

Features

Regulated Converters

Rev. 0

- 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 Certified

Description

Compact switching AC/DC power module for PCB, screw-terminal connection or DIN-rail mounting with cUL and UL Safety Approvals

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 "-E" for extended temperature range, e.g. RAC05-05SB-E

*add suffix "-ST" for screw terminal module e.g. RAC05-05SB-ST, RAC05-05SB-E-ST

Specifications (typical at 25°C 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) | 115VAC 230VAC | 10A max. (-E = 23A max.) 20A max. (-E = 46A max.) |
| 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) | Standard Suffix -E | -25°C to +70°C -40°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 | |
| EMC | EN 55022 Class B / EN 55024 | |
| MTBF (+25°C) | using MIL-HDBK-217F | 360 x 10 ³ hours |

POWERLINE

AC/DC-Converter

RAC05-SB Series

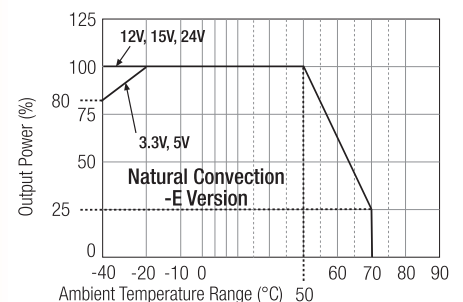
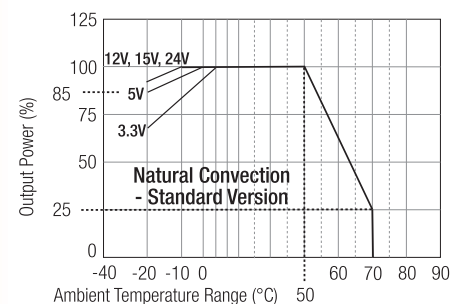
5 Watt Single Output



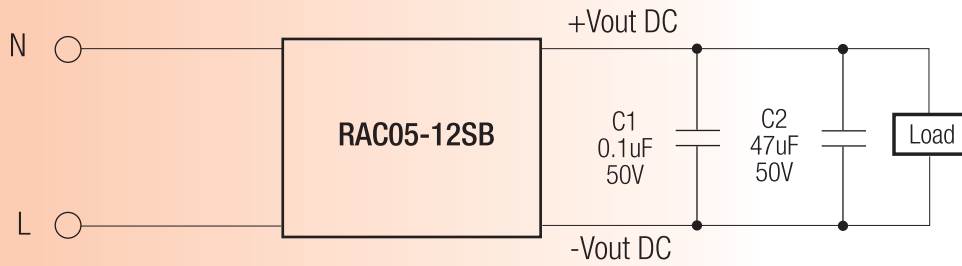
UL-60950-1 Certified



Derating Graphs (Ambient Temperature)

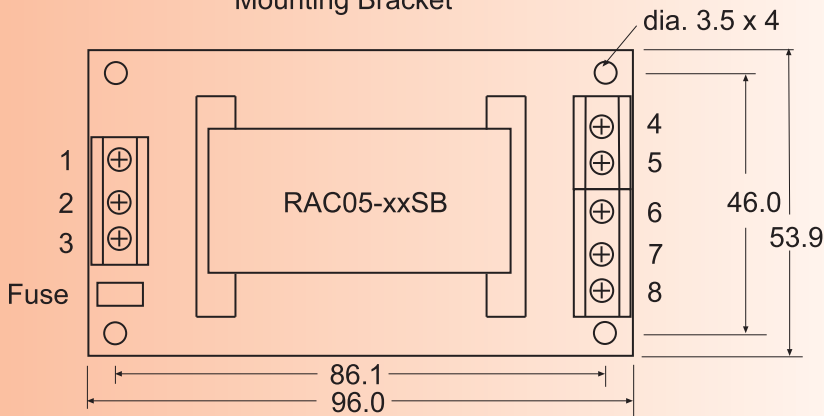
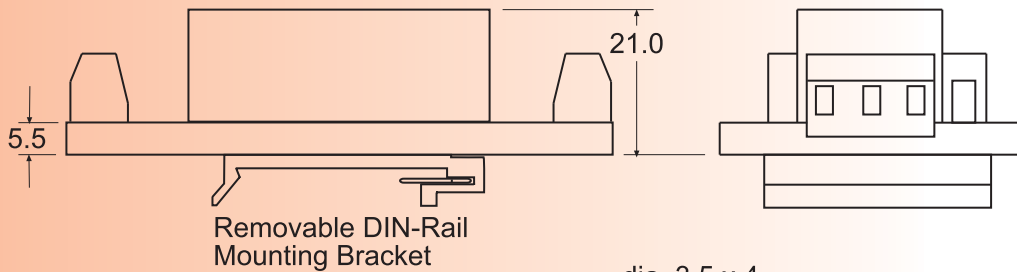


Typical Application



Screw Terminal Module Option (suffix -ST)

3rd angle projection

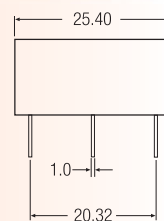
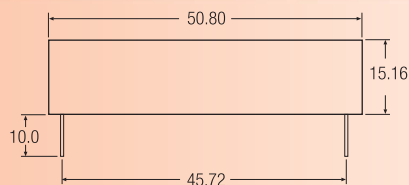


Pin Connections-

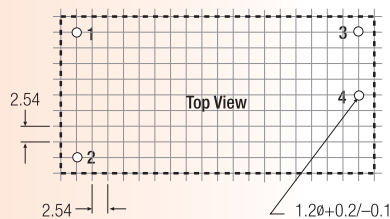
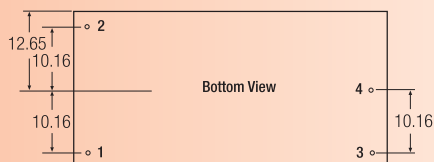
| Pin # | Single Out |
|-------|------------|
| 1 | NC |
| 2 | VAC in (N) |
| 3 | VAC in (L) |
| 4 | NC |
| 5 | -VDC out |
| 6 | +VDC out |
| 7 | NC |
| 8 | NC |

NC = No Connection

Package Style and Pinning



Recommended Footprint Details



Pin Connections

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

Tolerance ± 0.5 mm