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With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

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# Features

## Regulated Converters

- Very Compact Low AC/DC Power Supply
- High Efficiency
- Single & Dual Output Options
- Continuous Short Circuit Protection
- Isolated Output 3.75kVAC/1 min
- EN55022 Class B Compliant
- High Operating Temperature
- Low Standby Power Consumption

# POWERLINE

AC/DC-Converter  
with 3 year Warranty



## 10 Watt Single / Dual Output

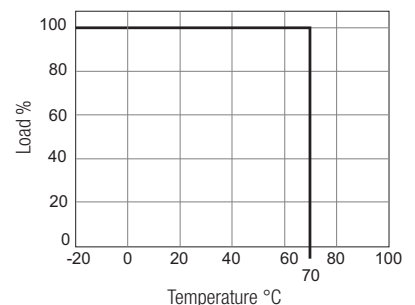


E224736

**EN60950-1 Certified**  
**UL60950-1 Certified**  
**CE marked**

# RAC10-C/277

## Derating-Graph<sup>(3)</sup> (Ambient Temperature)



### Selection Guide

| Part Number     | Input Range (VAC) | Output Voltage (VDC) | Output Current (mA) | Efficiency (typ.) (%) | Max. Capacitive Load (µF) <sup>(1+2)</sup> |
|-----------------|-------------------|----------------------|---------------------|-----------------------|--|
| RAC10-3.3SC/277 | 80-305            | 3.3                  | 2500                | 75                    | 50000                                      |
| RAC10-05SC/277  | 80-305            | 5                    | 2000                | 78                    | 36000                                      |
| RAC10-12SC/277  | 80-305            | 12                   | 840                 | 80                    | 8600                                       |
| RAC10-15SC/277  | 80-305            | 15                   | 670                 | 78                    | 6000                                       |
| RAC10-24SC/277  | 80-305            | 24                   | 420                 | 80                    | 2700                                       |
| RAC10-05DC/277  | 80-305            | ±5                   | ±1000               | 77                    | ±21000                                     |
| RAC10-12DC/277  | 80-305            | ±12                  | ±420                | 79                    | ±3700                                      |
| RAC10-15DC/277  | 80-305            | ±15                  | ±340                | 79                    | ±2900                                      |

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

|  |                           |               |
|--|---------------------------|---------------|
| Input Voltage Range (with Derating)                                  | 80-305VAC or 113-430VDC   |               |
| Rated Power  | 10 Watts                  |               |
| Input Frequency Range (for AC Input)                                 | 47-63Hz                   |               |
| Input Current (full load)  | 115VAC                    | 250mA typ.    |
|  | 230VAC                    | 160mA typ.    |
| No Load Power Consumption  | 230VAC                    | 300mW max.    |
| Inrush Current (cold Start-Up)                                       | 115VAC                    | 15A max.      |
|  | 230VAC                    | 30A max.      |
| Leakage Current  | 250VAC/50Hz               | 0.25mA max.   |
| External Fuse Recommended  | 1.5A slow blow type       |               |
| Output Voltage Accuracy  | 3.3V                      | ±3% typ.      |
|  | all others                | ±2% typ.      |
| Line Voltage Regulation (low line, high line at full load)           | ±0.3% typ.                |               |
|  |                           |               |
| Load Voltage Regulation (0 -100% Load)                               | 3.3V, 5V                  | -1.5% typ.    |
|  | 12V                       | ±1% typ.      |
|  | all others                | ±0.5% typ.    |
| Minimum Load   | 0%                        |               |
| Output Ripple and Noise (with 0.1µF across outputs @20MHz bandwidth) | 3.3V / 5V                 | 50mVp-p typ.  |
|  | 12V / 15V / 24V           | 125mVp-p typ. |
|  | ±5                        | 200mVp-p typ. |
|  | ±12                       | 125mVp-p typ. |
|  | ±15                       | 200mVp-p typ. |
| Operating Frequency  | 100kHz                    |               |
| Hold-up time   | 230VAC/50Hz               | 60ms min.     |
| Isolation Voltage (input to output)                                  | 3.75kVAC / 1 minute       |               |
| Short Circuit Protection   | Hiccup, Automatic Restart |               |

continued on next page

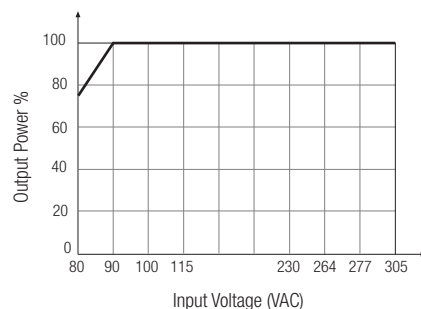
**Specifications** (measured at TA 25°C, full load after warm-up)

|  |                                      |                                 |
|--|--------------------------------------|---------------------------------|
| Output Overvoltage Protection              |                                      | Latch off                       |
| Over Voltage Category                      |                                      | OVC II                          |
| Overcurrent Protection                     |                                      | Automatic Recovery              |
| Operating Temperature Range <sup>(3)</sup> | (free air convection, with derating) | -20°C to +70°C                  |
| Storage Temperature Range                  |                                      | -40°C to +7 5°C                 |
| Humidity                                   |                                      | 95% RH max.                     |
| Case Material                              |                                      | Epoxy with Fibreglass (UL94V-0) |
| Dimension (L x W x H)                      |                                      | 52.4 x 27.4 x 23.5mm            |
| Package Weight                             |                                      | 62g±5g                          |

**Certifications**

|                       |                       |                             |
|-----------------------|-----------------------|-----------------------------|
| UL General Safety     | Report: E224736-A20   | UL60950-1, 2nd Edition      |
| IEC/EN General Safety | Report: SPCLVD1210109 | EN60950-1, 2nd Edition      |
| EMC                   | Report: T121026N02-E  | EN 55022 Class B            |
|                       | Report: T121026N02-E  | EN 55024                    |
| MTBF (+25°C)          | using MIL-HDBK-217F   | 320 x 10 <sup>3</sup> hours |
|                       | using MIL-HDBK-217F   | 120 x 10 <sup>3</sup> hours |

Input Voltage vs Load



Notes:

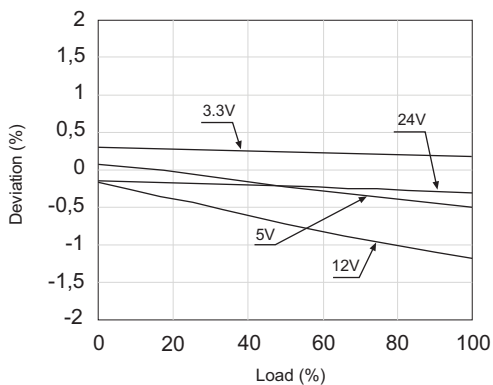
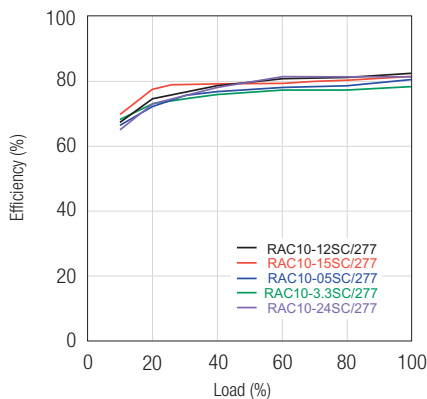
Note1: Measured @ 230VAC / 50Hz / Ta=25°C with constant resistant mode at full load.

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

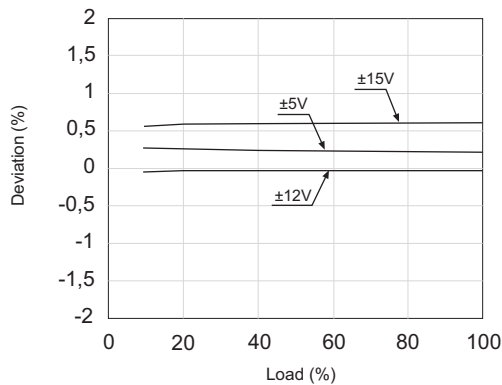
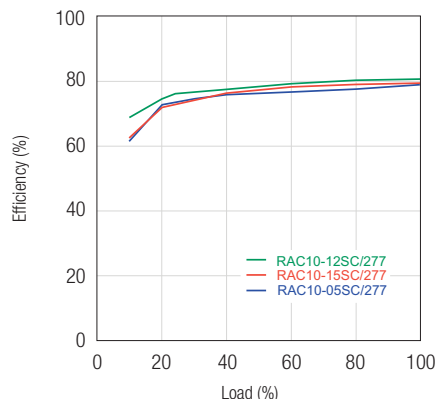
Note3: The RAC10-C/277 has been submitted and evaluated by Underwriters Laboratory (UL) to UL 60950 Standard for the use at the maximum ambient temperature (Tma) of 57°C

**Characteristics** (measured @ 115/230VAC, 50/60Hz after warm up)

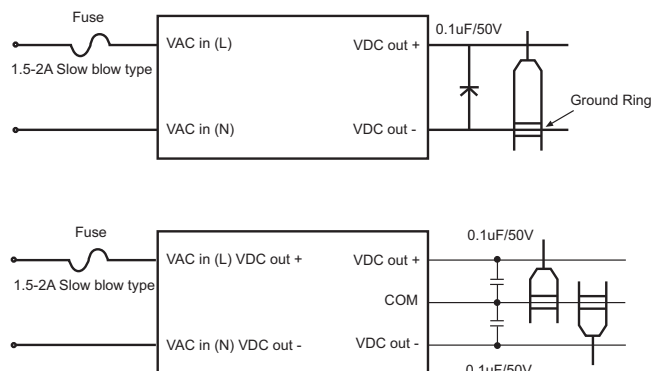
**RAC10-xxSC/277**



**RAC10-xxDC/277**

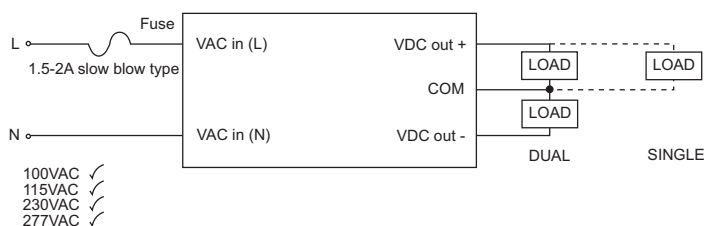


## Application Notes



1. Recommended external input fuse 1.5A / slow blow type.
2. Do not use scope ground lead to measure the output ripple & noise.

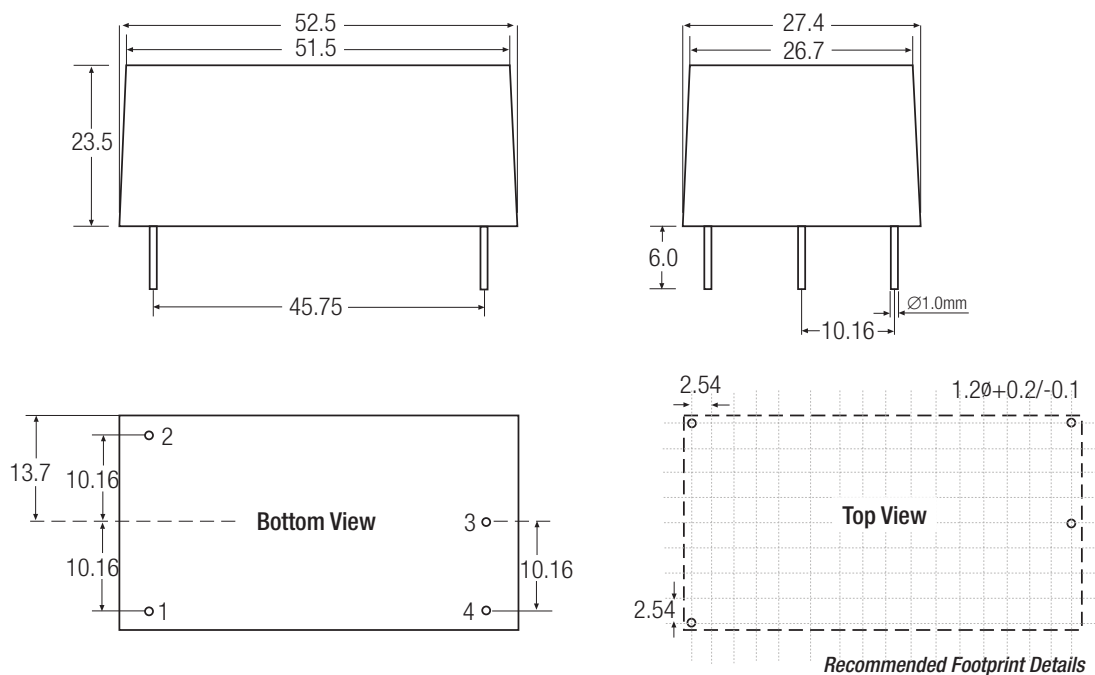
## Standard Application Circuit



## Standard Package Style and Pinning

### RAC10-xxSC/277

RAC10/277



#### Pin Connections-

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

XX.X ± 0.5 mm  
XX.XX ± 0.25 mm

Recommended Footprint Details

## RAC10-xxDC/277

