

## Features

### Regulated Converters

- Very Compact AC-DC Power Supply
- 5 Watt PCB Mount Package
- Universal Input Voltage Range
- 3000VAC Isolation
- Low Output Ripple and Noise
- Short Circuit Protected
- UL Approved

## POWERLINE AC/DC-Converter

# RAC05-SB Series

### Selection Guide

| Part Number | Input Range (VAC) | Output Voltage (VDC) | Output Current (mA) | Efficiency (%) |
|-------------|-------------------|----------------------|---------------------|----------------|
| RAC05-3.3SB | 90-264            | 3.3                  | 1250                | 65             |
| RAC05-05SB  | 90-264            | 5                    | 1000                | 72             |
| RAC05-12SB  | 90-264            | 12                   | 420                 | 73             |
| RAC05-15SB  | 90-264            | 15                   | 333                 | 75             |
| RAC05-24SB  | 90-264            | 24                   | 230                 | 76             |

\* add suffix "-DIN for DIN Rail mounting module (see separate datasheet)

### Description

Compact switching power module for PCB or DIN-rail mounting with cUL, UL Safety Approvals.

### Specifications

( typical at 25°C, nominal input voltage and after warm up time unless otherwise specified )

|  |   |
|--|---|
| Input Voltage Range  | 90-264VAC or 120-370VDC                         |
| Rated Power  | 5 Watts max.                                    |
| Input Frequency Range (for AC Input)                             | 47-440Hz  |
| Input Current (full load)  | 110mA max. (115VAC) / 70mA max. (230VAC)        |
| Inrush Current (<2ms)  | 10A max. (115VAC) / 20A max. (230VAC)           |
| Leakage Current  | 0.75mA max.                                     |
| Output Voltage Accuracy (Full load)                              | ±2%   |
| 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 limited)                          | 0.5% Vout + 50mVp-p max.                        |
| Operating Frequency  | 132kHz typ.                                     |
| Efficiency at Full Load  | see table                                       |
| Isolation Voltage (input to output)                              | 3000VAC min.                                    |
| Temperature Coefficient  | ±0.02%/°C typ.                                  |
| Isolation Resistance   | 100 MΩ max.                                     |
| Short Circuit Protection   | Continuous, Automatic Restart                   |
| Operating Temperature Range (free air convection, with derating) | -25°C to +70°C                                  |
| Storage Temperature Range  | -40°C to +85°C                                  |
| Humidity   | 95% RH max.                                     |
| Case Material  | Epoxy with Fibreglass (UL94V-0)                 |
| Package Weight   | 30g   |
|  | DIN Rail Module 67g                             |
| MTBF (+25°C)   | using MIL-HDBK-217F 360 x 10 <sup>3</sup> hours |

## 5 Watt Single Output

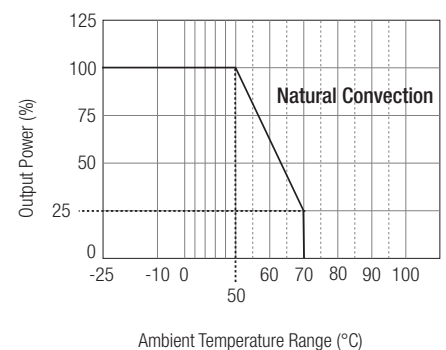


**UL-60950 Certified**

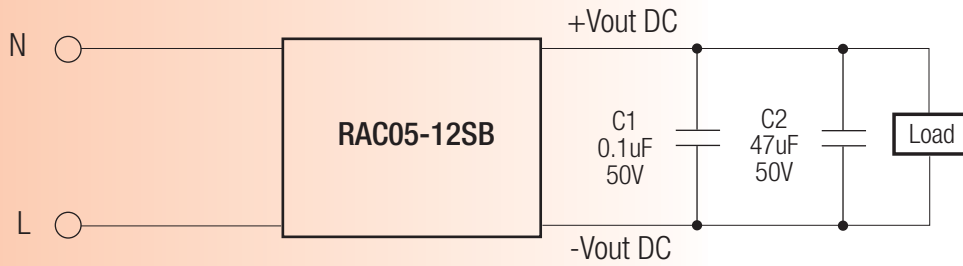


## Derating Graph

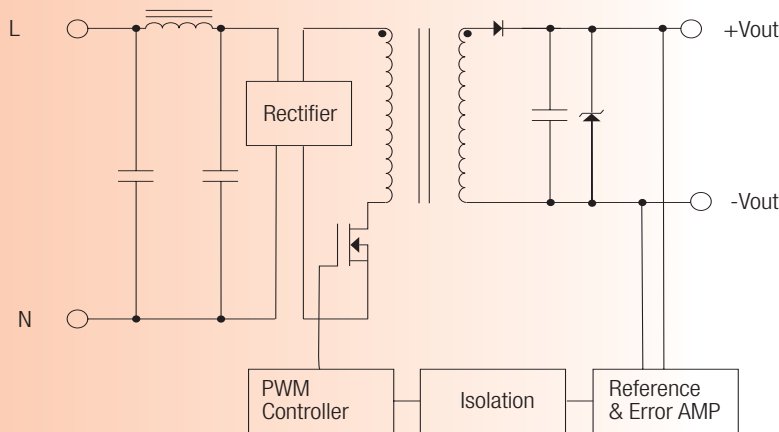
(Ambient Temperature)



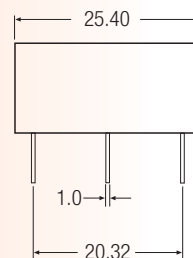
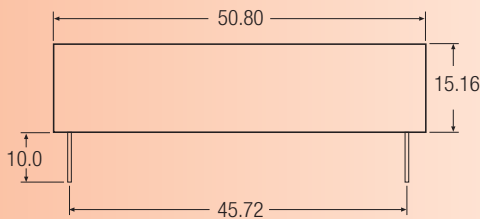
**Typical Application**



**Simplified Schematic**



**Package Style and Pinning**



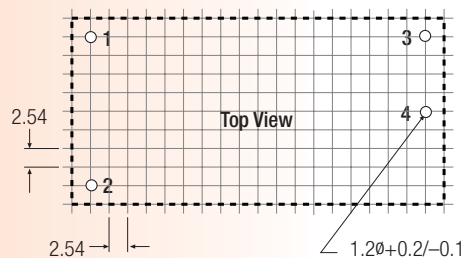
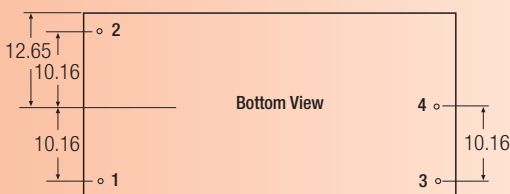
3rd angle projection

**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**



See DIN Rail Modules for DIN rail mounting option