

■ Product characteristics:

- Universal AC/DC input
- High efficiency
- Low ripple noise
- Compact size: 37*25*19mm
- Overload protection/Short circuit protection/Overheat protection
- Built in EMC circuit
- Class II Isolation level
- Low power consumption,
- No need for peripheral circuit design
- Full load low temperature rise (@25°C)
- Natural cooling of plastic shell
- Three years warranty



■ Product application:

- Industrial electrical equipment
- Mechanical equipment
- Industrial automation equipment
- handheld electronic devices
- Wireless network
- Telecommunications/data Communications
- Instruments and meters
- Intelligent field
- Charging pile

■ Input electrical specification:

Model Number	Vol range / Fre	Input cur@110V	Input cur@220V	PF	Startup time
AP05N05-Zero	85V~265VAC 100V~370VDC 50/60Hz	<100mA	<70mA	<0.58	<300ms
AP06N05-Zero					
AP09N05-Zero					
AP12N05-Zero					
AP15N05-Zero					
AP20N05-Zero					
AP24N05-Zero					
Remarks	If not specified, all specifications are tested at input voltage of 220 VAC, full load and ambient temperature of 25 C.				

■ Output electrical specifications:

Model Number	Voltage	Current	Rated power	Effic (Typ)	Vol accuracy
AP05N05-Zero	5V	1000mA	5W	81%	±1%
AP06N05-Zero	6V	830mA		81%	
AP09N05-Zero	9V	550mA		81%	
AP12N05-Zero	12V	416mA		81%	
AP15N05-Zero	15V	333mA		82%	
AP20N05-Zero	20V	250mA		82%	
AP24N05-Zero	24V	208mA		82%	
Remarks	If not specified, all specifications are tested at input voltage of 220 VAC, full load and ambient temperature of 25 C.				

■ Ripple and Noise Characteristics:

Model Number	20M Bandwidth / ripple noise (Peak to peak value)		200M Bandwidth / ripple noise (Peak to peak value)	
	Typ	Max	Typ	Max
AP05N05-Zero	20mV	40mV	40mV	70mV
AP06N05-Zero	20mV	46mV	40mV	70mV
AP09N05-Zero	20mV	46mV	40mV	70mV
AP12N05-Zero	20mV	30mV	45mV	70mV
AP15N05-Zero	20mV	30mV	45mV	70mV
AP20N05-Zero	40mV	70mV	46mV	85mV
AP24N05-Zero	40mV	70mV	46mV	85mV
Remarks	1. If not specified, all specifications are tested at input voltage of 220 VAC, full load and ambient temperature of 25 C. 2. The oscilloscope for testing: <Tektronix-TDS2022C>。			

■ EMC characteristic:

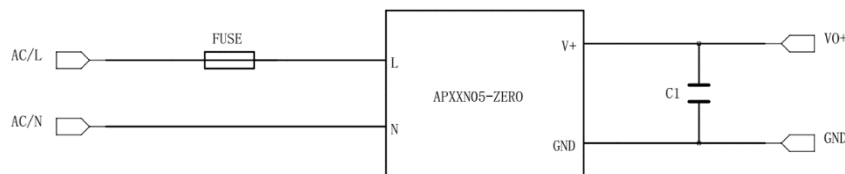
EMC chara	Test items	Testing standard
EMI	Conducted disturbance (CE)	EN 55032: 2015 CLASSB
	Radiation disturbance (RE)	EN 55032: 2015 CLASSB
	fluctuation & flicker	EN 61000-3-3:2013
EMS	Electrostatic discharge	EN 61000-4-2:2009 Contact ±4KV Air ±8KV
	Radiated immunity	EN 61000-4-3:2006 +A1: 2008+A2:2010
	Pulse group immunity	EN 61000-4-4:2012
	Surge immunity	EN 61000-4-5:2014
	CE immunity	EN 61000-4-6: 2014
	Voltage sags	EN 61000-4-11: 2017

■ General characteristics:

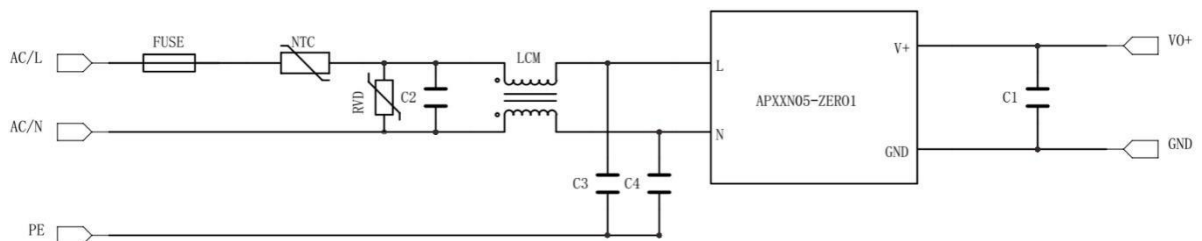
Item	Working Conditions @ Conclusion
Fre	50KHz
Short circuit protection	Long-term short circuit, self-recovery
Overload protection	> Load150%, self-recovery
Overheat protection	Surface temperature > 90°C (±4°C)
withstand voltage test	Input-Output 3000VAC /1min
Working temperature	-40~70°C
Weight	34g (±1g)
Size	37*25*19mm
Shell material	High Temperature Resistant Plastic Shell
Cooling mode	Natural cooling
Safety grade	CLASS II

■ Design reference circuit:

1. Typical application circuit:

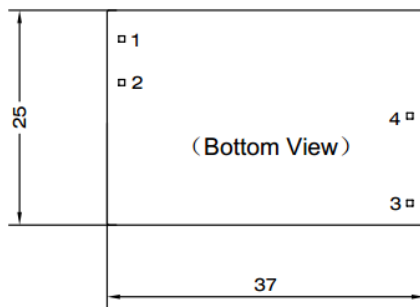
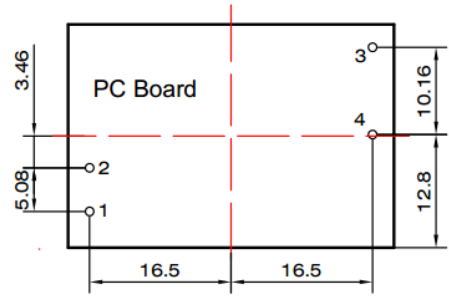
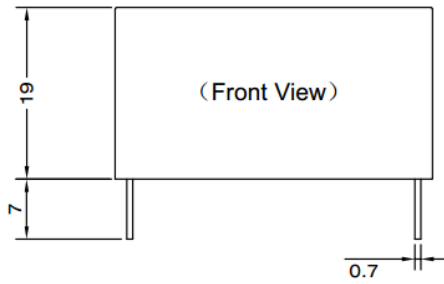


2. EMC enhanced recommendation circuit:



Model Number	FUSE	NTC	C2	RVD	LCM	C3, C4	C1
AP05N05-Zero	1A/250VAC	5D-9	0.2uF/275VAC	14D471K	UU9.8 60mH	222M 250V	CBB 104/50V
AP06N05-Zero							
AP09N05-Zero							
AP12N05-Zero							
AP15N05-Zero							
AP20N05-Zero							
AP24N05-Zero							

■ Pin wiring diagram & appearance dimension



Pin -Out:	
Pin Function	
1	AC(N)
2	AC(L)
3	Vo+
4	GND

Unit: mm

Guangzhou Gaoya Information Technology Co., Ltd.

Address: Building A8, Longdong Third Industrial Zone, Tianhe District, Guangzhou City, Guangdong Province

Tel: 400-778-0583/020-29019513

E-mail: hiecube@foxmail.com

Thank you for choosing HIECUBE power module. Information can be obtained through the official website: http://www.hiecube.com/application_file.php