

BAC03CB-xxxxH SERIES

3W SINGLE AC/DC CONVERTER

Key Features

Universal Input 85-305Vac or 120-430Vdc
Ultra compact low profile AC-DC converter
No Y-capacitor/Low leakage current
Built-in fusible resistor
No load power consumption 300mW
OVP, short circuit protection
3 kVac/60 sec isolation
Meet EM55022 and FCC class B
Isolation II
Meet UL/EN 60950

Applications

Industry control application
Stand by power application
AC motor control application



Specifications:

Measured at 25°C with the condition of V_{IN} = Nominal and Full Load. Specifications subject to change without notice.

INPUT SPECIFICATIONS

PARAMETER	CONDITION / NOTE	MIN	TYP	MAX	UNIT
Input Voltage Range		85		305	VAC
Input Voltage Range		120		430	VDC
Rated Power				3	W
Input Frequency Range	AC Input		47 - 440		Hz
Input Current (Full Load)	115VAC		70		mA
Input Current (Full Load)	230VAC		50		mA
No Load Power Consumption	80-305VAC/47-440HZ			0.3	W
Inrush Current	115VAC			15	A
Inrush Current	230VAC			30	A

OUTPUT SPECIFICATIONS

PARAMETER	CONDITION / NOTE	MIN	TYP	MAX	UNIT
Output Voltage	check model selection guide				
Output Current	check model selection guide				
Output Voltage Accuracy ₁				±6	%
Ripple & Noise ₂	BW 20MHz limit			200	mV _{PP}
Hold-Up Time	115VAC		15		ms
	230VAC		80		ms
Minimum Load	Spec. valid only	2			%
Line Regulation	Low Line to High Line @ Full Load			±1.5	%
Load Regulation	20% FL to FL		±6		%
Leakage Current				10	μA
Operating Frequency	100% Load at Nominal V_{IN}		60		KHZ

FUNCTION SPECIFICATIONS

PARAMETER	CONDITION / NOTE	MIN	TYP	MAX	UNIT
Isolation Voltage	(1 min.), Input to Output	3k			VAC
Isolation Resistance	Input to Output	1			GΩ
Short Circuit Protection	Continuous, Automatic Recovery				
Over Load Protection	Continuous, Automatic Recovery				
Over Voltage Protection	Zener Diode Clamp				
Safety	Meets UL/IEC 60950-1				

ENVIRONMENTAL SPECIFICATIONS

PARAMETER	CONDITION / NOTE	MIN	TYP	MAX	UNIT
Operating Temperature Range		-25		+85	°C
Storage Temperature Range		-25		+85	°C
Relative Humidity				95	%RH
MTBF	25°C, 115VAC		3.318x10 ⁶		hours

PHYSICAL SPECIFICATIONS

PARAMETER	CONDITION / NOTE	MIN	TYP	MAX	UNIT
Dimensions (L×W×H)	35.7×25×19mm, 1.4" x 0.98" x 0.75"				
Weight	27.5g(0.97oz)				
Case Material	UL94V-0 Black Plastic				

EMC

PARAMETER	CONDITION / NOTE	MIN	TYP	MAX	UNIT
EMI	EN55022, CLASS B				

- The output voltage tolerance includes initial voltage accuracy, thermal drift, line regulation and load regulation at rated input voltage and load conditions.
- Ripple and Noise is the maximum peak to peak voltage value measured at the output with a 20MHz bandwidth, at rated line voltage at full load; With a 47µF low-ESR electrolytic capacitor in parallel with a 0.0µF ceramic capacitor across the output.
- The product information and specifications are subject to change without notice.

MODEL SELECTION GUIDE₄

Part Number	Input Voltage	Output Voltage DC	Output Current@Full Load	Efficiency	Capacitive Load
BAC03CB-3.3SH	85-305V _{AC} /120-430V _{DC}	3.3V	900mA	70%	22000µF
BAC03CB-05SH	85-305V _{AC} /120-430V _{DC}	5V	600mA	76%	7500µF
BAC03CB-12SH	85-305V _{AC} /120-430V _{DC}	12V	250mA	77%	1000µF
BAC03CB-24SH	85-305V _{AC} /120-430V _{DC}	24V	125mA	79%	200µF

- All specifications above are valid at nominal input voltage(115/230VAC), full load and 25°C after warm-up time unless otherwise stated.

ORDERING GUIDE

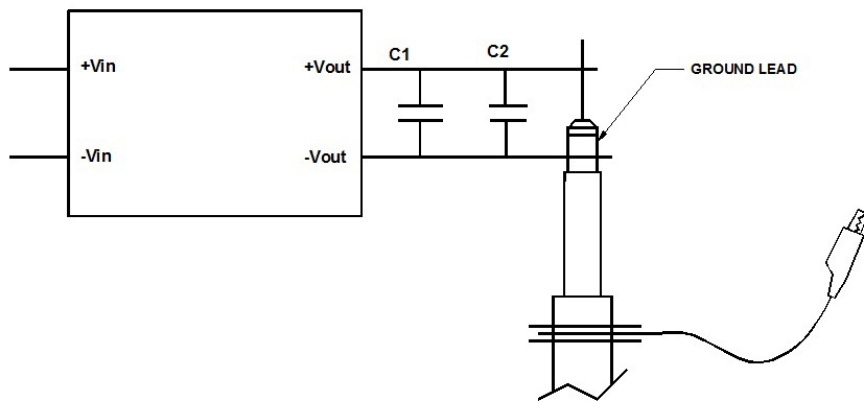
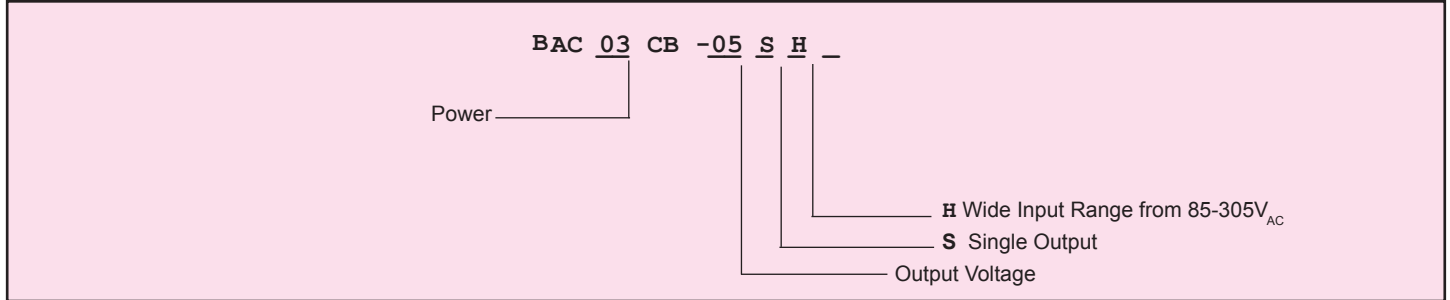


FIGURE 1. Recommended method to measure output ripple & noise with short runs to 0.1µF/50V @ 20MHz with nominal input and full load. C1 = 47µF Low ESR, C2 = .1µF ceramic

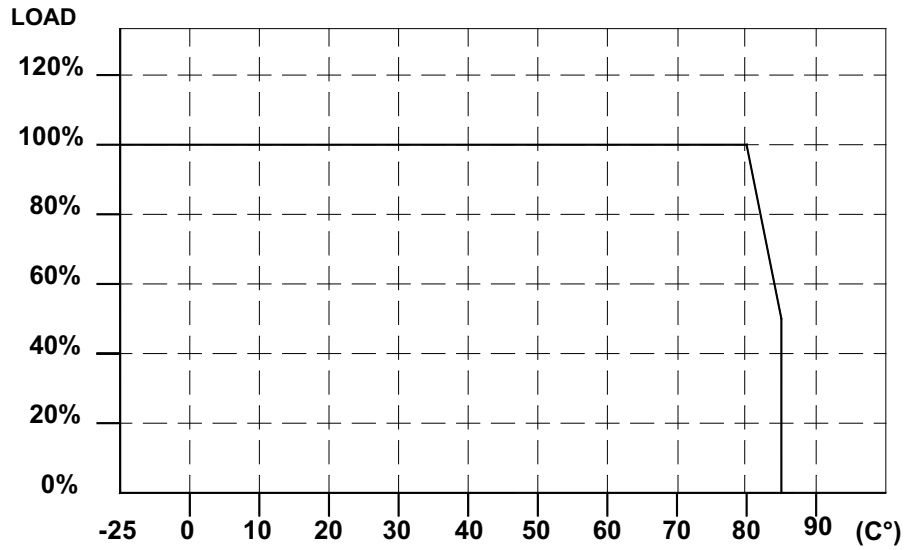
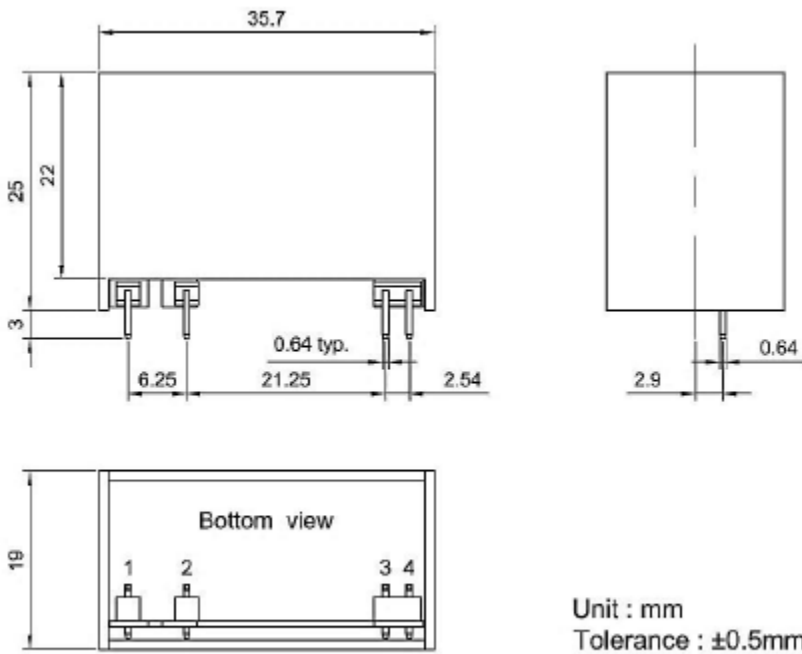


FIGURE 2. The derating curve was measured at nominal V_{IN} in chamber with free air.

Mechanical Specifications
Dimensions are in mm

PHYSICAL CHARACTERISTICS



Pin #	Function
1	AC Vin (L)
2	AC Vin (N)
3	+DC Vout
4	-DC Vout