

Features

Regulated Converters

- 30mW max. No Load Power Consumption
- High Efficiency up to 80%
- Isolated Output 3kVAC / 1 min
- SCP, OVP Protection
- Wide Operating Temperature Range: -40°C to +85°C
- Universal Input 85-305VAC

RECOM
AC/DC Converter

RAC03-SE/277

**3 Watt
Single
Output**



Description

The ultra-compact RAC03-SE/277 modules are available with output voltages of 3.3, 5, 12 and 24V, and the input-to-output isolation is approximately 3kVAC/1min. With a standby consumption of 30mW maximum, the mini power supplies are particularly suitable for energy-saving sleep mode and standby applications. Because of its compact design (height <17.4 mm), it is a versatile solution for home automation and other similar applications. Complete with an integrated input filter, the series has enhanced EMI performance and complies with EN55022, class B. The mini power supplies are also protected against short circuit with fully automatic restart after the error has been solved. The converters are EN/UL60950-1 certified and come complete with a 3 year warranty.

Selection Guide

| Part Number | Input Voltage Range (VAC) | Output Voltage (VDC) | Output Current (mA) | Efficiency typ. (%) | Max. Capacitive Load (µF) |
|-----------------|---------------------------|----------------------|---------------------|---------------------|---------------------------|
| RAC03-3.3SE/277 | 85-305 | 3.3 | 900 | 71 | 22000 |
| RAC03-05SE/277 | 85-305 | 5.0 | 600 | 76 | 7500 |
| RAC03-12SE/277 | 85-305 | 12 | 250 | 78 | 1000 |
| RAC03-24SE/277 | 85-305 | 24 | 125 | 80 | 200 |



Specifications (measured at TA= 25°C, nominal input voltage, full load and after warm-up)

| BASIC CHARACTERISTICS | | | | |
|--|--|-----------------|--------------|---------------------|
| Parameter | Condition | Min. | Typ. | Max. |
| Input Voltage Range | | 85VAC 120VDC | | 305VAC 430VDC |
| Input Current | full load, 115VAC full load, 230VAC | | 70mA 45mA | |
| absolute max. Input Current | cold start at 25°C, 115VAC cold start at 25°C, 230VAC | | | 15A 30A |
| No load Power Consumption | 85-305VAC, 47-440Hz | | | 30mW |
| Input Frequency | AC Input | 47Hz | | 440Hz |
| Leakage Current | 240VAC | | | 10µA |
| Hold-up time | full load, 115VAC full load, 230VAC | | 15ms 80ms | |
| Operating Frequency | 100% load at nominal Vin | | 45kHz | |
| Efficiency | | | | see Selection Guide |
| Minimum Load | | | 2% typ. | |
| Output Ripple and Noise ⁽¹⁾ | | | 200mVp-p | |

Notes:

Note1: Ripple and Noise is the maximum peak-to-peak voltage value measured at the output with a 20MHz bandwidth, at rated line voltage at full load. And with a 47µF low-ESR electrolytic capacitor in parallel with a 0.1µF ceramic capacitor across output.



UL
E224736

Any data referred to in this datasheet are of indicative nature and based on our practical experience only. For further details, please refer to Application Notes

Refer to Applications Notes

Specifications (measured at $T_A = 25^\circ\text{C}$, nominal input voltage, full load and after warm-up)

| REGULATIONS | | |
|---|----------------------------------|-----------------------|
| Parameter | Condition | Value |
| Output Voltage Tolerance ⁽²⁾ | | ±6% max. |
| Line Voltage Regulation | low line to high line, full load | ±1% min. / ±1.5% typ. |
| Load Voltage Regulation | 10% to 100% load | ±6% max. |

Notes:
 Note2: Includes initial voltage accuracy, thermal drift, line regulation and load regulation at rated input voltage and load conditions.

| PROTECTIONS | | |
|--------------------------------|-------------------|--------------------------------|
| Parameter | Type | Value |
| Short Circuit Protection (SCP) | | continuous, automatic recovery |
| Over Voltage Protection (OVP) | Zener Diode clamp | 112% - 140% |
| Over Current Limit | | 120% - 190% |
| Isolation Voltage | | 3kVAC / 1 Minute |
| Isolation Resistance | | 1GΩ min. |

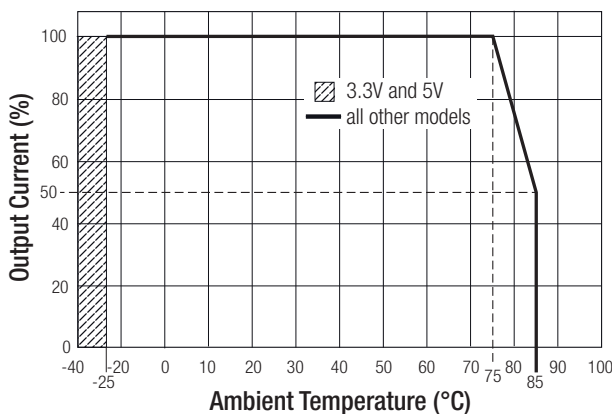
| ENVIRONMENTAL | | |
|-----------------------------|--|--|
| Parameter | Condition | Value |
| Operating Temperature Range | 230VAC, natural convection and with derating | -40°C to +85°C |
| Storage Temperature Range | | -40°C to +85°C |
| Humidity | non-condensing | 95%, RH max. |
| MTBF ⁽³⁾ | MIL-HDBK-217F, 115VAC, +25°C MIL-HDBK-217F, 230VAC, +25°C | 6506 x 10 ⁶ hours 1816 x 10 ⁶ hours |

Notes:

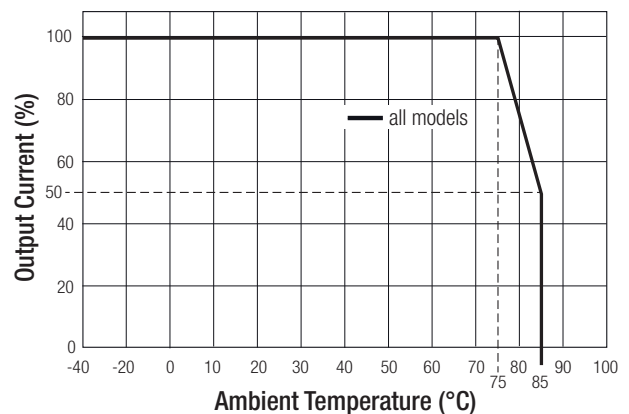
Note3: MTBF is referring RAC03-3.3SE/277

Derating Graph

@ 115VAC



@ 230VAC



Specifications (measured at $T_A=25^{\circ}\text{C}$, nominal input voltage, full load and after warm-up)

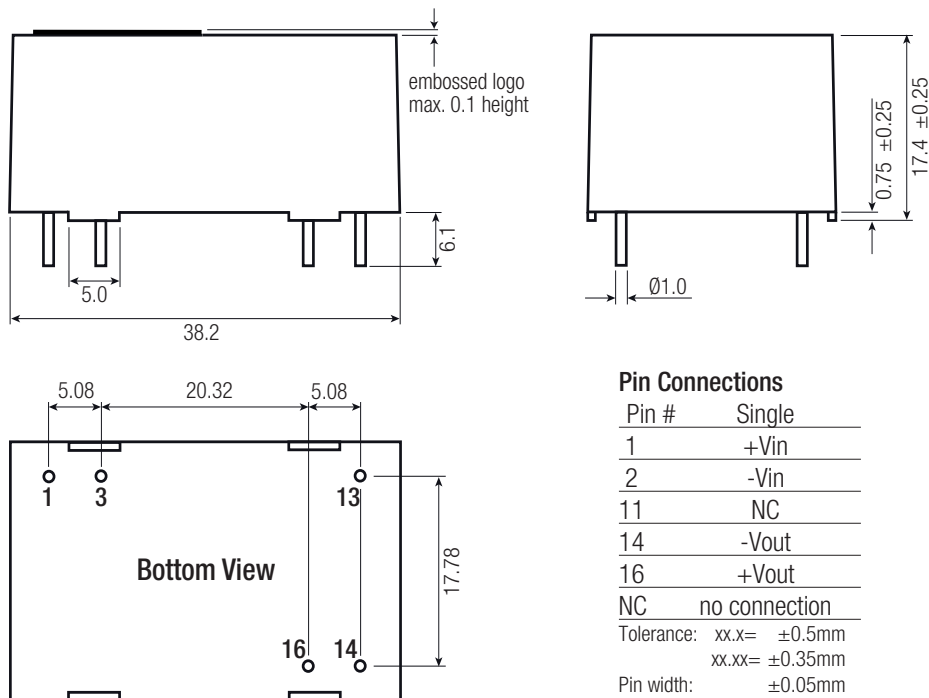
SAFETY AND CERTIFICATIONS

| Certificate Type | Report / File Number | Standard |
|----------------------------------|----------------------|-----------------------------|
| EN General Safety | SPCLVD1208051 | EN-60950-1, 2nd Edition |
| UL General Safety | E224736 | UL-60950-1, 2nd Edition |
| Certificate Type (Environmental) | Report / File Number | Standard / Criterion |
| ESD | | EN61000-4-2, Criteria B |
| Radiated Immunity | | EN61000-4-3, Criteria A |
| Fast Transient | | EN61000-4-4, Criteria B |
| Surge | | EN61000-4-5, Criteria B |
| Conducted Immunity | | EN61000-4-6, Criteria A |
| Voltage dips and variations | | EN61000-4-8, Criteria A |
| Voltage flicker | | EN-61000-3-3 |
| EMI Standard | Report: 1502CE17 | EN55022, Class B EN55024 |
| Vibration | | MIL-STD-202G |

DIMENSIONS and PHYSICAL CHARACTERISTICS

| Parameter | Type | Value |
|------------------------------|--------------|---|
| Material | Case Potting | UL94V-0, black plastic UL94V-0, Silicone |
| Dimensions (LxWxH) | | 38.2 x 24.3 x 17.4mm |
| Weight | | 28g typ. |
| Packaging Dimensions (LxWxH) | Tube | 520 x 32 x 27mm |
| Packaging Quantity | | 12 pcs. |

Mechanical Dimensions (mm)



Pin Connections

| Pin # | Single |
|-------------------------------|---------------|
| 1 | +Vin |
| 2 | -Vin |
| 11 | NC |
| 14 | -Vout |
| 16 | +Vout |
| NC | no connection |
| Tolerance: xx.x= ± 0.5 mm | |
| xx.xx= ± 0.35 mm | |
| Pin width: ± 0.05 mm | |

The product information and specifications are subject to change without prior notice. All products are designed for non-safety critical commercial and industrial applications. The buyer agrees to implement safeguards that anticipate the consequences of any failures that might cause harm, loss of life and/or property damage.

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<http://moschip.ru/get-element>

Вы можете разместить у нас заказ для любого Вашего проекта, будь то серийное производство или разработка единичного прибора.

В нашем ассортименте представлены ведущие мировые производители активных и пассивных электронных компонентов.

Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

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