

Features

Regulated Converters

- 30mW max of No Load Power Consumption
- High efficiency up to 80%
- Isolated Output 3kVAC / 1 min
- Short Circuit Protection
- Overvoltage Protection
- Meet EN55022 and FCC Class B
- Built-In Fusible Resistor

Description

Selection Guide

| Part Number | Output Voltage (VDC) | Max. Current (Io, max) | Ripple & Noise (mV) ⁽¹⁾ | Constant Current Range (mA) ⁽²⁾ | Efficiency (typ.) (%) |
|-------------------|----------------------|------------------------|------------------------------------|--|-----------------------|
| RAC03-3.3SC/277/W | 3.3 | 900mA | 200 | 1050-1350 | 71 |
| RAC03-05SC/277/W | 5 | 600mA | 150 | 700-880 | 76 |
| RAC03-12SC/277/W | 12 | 250mA | 150 | 310-390 | 78 |
| RAC03-24SC/277/W | 24 | 125mA | 150 | 160-195 | 80 |

Specifications (@ TA 25°C, nominal input 100-277VAC after warm-up time with rated output current unless otherwise noted)

| | | |
|--|---------------------------------------|---|
| Input Voltage Range | without Derating | 85-305VAC or 110-430VDC |
| | with 95% Derating | 80-305VAC or 115-430VDC |
| Input Frequency | | 47-440Hz |
| Input Current (full Load) | 115VAC/230VAC | 70mA / 45mA typ. |
| Inrush Current | 115VAC/230VAC | 15A/30A max. |
| No Load Power Consumption | 80-305VAC / 47-440Hz | 30mW max. |
| Output Voltage (Vout nom.) | | 3.3V-24V |
| Minimum Load | | 0% |
| Line Voltage Regulation | LL-HL at Full Load | 1.5% max. |
| Load Voltage Regulation ⁽³⁾ | 10-100% Load | ±6% max. |
| Switching Frequency | Full Load | 45kHz typ. |
| Isolation Voltage | Input-Output | 3kVAC / 1 minute |
| Leakage Current | 80-305VAC / 47-440Hz | 10µA max. |
| Isolation Resistance | Input-Output | 1G Ω min |
| Short Circuit Protection | | Continuous, Auto Restart |
| Over-Voltage Protection | | Zener clamp, set at 4.4V-5.0V for 3.3V and 112-140% of its nominal output voltage |
| Over Voltage Category | | OVC II |
| Operating Temperature | natural convection, without derating | -25°C to +75°C |
| | natural air convection, with derating | -25°C to +85°C |
| Storage Temperature | | -40°C to +85°C |
| Case Material | | UL94V-0 black plastic |
| Potting Material | | Silicone |
| Relative Humidity | | 95% RH max. |
| Package Weight | | 30g |
| Package Quantity | | 90 pcs |
| MTBF | TA = 25°C | > 1.000 x 10 ³ hours |
| <i>(using MIL-HDBK217F)</i> | TA = 75°C | > 100 x 10 ³ hours |
| Physical | Dimension (LxWxH) | 38.25 x 24.35 x 17.40 mm |
| EMC | Conducted and Radiated | EN55022, Class B |
| | Noise Immunity | EN55024 |
| Safety Standard | | |
| EN General Safety | | IEN-60950-1 3rd Edition |
| IEC General Safety | CB-Report: 1311035-CB | IEC-60950-1 2nd Edition |
| UL General Safety | Report: E224736-A17 | UL-60950-1 |

continued on next page

POWERLINE

AC/DC-Converter

with 3 year Warranty

RECOM

3 Watt

Single

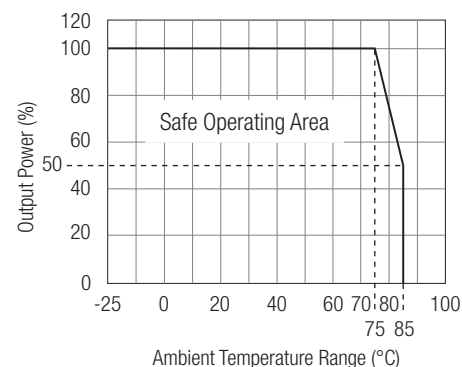
Output



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

RAC03-C/277/W

Derating Graph (Ambient Temperature)



Refer to Application Notes

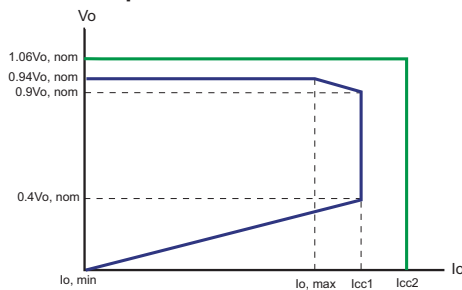
Specifications (@ TA 25°C, nominal input 100-277VAC after warm-up time with rated output current unless otherwise noted)

Notes:

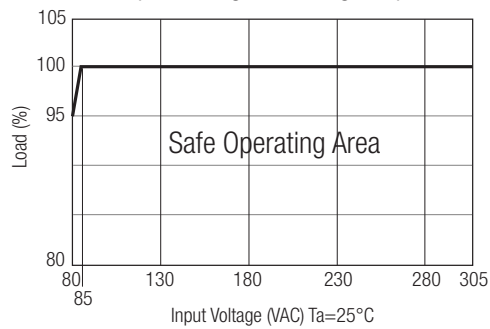
- Note1: Ripple and Noise is maximum peak-to-peak voltage value measured at output within 20Mhz bandwidth, at rated line voltage and output load ranges.
- Note2: Constant Current operation region is within 45% - 90% of Vo, nom. The Range includes all the tolerance of current precise, line regulation and load load regulation. Typically, the current tolerance could be within ±7% at rated input voltage and output operation region for every single unit.used
- Note3: „Total Regulation“ is the output voltage tolerance which includes initial voltage precise, thermal drift, line regulation and load regulation at rated input voltage and load condition.

Typical Characteristic

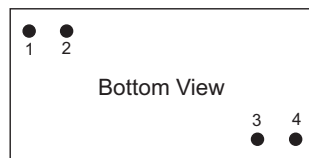
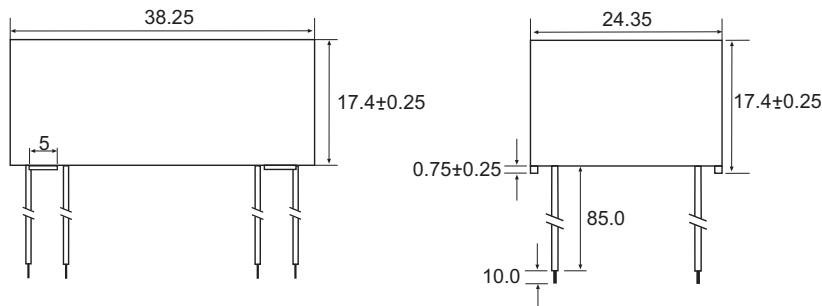
Output V-I Characteristic



Input Voltage Derating Graph



Package Style and Pinning



Recommend Footprint Details



Wired Connections

| Wired color | Type | Function |
|-------------|----------------|------------|
| 1 Brown | UL-1015 AWG#22 | VAC in (L) |
| 2 Blue | UL1015 AWG#22 | VAC in (N) |
| 3 Red | UL-1430 AWG#22 | +VDC out |
| 4 Black | UL-1430 AWG#22 | -VDC out |

Tolerance ±0.5mm unless otherwise specified

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 damage property.