Features

Regulated Converters

- Ultracompact Low Profile AC-DC Power Supply
- Ultra-low 30mW Standby Power Consumption
- 1 Watt or 2 Watt PCB Mount Package
- Extra Wide Input Voltage Range (80~264VAC)
- Class II Power Supply with 3kVAC Isolation
- -25°C to +85°C Operating Temp
- Low Output Ripple
- Short Circuit Protected Outputs
- EN, UL and CE Certified

Description

The RAC01-SC and RAC02-SC series are ultra-compact universal input AC/DC power modules for PCB mounting. They feature high efficiency, low standby power, high operating temperature, soft start and short-circuit protection as well as a built-in EMC Class B filter. Output voltages range from 3.3VDC to 24VDC.

Selection Guide

Part Number	Input Range (VAC)	Output Voltage (VDC)	Output Current (mA)	Efficiency typ. (%)	Max Capacitive Load (1+2)
RAC01-3.3SC	80-264	3.3	300	65	2200µF
RAC02-3.3SC			600	66	2700µF
RAC01-05SC	80-264	5	200	68	1600µF
RAC02-05SC			400	70	2000µF
RAC01-09SC	80-264	9	111	70	470µF
RAC02-09SC			222	72	560µF
RAC01-12SC	80-264	12	83	72	180µF
RAC02-12SC			167	74	200µF
RAC01-15SC	80-264	15	67	72	180µF
RAC02-15SC			133	74	200µF
RAC01-24SC	80-264	24	42	73	68µF
RAC02-24SC			83	77	68µF

Specifications (measured at TA 25°C, full load after warm-up)

Input Voltage Range (with derating)		80-264VAC or 115-370VDC
Rated Power		1 or 2 Watts max.
Input Frequency Range (for AC Input)		47-63Hz
Input Current (full load)	RAC01 (115/230VAC)	34mA/23mA max.
	RAC02 (115/230VAC)	55mA/36mA max.
No Load Power Consumption	@115VAC	30mW typ.
	@230VAC	80mW typ.
Inrush Current (<0.5ms)		30/60A max.
Leakage Current		0.25mA 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	±2% max.
Load Voltage Regulation	10% to 100% full load	±6% max.
Output Ripple (20MHz BW limited)	3.3V Output	<150mVrms
	All others	<100mVrms
Operating Frequency (full load)		30kHz typ.
Minimum Load = 0%		specifications valid for 10% minimum load only
RMS Isolation Voltage (input to output)		3kVAC / 1 minute
Isolation Resistance		1 GΩ min.
Short Circuit Protection		Hiccup, Automatic Restart
Over Voltage Category		OVC II
Operating Temperature Range (3)	(1W, natural convection, no derating)	-25°C to +80°C
	(2W natural convection, no derating)	-25°C to +75°C
	(natural convection, with derating)	-25°C to +85°C
Storage Temperature Range		-40°C to +100°C
Humidity	non-condensing	95% RH max
Case Material		Plastic Case, Silicone potting material (UL94V-0)

continued on next page

RAC01-02

POWERLINE

AC/DC-Converter

with 3 year Warranty

RECOM

1 - 2 Watt Single Output



RoHS 2011/65/EU 6/6

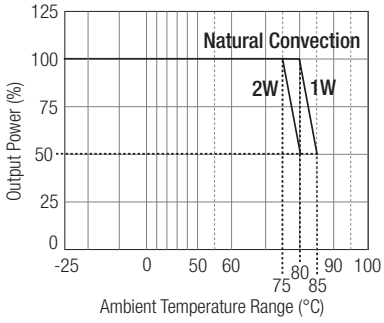
E224736

EN-60950-1 Certified
UL-60950-1 Certified

RAC01-C
RAC02-C

Derating-Graph

(Ambient Temperature)



Refer to Application Notes

RAC01-SC
RAC02-SC

Specifications (measured at TA 25°C, full load after warm-up)

Package Weight			25g
Packing Quantity			22 pcs
EMC		Conducted and Radiate	EN55022 Class B
		Noise Immunity	EN55024
MTBF	+25°C		666 x 10^3 hours
230VAC	+55°C		395 x 10^3 hours
using MIL-HDBK-217F	+80°C		125 x 10^3 hours
Certifications:			
UL General Safety	File Nr. E224736		UL-60950-1, 2nd Edition
EN General Safety	SPCLVD 1202026		EN-60950-1, 2nd Edition
CE	Report: 2011-04-19		EN55022 Class B

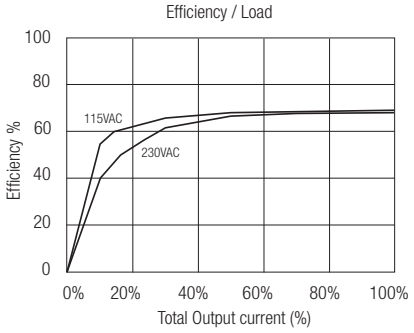
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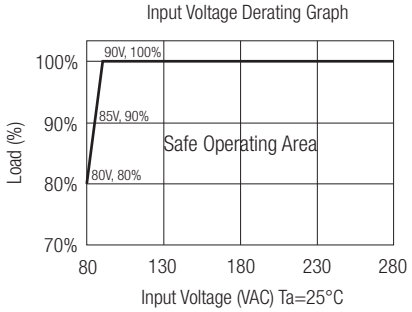
Note1: Measured @ 230VAC / 50Hz / Ta=25°C with constant resistant mode at full load.

Note2: If used @ 115VAC / 60Hz with full load, max. capacitive load is less, please contact RECOM for detailed information.

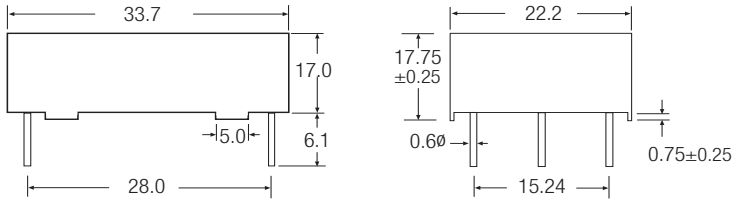
Note3: Start up only is guaranteed at temperatures down to -25°C. Other specifications may not be met.

RAC01-05SC

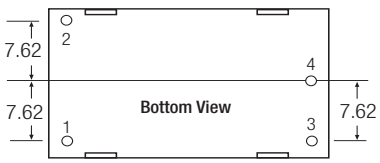


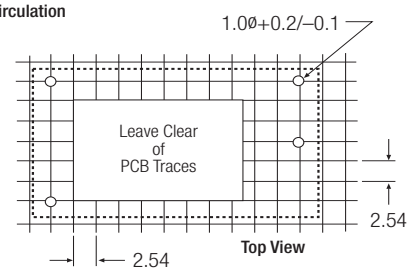


Standard Package Style and Pinning



Allow 5mm clearance around converter for air circulation





Pin Connections

Pin #	Single Output
1	VAC in (N)
2	VAC in (L)
3	-VDC out
4	+VDC out

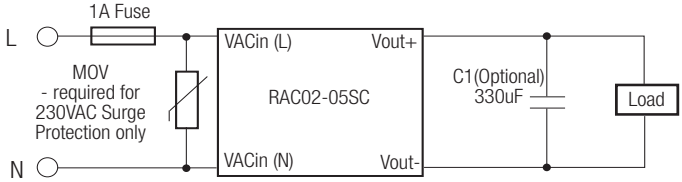
Tolerance ± 0.5 mm
unless otherwise specified

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)

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