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!

Contact us

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Email & Skype: info@chipsmall.com Web: www.chipsmall.com
Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China

Features

Regulated Converter

- Universal Input 85-264VAC
- 1W PCB Mount Package
- <150mW No Load Power Consumption
- Ultra Low Profile, Compact Size
- -25°C to +80°C Operating Temperature
- Continuous SCP, OCP
- EN/IEC/UL60950 & IEC/EN/UL62368 Certified, EN60335-1 Pending

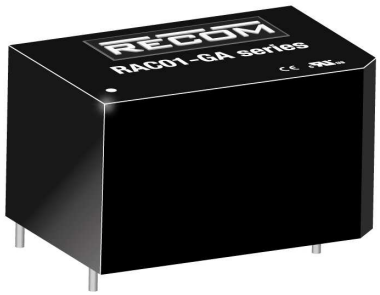
RECOM

AC/DC Converter

RAC01-GA

1 Watt Single Output EMC Class A

3 YEAR 3 warranty



RoHS 2+ compliant 10 from 10 — REACH compliant — ERP compliant

HOUSEHOLD CERTIFIED EN-60335-1 appliances

c UL us E196683 CE

UL60950-1 Certified
IEC/EN60950-1 Certified
UL62368-1 Certified
IEC/EN62368-1 Certified
EN60335-1 Pending

Description

The RAC01-GA series are low cost AC/DC power supplies, ideal for PCB mounted, compact, board level industrial power supplies. They feature universal AC input voltage range, regulated and short-circuit-proof isolated DC outputs, low standby power consumption and -25°C to +80°C operating temperature range. The RAC01-GA have a built-in Class A / FCC Part 15 EMC filter, are pending to EN60335, EN60950 and EN62368 safety standards and come with a three year warranty.

Selection Guide

Part Number	nom. Input Voltage Range [VAC]	Output Voltage [VDC]	Output Current [mA]	Efficiency typ. [%]	Max. Capacitive Load (1) [µF]
RAC01-05SGA	100-240	5	200	63	500
RAC01-12SGA	100-240	12	83	68	200

Notes:

Note1: measured with all input voltages at 25°C with constant resistant mode at full load.

Specifications (measured @ ta= 25°C, nominal input voltage (115/230VAC), full load and after warm-up)

BASIC CHARACTERISTICS					
Parameter	**Condition**		**Min.**	**Typ.**	**Max.**
Internal Input Filter					Pi-Type
Input Voltage Range (2)			85VAC	230VAC	264VAC
Input Current	115VAC 230VAC			25mA 18mA	30mA 20mA
Inrush Current	cold start at 25°C	115VAC 230VAC			30A 40A
No load Power Consumption					150mW
Input Frequency Range			47Hz		63Hz
Start-up Time	115VAC 230VAC				1s 2s
Hold-up time	115VAC 230VAC				18ms 80ms
Minimum Load			0%		
Internal Operating Frequency	100% load at nominal Vin			65kHz	
Output Ripple and Noise	5Vout	0 °C ... 80°C -25°C ... 0°C			100mVp-p 200mVp-p
	12Vout	0 °C ... 80°C -25°C ... 0°C			200mVp-p 300mVp-p
Power Factor	115VAC, 230VAC		0.4		0.6

Notes:

Note2: no proper operation with DC Input Voltage.

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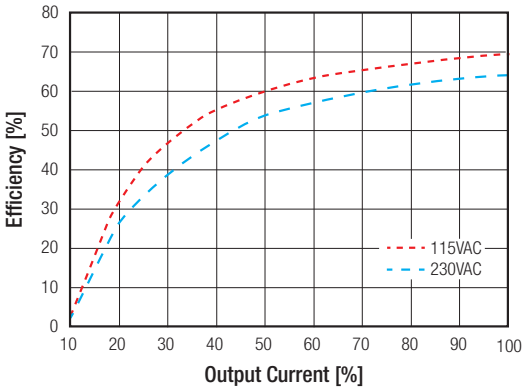
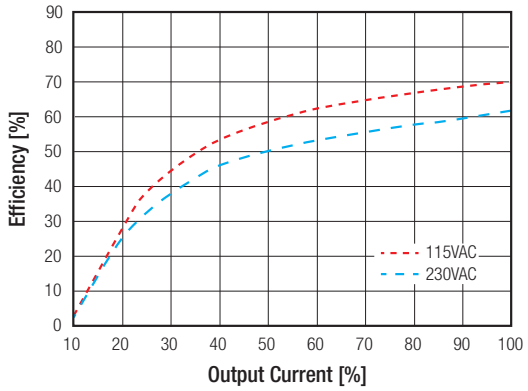
Specifications (measured @ ta= 25°C, nominal input voltage (115/230VAC), full load and after warm-up)

Efficiency vs. Load

RAC01-05SGA



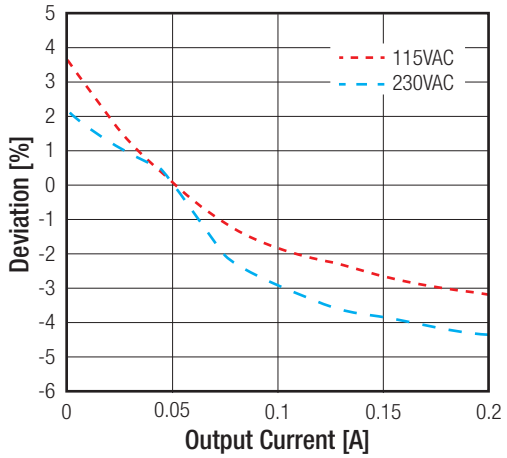
RAC01-12SGA



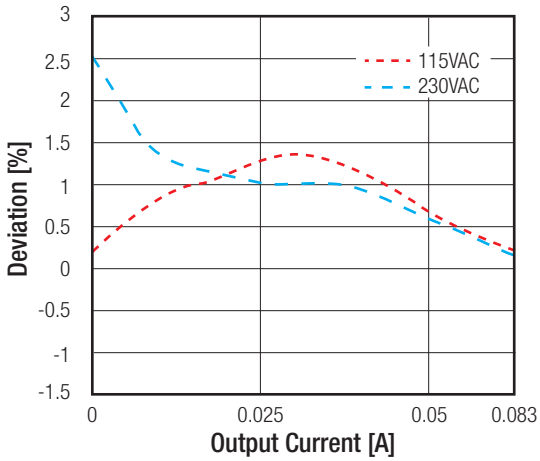
REGULATIONS		
Parameter	**Condition**	**Value**
Output Accuracy	-25°C to +80°C	±6.0% max.
Line Regulation	-25°C to +80°C	±2.0% max.
Load Regulation	-25°C to +80°C	±6.0% max.

Accuracy vs. Load

RAC01-05SGA



RAC01-12SGA



PROTECTIONS			
Parameter	**Type**		**Value**
Input Fuse	internal		10Ω/1W
Short Circuit Protection (SCP)	below 100mΩ		continuous, auto recovery
Over Current Protection (OCP)	5Vout 12Vout		0.22A - 0.5A, hiccup mode 0.91A - 0.25A, hiccup mode
Over Voltage Category (OVC)			OVC II
Isolation Voltage (3)	I/P to O/P	rated for 1min	3kVAC
Isolation Resistance			100MΩ min.
Insulation Grade			reinforced
Leakage Current	I/P to O/P		0.25mA max.

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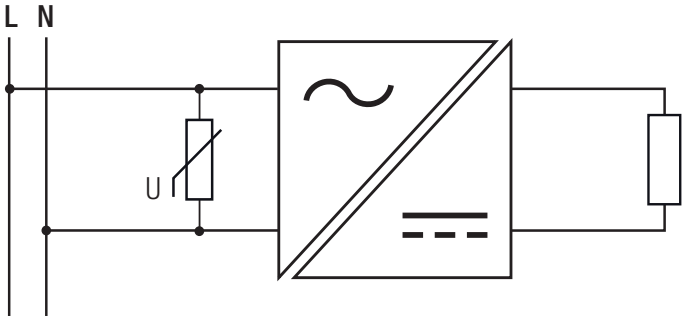
Specifications (measured @ ta= 25°C, nominal input voltage (115/230VAC), full load and after warm-up)

Notes:

Note3: For repeat Hi-Pot testing, reduce the time and/or the test voltage

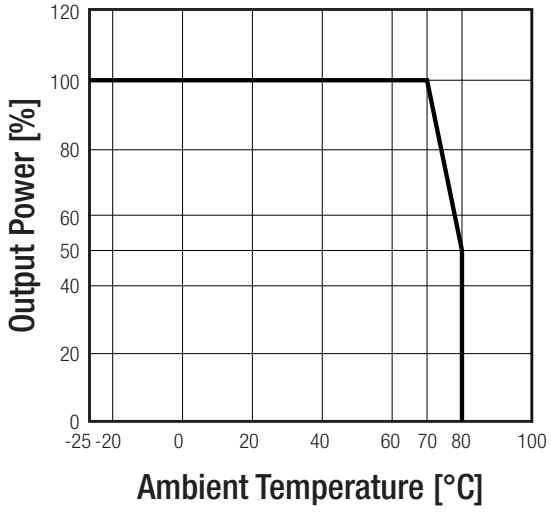
Note4: For operation at 230VAC, an external MOV is recommended. The Varistor should comply with IEC-61051-2. e.g. EPCOS S14 series



ENVIRONMENTAL		
Parameter	**Condition**	**Value**
Operating Temperature Range		-25°C to +70°C
Maximum Case Temperature		+120°C
Temperature Coefficient		±0.03%/°C
Operating Humidity	non-condensing	5% - 90% RH
Operating Altitude [4]		4000m
Pollution Degree		PD2
Vibration		10-150Hz, 2G 10min./1cycle, period 60min. each along x,y,z axes
Shock		20G/11ms pulse, 3 times at each x, y, z axes
MTBF	according to MIL-HDBK-217F, G.B. +25°C +70°C	1691 x 10^3 hours 424 x 10^3 hours

Derating Graph

(@ Chamber and natural convection 0.1m/s)



Notes:

Note4: Recognized by UL for safe operation up to 4000m. High altitude operation may impact the performance and lifetime. Contact RECOM tech support for advice

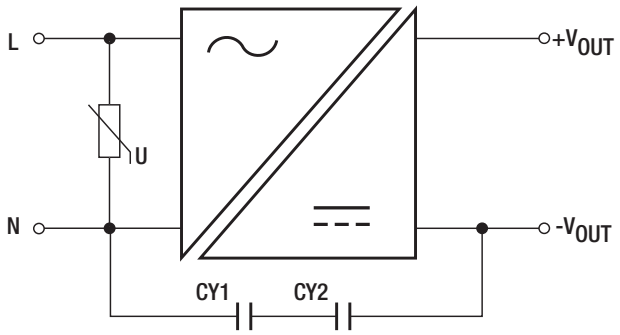
Specifications (measured @ ta= 25°C, nominal input voltage (115/230VAC), full load and after warm-up)

SAFETY AND CERTIFICATIONS

Certificate Type (Safety)	Report / File Number	Standard
Information Technology Equipment, General Requirements for Safety (CB Scheme)	16BAS1004811	IEC60950-1, 2nd Edition, 2005 + AM2, 2013 EN60950-1, 1st Edition, 2006 + AM2, 2013
Information Technology Equipment, General Requirements for Safety	E196683 A1	UL60950-1, 2nd Edition CAN/CSA C22.2 No. 60950-1-07, 2nd Edition
Audio/video, information and communication technology equipment. Safety requirements		UL62368-1, 2nd Edition CAN/CSA C22.2 No 62368-1, 2nd Edition
Audio/video, information and communication technology equipment. Safety requirements (CB Scheme)	16BCS1004811	IEC62368-1, 2nd Edition, 2014 EN62368-1, 1st Edition, 2014
Household and similar electrical appliances - Safety. General requirements	pending	EN60335-1, 1st Edition, 2012 + AM11, 2014
RoHs 2+		RoHs 2011/65/EU + AM2015/863

EMC Compliance	Condition	Standard / Criterion
Electromagnetic compatibility of multimedia equipment - Emission requirements		EN55032, Class A
Limitations on the amount of electromagnetic intererence allowed from digital and electronic devices		47 CFR FCC Part 15, Subpart B 2016, Class A & B
ESD Electrostatic discharge immunity test	Air ±8kV, Contact ±4kV	EN61000-4-2, Criteria A
Radiated, radio-frequency, electromagnetic field immunity test	3V/m	EN61000-4-3, Criteria A
Fast Transient and Burst Immunity	±1kV	EN61000-4-4, Criteria B
Surge Immunity	±1kV	EN61000-4-5, Criteria B
Immunity to conducted disturbances, induced by radio-frequency fields	3V	EN61000-4-6, Criteria A
Voltage Dips and Interruption	Voltage Dips >95%	EN61000-4-11, Criteria A
	Voltage Dips 30%	EN61000-4-11, Criteria B
	Voltage Interruptions >95%	EN61000-4-11, Criteria B

EMI Filtering according to EN60335-1 / EN55032 Class B Compliance



CY1,CY2
Vishay 564R30TSD22, SLCCv X7R radial, 2.2nF, 3kVDC ±10%

DIMENSION and PHYSICAL CHARACTERISTICS

Parameter	Type	Value
Material	Case PCB	black plastic FR4
Package Dimension (LxWxH)		33.7 x 22.2 x 19.0mm
Package Weight		12g typ.

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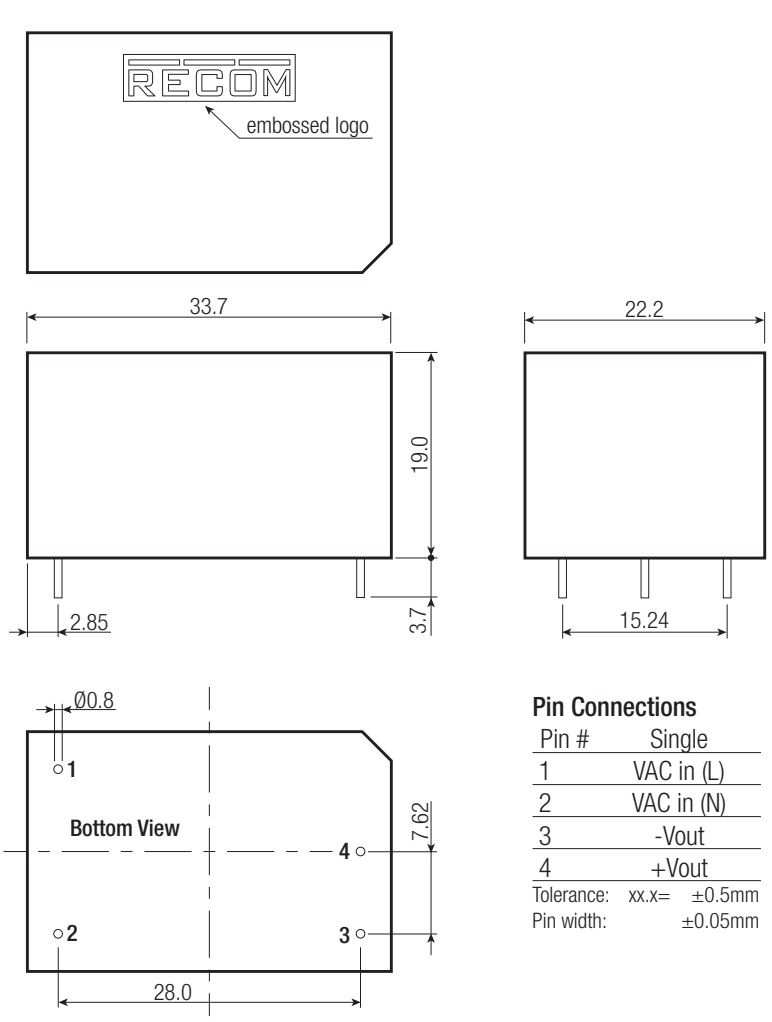
Specifications (measured @ ta= 25°C, nominal input voltage (115/230VAC), full load and after warm-up)

Dimension Drawing (mm)



Pin Connections

Pin #	Single
1	VAC in (L)
2	VAC in (N)
3	-Vout
4	+Vout

Tolerance: xx.x= ±0.5mm
Pin width: ±0.05mm

PACKAGING INFORMATION		
Parameter	**Type**	**Value**
Packaging Dimension (LxWxH)	tube	470.0 x 36.4 x 26.4mm
Packaging Quantity		20pcs
Storage Temperature Range		-25°C to +85°C
Storage Humidtiy	non-condensing	5% - 95% RH max.