

Features

Regulated Converters

- Universal Input 80-305VAC
- High efficiency up to 79%
- Isolated Output 3.75kVAC / 1 min
- Short Circuit Protection
- Maximum No Load <50mW, Maximum Input Power <0.5W @0.3W Output Power
- Meet EN55022 Class B
- Fixed Output Voltage

Selection Guide

| Part Number | Input Voltage (VAC) | Output Voltage (VDC) | Output Current (mA) | Efficiency (Typ.) (%) | Max. Capacitive Load (1+2) |
|------------------|---------------------|----------------------|---------------------|-----------------------|----------------------------|
| RAC04-3.3SC/277 | 80-305 | 3.3 | 1200 | 72 | 10000µF |
| RAC04-05SC/277 | 80-305 | 5 | 800 | 75 | 7200µF |
| RAC04-12SC/277 | 80-305 | 12 | 333 | 78 | 1000µF |
| RAC04-15SC/277 | 80-305 | 15 | 267 | 79 | 820µF |
| RAC04-24SC/277 | 80-305 | 24 | 167 | 79 | 220µF |
| RAC04-0512DC/277 | 80-305 | 5/12 | 720/33 | 75 | 4700/100µF |
| RAC04-05DC/277 | 80-305 | ±5 | ±400 | 76 | ±3300µF |
| RAC04-12DC/277 | 80-305 | ±12 | ±166 | 78 | ±680µF |

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

| | | |
|--|-----------------------------------|---------------------|
| Input Voltage Range (with Derating) | 80-305VAC or 113-430VDC | |
| Input Frequency | 47-440Hz | |
| Input Current (Full Load) | 115VAC/230VAC | 98mA / 64mA max. |
| Inrush Current | 115VAC/230VAC | 15A / 30A max. |
| No Load Power Consumption | 115VAC/230VAC/277VAC / 50/60Hz | 50mW max. |
| Output Voltage Accuracy (Full Load) | Single Outputs | ±2% typ. |
| | Dual Outputs | ±2% typ. |
| Line Voltage Regulation (90-305VAC) | 5V/12V | ±2% / ±10% typ. |
| | Single Outputs | ±0.2% typ. |
| | Dual Outputs | ±0.2% typ. |
| Load Voltage Regulation | 5V/12V | ±0.2% / ±1% typ. |
| | 3.3V/5V Output | ±1% typ. |
| (5V Minimum Load 5% @12V Full Load) | All Others | 0.5% typ. |
| | 5V/12V | ±1% / ±5% typ. |
| Output Ripple&Noise | 200mVp-p typ. | |
| (measured @ 20MHz BW with 0.1µF & 47µF parallel capacitor) | | |
| Switching Frequency (Full Load) | 67kHz | |
| Hold-Up Time (@115VAC) | 15ms min. | |
| Minimum Load | 5V/12V | 5% / 0% typ. |
| | All Others | 0% |
| Isolation Voltage | Input-Output | 3.75kVAC / 1 minute |
| Leakage Current | 277VAC / 50Hz | 0.25mA max. |
| Isolation Resistance | 100M Ω min. | |
| Short Circuit Protection | Auto Recovery | |
| Operating Temperature Range | -25°C to +65°C (without Derating) | |
| (Natural Convection, with Derating) | -25°C to +80°C (with Derating) | |
| Storage Temperature Range | -40°C to +100°C | |
| Case Material | UL94V-0 Black Plastic | |

continued on next page

POWERLINE

AC/DC-Converter

with 3 year Warranty

RECOM

4 Watt Single / Dual Output

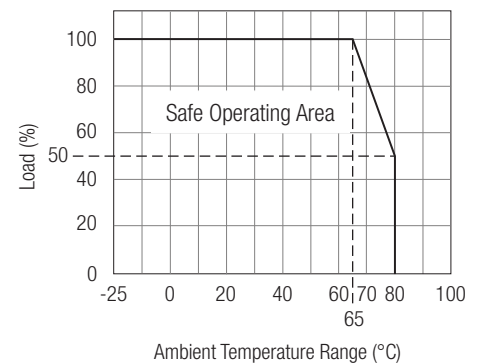


EN-60950-1 Certified

UL-60950-1 Certified

RAC04-C/277

Derating Graph (Ambient Temperature)



Refer to Application Notes

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

| | | |
|----------------------|--|---|
| Relative Humidity | Non Condensing | 95% RH max. |
| Package Weight | | 31.5g typ. |
| Physical Dimenstions | (LxWxH) | 36.7x27.2x17.1 mm |
| EMC | Conducted and Radiated | EN55022 Class B |
| | Noise Immunity | EN55024 |
| MTBF (+25°C) | MIL-HDBK-217F | 500 x 10 ³ hours |
| Certification | UL General Safety (Report: E224736-A18-UL) EN General Safety (Report: SPCLVD1310079-1) CB General Safety (Report: 131055-1CB-M1) | UL60950-1, 2nd Edition EN60950-1, 2006 IEC 60950-1: 2005; 2nd Edition |

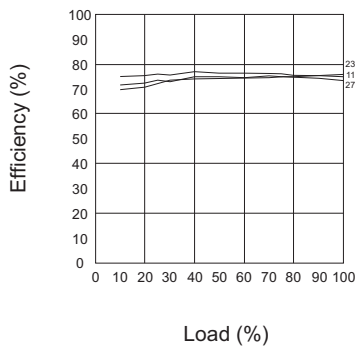
Notes:

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

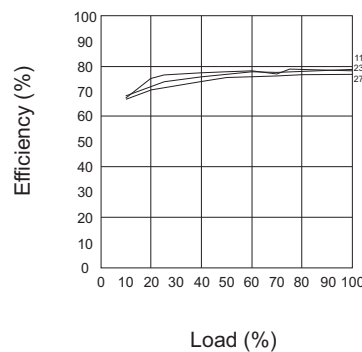
Note2: If used @ 115VAC / 60Hz with full load, max. capacitive load is less, please contace RECOM for detailed information.

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

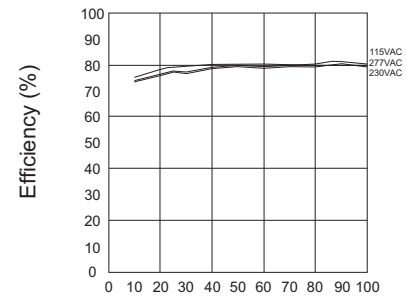
RAC04-3.3SC/277



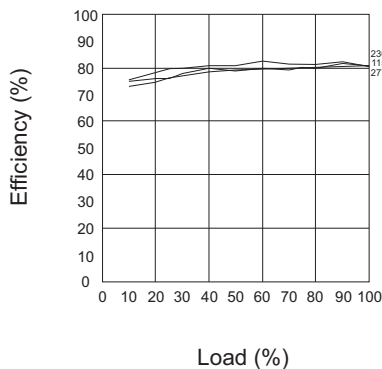
RAC04-05SC/277



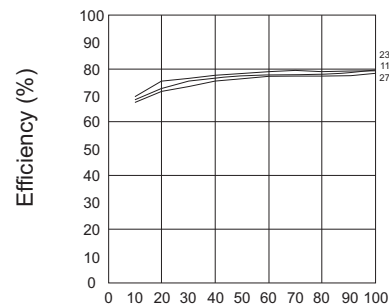
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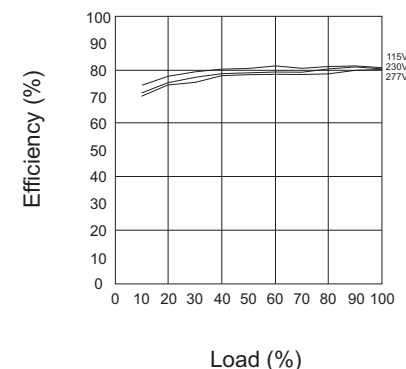
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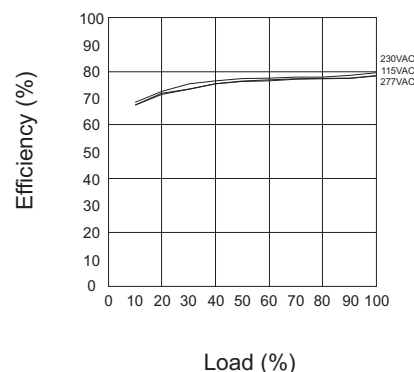
RAC04-05DC/277



RAC04-12DC/277

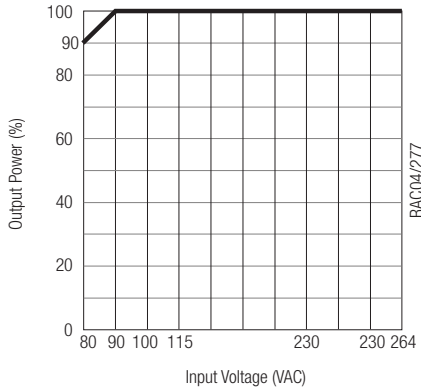


RAC04-0512DC/277

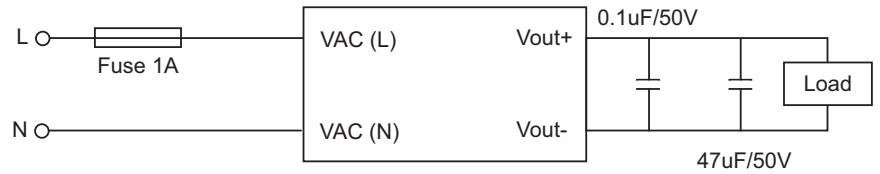


RAC04-c/277

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

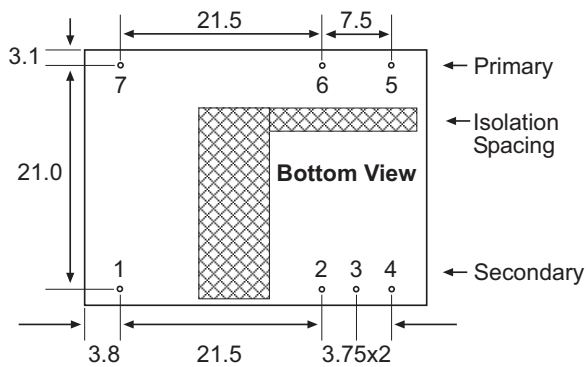
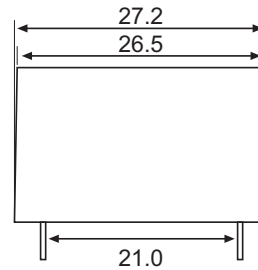
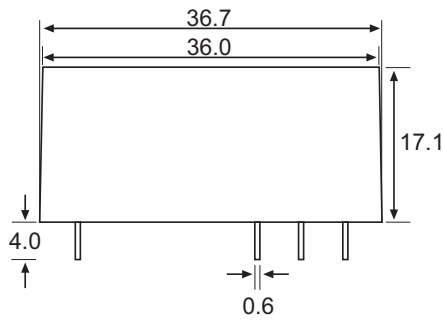


Application Note:



1. Recommended external input fuse 1A/slow blow type.
2. To measure the output ripple & noise short runs by 0.1uF/50V&47uF/50V @20MHz, nominal input and full load. Please see as above.
3. That Pin 7 is NC but need 4mm minimum clearance to ground for safety.

Package Style and Pinning



Pin Connections

| Pin # | Single Out | Dual Output | Dual Output |
|-------|------------|-------------|-------------|
| 1 | No Pin | No Pin | No Pin |
| 2 | +VDC out | +Vout | +Vout |
| 3 | -VDC out | Com | Com |
| 4 | NC | -Vout | +12V |
| 5 | VAC in (L) | VAC in (L) | VAC in (L) |
| 6 | VAC in (N) | VAC in (N) | VAC in (N) |
| 7 | NC | NC | NC |

NC = No Connection
xx.x = ±0.5mm
xx.xx = ±0.25mm