

AHC-E1 SERIES

5 Watts

KEY FEATURES

- Switching Power Module for PCB Mountable
- Fully Encapsulated Plastic Case
- Universal Input Range 90-264VAC, 47-440 Hz
- Regulated Output
- Low Ripple and Low Noise
- Isolation Class II
- Small Size: 2.0 x 1.0 x 0.6 Inches
- CE, CB and UL Approval
- 3-Year Product Warranty



ELECTRICAL SPECIFICATIONS

All specifications valid at normal input voltage, full load and +25°C after warm-up time unless otherwise stated.

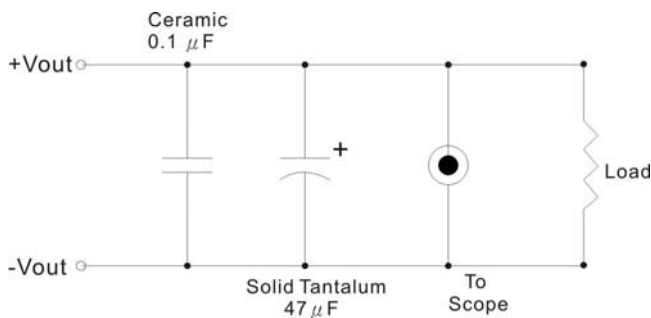
Model No.		AHC-3.3S-E1	AHC-5S-E1	AHC-12S-E1	AHC-15S-E1	AHC-24S-E1
Max Output Wattage (W)		4W	5W	5W	5W	5.5W
Input	Voltage	90-264 VAC or 120-370 VDC				
	Frequency (Hz)	47-440 Hz				
	Current (Full load)	110 mA max. (115 VAC) / 70 mA max. (230 VAC)				
	Inrush Current (<2ms)	23 A max. (115 VAC) / 46 A max. (230 VAC)				
	Leakage Current	0.75 mA max.				
	External Fuse (mandatory)	1.5 A slow blow type				
Output	Voltage (V.DC.)	3.3V	5V	12V	15V	24V
	Voltage Accuracy	±2%				
	Current (mA) max	1250	1000	420	333	230
	Line Regulation (LL-HL) (typ.)	±0.3%.				
	Load Regulation (5-100%) (typ.)	±0.5%.				
	Minimum Load	0%				
	Maximum Capacitive Load (at 230VAC)	13800 uF	6000 uF	1400 uF	1000 uF	170 uF
	Ripple	<0.2% Vout +40mV max (Vp-p)				
	Noise	<0.5% Vout +50mV max (Vp-p)				
	Efficiency	68%	71%	75%	75%	77%
	Hold-up Time	15 ms min.				
Protection	Over Power Protection	Hiccup technique, auto-recovery				
	Over Voltage Protection	Zener diode clamp				
	Short Circuit Protection	Hiccup mode (automatic recovery)				
Isolation	Input-Output (V.AC)	3000V				
Environment	Operating Temperature (Note 4)	-40°C...+70°C (with derating)				
	Storage Temperature	-40°C...+85°C				
	Temperature Coefficient	±0.02%/°C				
	Humidity	95% RH				
	MTBF	>450,000 h @ 25°C (MIL-HDBK-217F)				
Physical	Dimensions (L x W x H)	2.0 x 1.0 x 0.6 Inches (51.2 x 25.8 x 15.4 mm) Tolerance ±0.5 mm				
	Case Material	Plastic resin with Fiberglass (flammability to UL 94V-0)				
	Weight	30 g				
	Cooling Method	Free air convection				
Safety	Agency Approvals	UL / IEC / EN 60950, EN 62368-1				
EMC	EMI (Conducted & Radiated Emission)	EN 55032 class B				
	EMS (Noise Immunity)	EN 55024				

NOTE

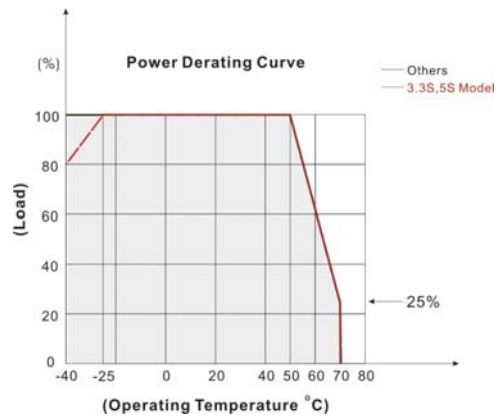
1. Ripple & Noise are measured at 20MHz of bandwidth with 0.1uF & 47uF parallel capacitor.
2. It's recommended to add Varistor 14S471K at L / N input side in parallel.
3. Safety approvals cover frequency 47-63 Hz.
4. Due to varying customer application conditions, the product is tested for maximum operating temperature under full load only. For other regulatory requirements, please contact ARCH.
5. Please refer to our PDF file "AC-DC Application" on our website: www.archcorp.com.tw

OUTPUT NOISE

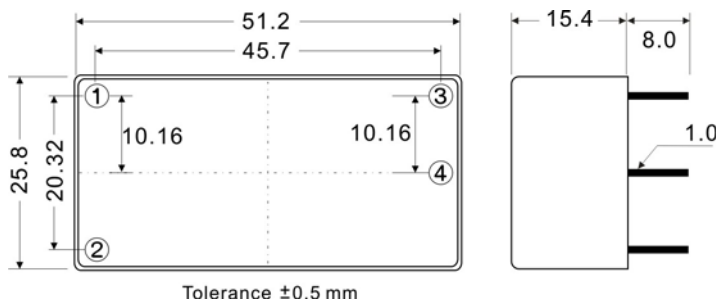
The output noise is measured with 47μF tantalum capacitor and 0.1μF ceramic capacitor across output.



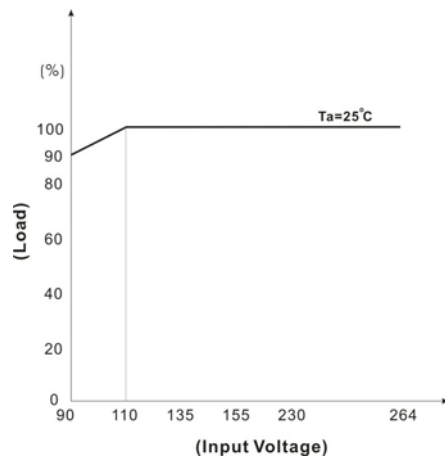
DERATING



MECHANICAL DIMENSIONS (Top View)



PIN#	Single
1	AC IN (N)
2	AC IN (L)
3	+DC OUT
4	-DC OUT



BLOCK DIAGRAM

Single Output

