

## Features

### Regulated Converters

- Very Compact AC-DC Power Supply
- 6 Watt PCB Mount Package
- Single and Dual Output Versions
- Universal Input Voltage Range
- Class II Power Supply with 3kVAC Isolation
- Low Output Ripple and Noise
- Short Circuit, Overload, Overtemp Protected
- Low Standby Power Consumption
- UL/cUL Certified, CE Marked

### Description

Compact, low cost, high efficiency, universal input switching AC/DC power module for PCB or wired mounting with single or dual outputs.  
CE marked and UL/cUL Certified.

### Selection Guide

| Part Number  | Input Range (VAC) | Output Voltage (VDC) | Output Current (mA) | Efficiency (%) | Max Capacitive Load <sup>(1+2)</sup> |
|--------------|-------------------|----------------------|---------------------|----------------|--------------------------------------|
| RAC06-3.3SC* | 80-264            | 3.3                  | 1500                | 70             | 12000μF                              |
| RAC06-05SC*  | 80-264            | 5                    | 1200                | 75             | 6800μF                               |
| RAC06-09SC*  | 80-264            | 9                    | 667                 | 77             | 2500μF                               |
| RAC06-12SC*  | 80-264            | 12                   | 500                 | 78             | 1500μF                               |
| RAC06-15SC*  | 80-264            | 15                   | 400                 | 79             | 750μF                                |
| RAC06-24SC*  | 80-264            | 24                   | 250                 | 79             | 330μF                                |
| RAC06-05DC*  | 80-264            | ±5                   | ±600                | 75             | ±3300μF                              |
| RAC06-12DC*  | 80-264            | ±12                  | ±250                | 78             | ±680μF                               |
| RAC06-15DC*  | 80-264            | ±15                  | ±200                | 79             | ±330μF                               |

\* add suffix /W for wired version

### Specifications (Ta=25°C and after warm up time, measured at 115VAC/60Hz and 230VAC/50Hz)

|                                                                                    |               |                                               |
|------------------------------------------------------------------------------------|---------------|-----------------------------------------------|
| Input Voltage Range (with derating)                                                |               | 80-264VAC or 115-370VDC                       |
| Rated Power                                                                        |               | 6 Watts max.                                  |
| Input Frequency Range (for AC Input)                                               |               | 47-440Hz                                      |
| Input Current (full load)                                                          | 115/230VAC    | 120mA / 78mA typ.                             |
| No Load Power Consumption                                                          |               | 250mW max.                                    |
| Inrush Current (<2ms)                                                              | 115/230VAC    | 30A/60A max.                                  |
| Holdup Time (Full Load)                                                            | 115VAC        | 10ms typ.                                     |
| Leakage Current                                                                    |               | 0.85mA max.                                   |
| Output Voltage Accuracy (Full load)                                                |               | ±2% max.                                      |
| Line Voltage Regulation (low line, high line at full load)                         |               | ±0.3% typ.                                    |
| Load Voltage Regulation ( 5% to 100% full load )                                   |               | ±0.5% typ.                                    |
| Output Ripple and Noise (20MHz BW)                                                 | 3.3V Output   | 120mVp-p max.                                 |
| (with 100nF across each output)                                                    | All Others    | 150mVp-p max.                                 |
| Operating Frequency (full load)                                                    |               | 132kHz typ.                                   |
| Minimum Load = 0%                                                                  |               | specifications valid for 5% minimum load only |
| RMS Isolation Voltage (input to output)                                            |               | 3kVAC / 1minute                               |
| Isolation Resistance (input to output)                                             |               | 1 GΩ min.                                     |
| Isolation Capacitance (input to output)                                            |               | 1000pF typ.                                   |
| Short Circuit Protection                                                           |               | Hiccup, Automatic Restart                     |
| Overload Protection                                                                | 115VAC/230VAC | 115% ~ 145%                                   |
| Output Overvoltage Protection                                                      |               | Zener Diode Clamp                             |
| (set at 4.8V - 5.4V for 3.3V and others 110% - 135% of its Nominal Output Voltage) |               |                                               |

continued on next page

## POWERLINE

### AC/DC-Converter

with 3 year Warranty

RECOM

## 6 Watt Single/Dual Output



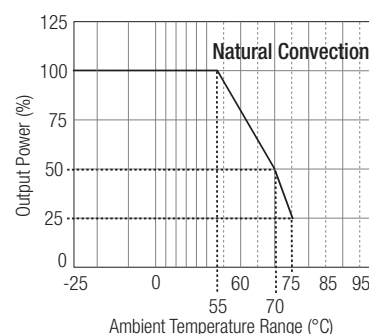
E224736

EN-60950-1 Certified

UL-60950-1 Certified

## RAC06-C

## Derating Graph (Ambient Temperature)



Please Read Application Notes

www.recom-power.com

## Typical Characteristics

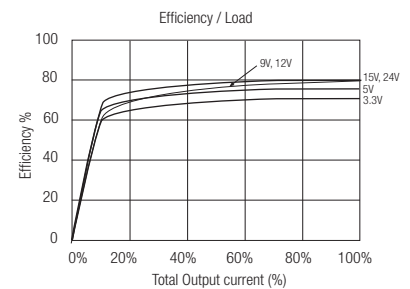
|                                 |                                          |                                      |
|---------------------------------|------------------------------------------|--------------------------------------|
| Operating Temperature Range     | (free air convection, without derating)  | -25°C to +55°C                       |
|                                 | (free air convection, with derating)     | -25°C to +75°C                       |
| Storage Temperature Range       | -40°C to +100°C                          |                                      |
| Recommended External Input Fuse | 1.5A Slow Blow                           |                                      |
| Humidity                        | 95% RH max.                              |                                      |
| Case Material                   | Plastic Case filled with Epoxy (UL94V-0) |                                      |
| Package Weight                  | Single/Dual                              | 35g/38g                              |
| Packing Quantity                | Single Output                            | 10 pcs                               |
|                                 | Dual Output                              | 9 pcs                                |
|                                 | /W Version                               | 1 pc                                 |
| Emissions                       | CE                                       | EN 55022: 2006 + A1: 2007 / Class B  |
|                                 | EMC                                      | EN 55024:1998 + A1:2001 + A2:2003    |
|                                 | Harmonics                                | EN 61000-3-2:2006 / Class A          |
|                                 | Flicker                                  | EN 61000-3-3:1995 + A1:2001 +A2:2005 |
| Immunity                        | ESD                                      | IEC 61000-4-2 / Criterion B          |
|                                 | RS                                       | IEC 61000-4-3 / Criterion A          |
|                                 | EFT                                      | IEC 61000-4-4 / Criterion B          |
|                                 | Surge                                    | IEC 61000-4-5 / Criterion B          |
|                                 | CS                                       | IEC 61000-4-6 / Criterion A          |
|                                 | PMF                                      | IEC 61000-4-8 / Criterion A          |
|                                 | Voltage Variations                       | IEC 61000-4-11 / Criteria B + C      |
| MTBF (+25°C)                    | using MIL-HDBK-217F                      | >400 x 10 <sup>3</sup> hours         |
| (+65°C)                         |                                          | >200 x 10 <sup>3</sup> hours         |
| Certifications:                 |                                          |                                      |
| UL General Safety               | Report: E224736                          | UL-60950-1, 2nd Edition              |
| cUL                             | Report: E224736                          | C22.2 No. 60950-1-07, 2nd Edition    |
| EN General Safety               | Report: SPCLVD1211033-1                  | EN-60950-1:2006 + A12:2011           |
| CE                              |                                          | EN55022 Class B                      |

### Notes:

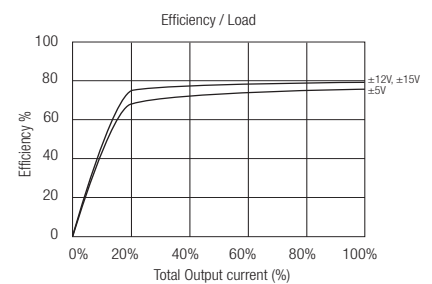
Note1: Measured @ 230VAC / 50Hz / Ta=25°C with constant resistant mode at full load.

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

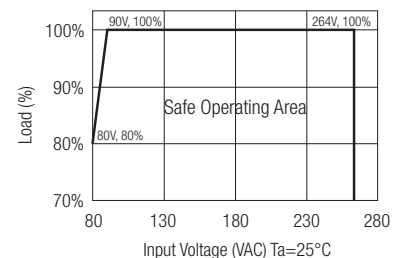
### Single Output



### Dual Output

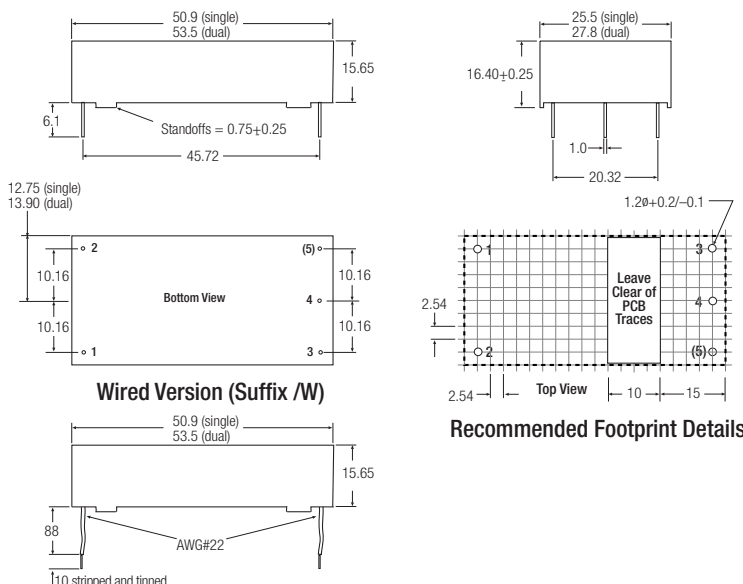


### Input Voltage Derating Graph



## Package Style and Pinning

### PCB Mounting Version (Standard)



### Pin Connections

| Pin #              | Single Out | Dual Out   |
|--------------------|------------|------------|
| 1                  | VAC in (N) | VAC in (N) |
| 2                  | VAC in (L) | VAC in (L) |
| 3                  | +VDC out   | +VDC out   |
| 4                  | -VDC out   | Com        |
| 5                  | No Pin     | -VDC out   |
| Tolerance ± 0.5 mm |            |            |

### Wire Connections

| Wire   | AWG#22 | Single Out | Dual Out   |
|--------|--------|------------|------------|
| Blue   | 1015   | VAC in (N) | VAC in (N) |
| Brown  | 1015   | VAC in (L) | VAC in (L) |
| Red    | 1007   | +VDC out   | +VDC out   |
| Black  | 1007   | -VDC out   | Com        |
| Orange | 1007   |            | -VDC out   |

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.