



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

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.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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## Features

## Regulated Converters

- Universal Input 80-264VAC
- High efficiency up to 77%
- Isolated Output 3kVAC / 1 min
- Short Circuit Protection
- Meet EN55022 Class B
- Low Standby Power Consumption

## 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 Voltage (VAC)	Output Voltage (VDC)	Output Current (max.)	Efficiency (Typ.)	Max. Capacitive Load <sup>(1+2)</sup>
RAC05-3.3SC*	80-264	3.3	1250	70	12000µF
RAC05-05SC*	80-264	5	1000	73	6800µF
RAC05-09SC*	80-264	9	556	75	2500µF
RAC05-12SC*	80-264	12	420	76	1500µF
RAC05-15SC*	80-264	15	340	76	750µF
RAC05-24SC*	80-264	24	210	77	330µF
RAC05-05DC*	80-264	±5	±500	73	±3000µF
RAC05-12DC*	80-264	±12	±210	76	±560µF
RAC05-15DC*	80-264	±15	±170	76	±220µF

\* add suffix /W for wired version

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

Input Voltage Range (with derating)	80-264VAC or 115-370VDC	
Rated Power	5 Watts max.	
Input Frequency (for AC Input)	47-440Hz	
Input Current (Full Load)	115VAC / 230VAC	110mA / 70mA typ.
Inrush Current (<2ms)	115VAC / 230VAC	30A / 60A max.
Minimum Load (Specifications valid with 5% min.)	0%	
No Load Power Consumption	0.25W max.	
Recommended External Input Fuse	1.5A / Slow Blow Type	
Output Voltage Accuracy (Full Load)	115VAC / 230VAC	±2% max.
Line Voltage Regulation (Full Load)	LL-HL	±0.3% typ.
Load Voltage Regulation	5-100% Load	±0.5% typ.
Output Ripple&Noise @115/230VAC	3.3V	120mV max.
(20MHz limited with 100nF across output)	All Others	150mV max.
Switching Frequency (Full Load)	132kHz typ.	
Efficiency (Full Load)	see Selection Guide	
Hold-Up Time (Full Load)	115VAC	10ms typ.
Leakage Current	0.85mA max.	
Isolation Voltage	Input-Output	3kVAC / 1 minute
Isolation Capacitance	Input-Output	1000pF typ.
Isolation Resistance	Input-Output	1G Ω min.
Short Circuit Protection	Hiccup, Automatic Restart	
Overvoltage Protection (of Nominal Output Voltage)	3.3V All Others	4.8 V- 5.4V 110% - 135%
Over Voltage Category	OVC II	
Operating Temperature Range <sup>(3)</sup> (Natural Convection)	-25°C to +55°C (without Derating) -25°C to +75°C (with Derating)	
Storage Temperature Range	-40°C to +100°C	
Case Material	UL94V-0 Black Plastic	

continued on the next page

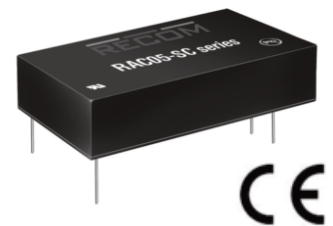
## POWERLINE

### AC/DC-Converter

with 3 year Warranty

# RECOM

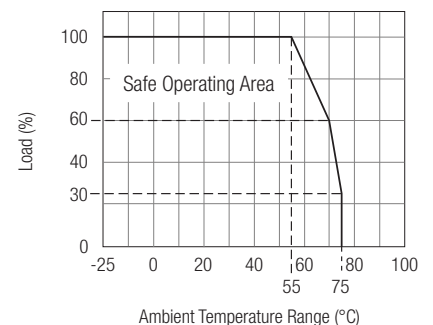
## 5 Watt Single / Dual Output



**EN-60950-1 Certified**  
**UL-60950-1 Certified**

## RAC05-C

## Derating-Graph (Ambient Temperature)



Refer to Application Notes

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

Potting Material		Epoxy UL94V-0
Relative Humidity		95% RH max.
Package Weight	Single / Dual	35g / 38g
Packing Quantity	Single Output	10pcs
	Dual Output	9pcs
	Wired Version	1pc
MTBF (25°C)	Using MIL-HDBK 217F	>400 x 10 <sup>3</sup> hours
	Using MIL-HDBK 217F	>200 x 10 <sup>3</sup> hours
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
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-:2006 + A12:2011
CE		EN55022 Class B

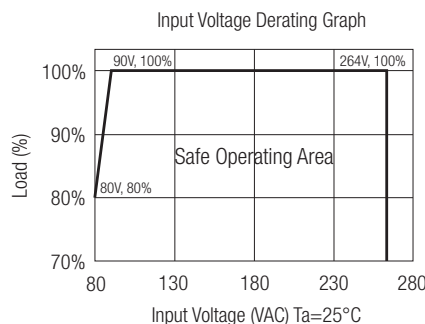
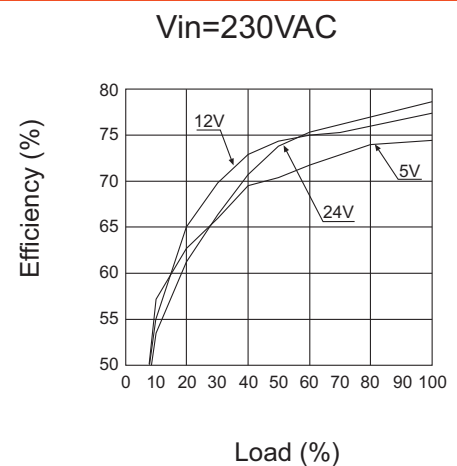
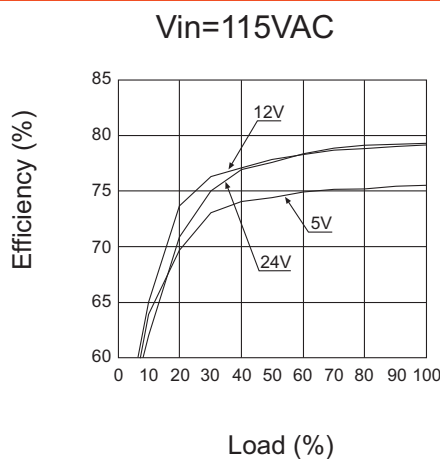
Notes:

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.

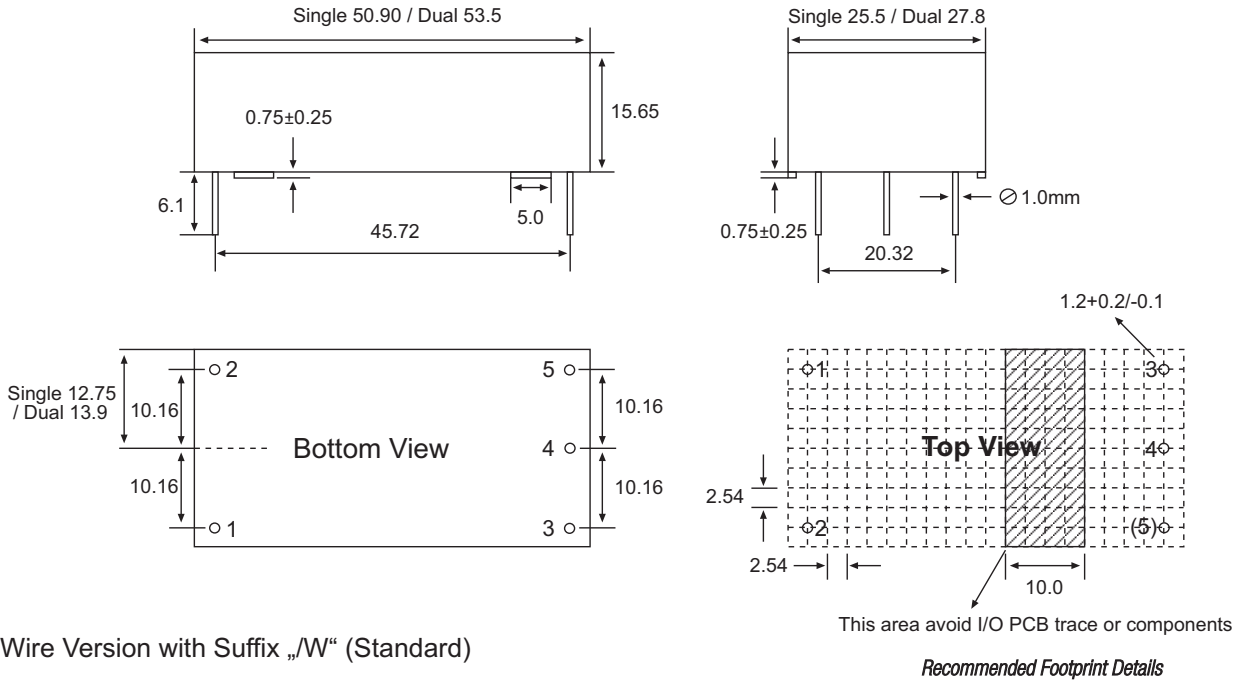
Note3: Start up only is guaranteed at temperatures down to -25°C. Other specifications may not be met.

**Typical Characteristics**

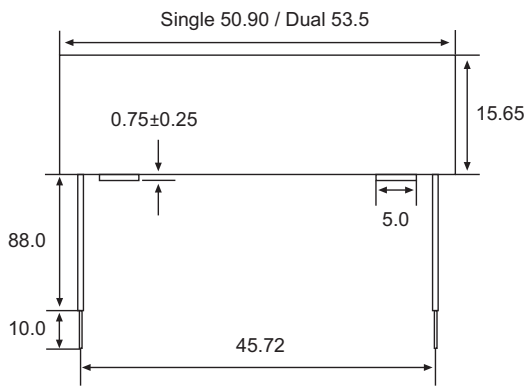


**Package Style and Pinning**

PCB Mout Version (Standard)



Wire Version with Suffix „W“ (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

NC = No Connection  
xx.x = ±0.5mm  
xx.xx = ±0.25mm

**Wire Connections**

Pin #			Single out	Dual out
1 (Blue)	AWG#22	1015	VAC in (N)	VAC in (N)
2 (Brown)	AWG#22	1015	VAC in (L)	VAC in (L)
3 (Red)	AWG#22	1007	+VDC out	+VDC out
4 (Black)	AWG#22	1007	-VDC out	Common
5 (Orange)	AWG#22	1007	no Wire	-VDC out

NC = No Connection  
xx.x = ±0.5mm  
xx.xx = ±0.25mm