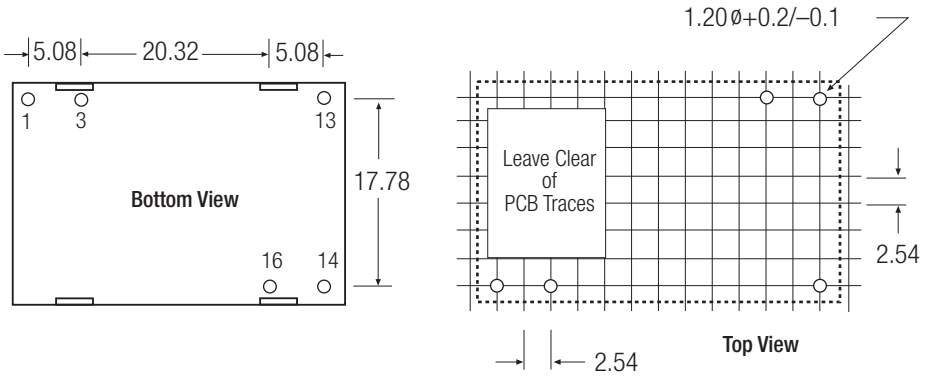
RAC05-05SC



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

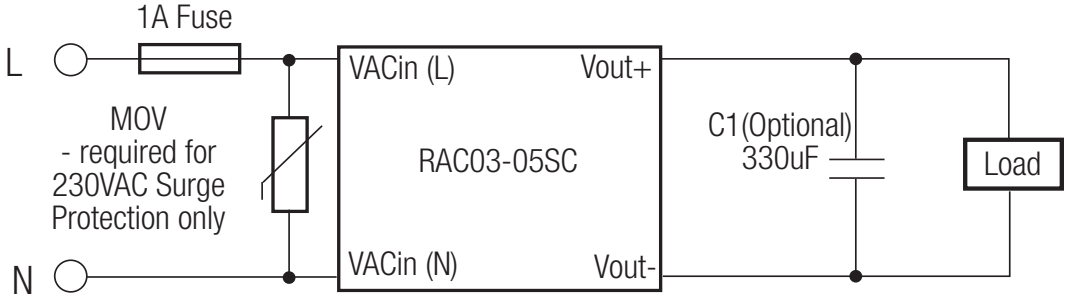
Tolerance ± 0.5 mm
unless otherwise specified

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)