

## Features

## Regulated Converters

Rev. 1

- 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 <sup>3</sup> hours

## POWERLINE AC/DC-Converter

# RAC05-SB Series

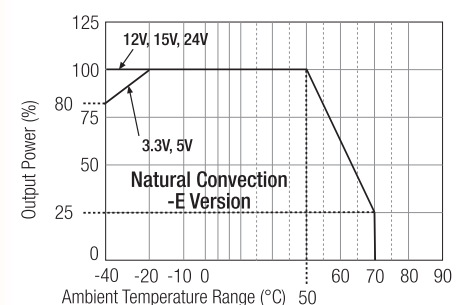
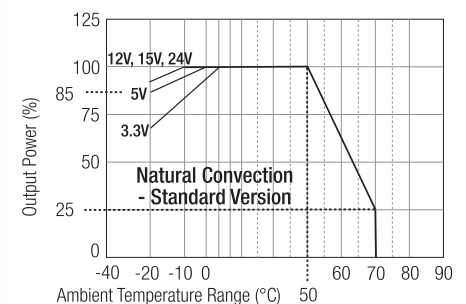
## 5 Watt Single Output



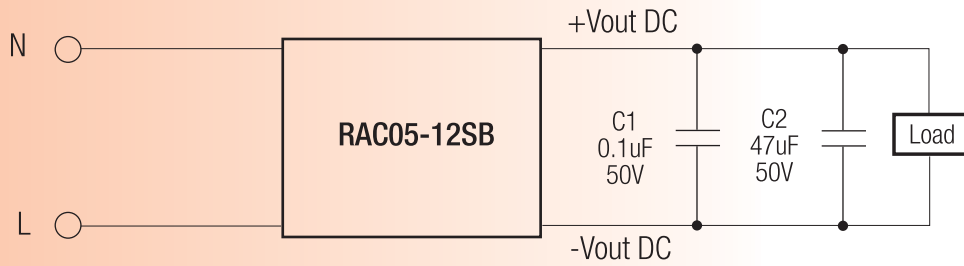
UL-60950-1 Certified



## Derating Graphs (Ambient Temperature)

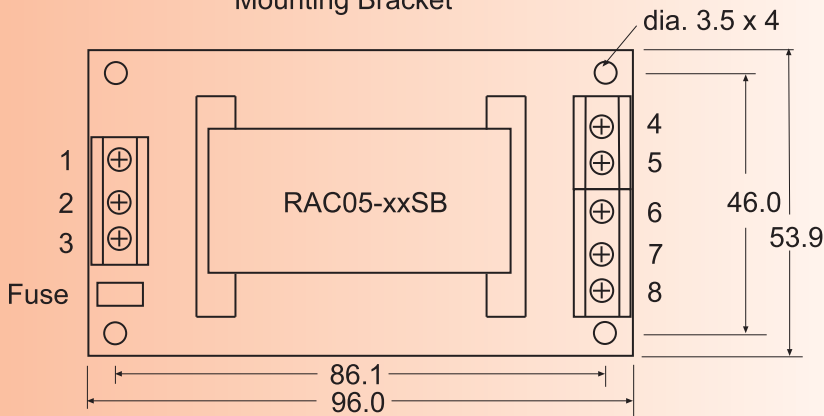
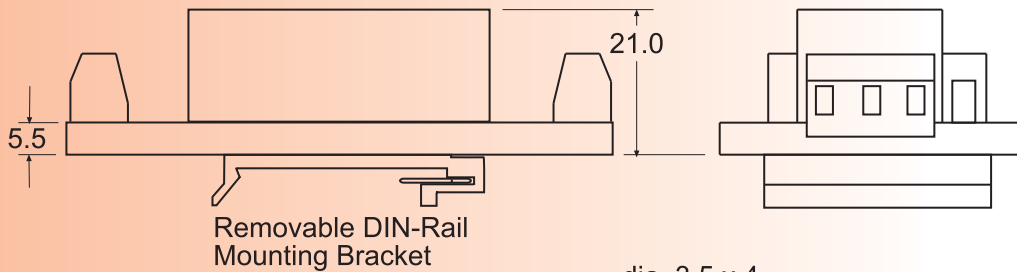


## Typical Application



## Screw Terminal Module Option (suffix -ST)

3rd angle projection

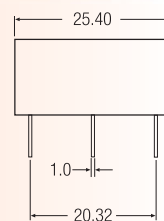
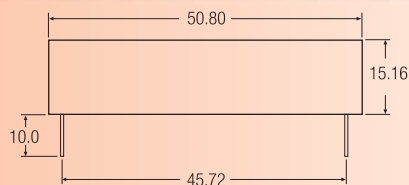


### Pin Connections-

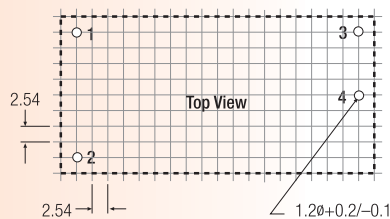
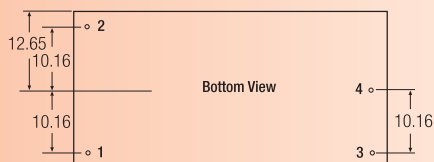
Pin #	Single Out
1	NC
2	VAC in (N)
3	VAC in (L)
4	NC
5	-VDC out
6	+VDC out
7	NC
8	NC

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