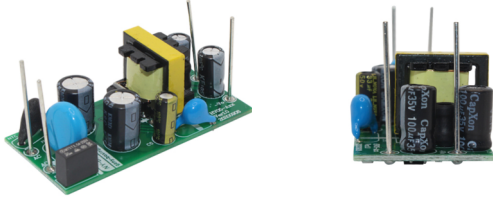
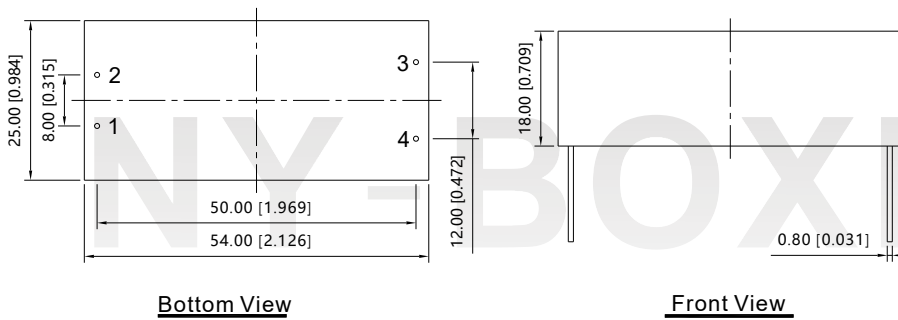


5W AC/DC SMPS
DESCRIPTION


- ★ Wide input AC85~465V & DC100~650V
- ★ Output short circuit, over-current protection
- ★ Compact size, high power density
- ★ I/O isolation test voltage 3k VAC
- ★ Low ripple & noise
- ★ RoHS Compliant
- ★ Industrial grade, high reliability

HV05-Axx series is one of Nyboxing's highly efficient green power AC-DC Converter series. They feature ultra-wide wide input range accepting either AC or DC voltage, high efficiency, low power consumption and Class II reinforced insulation.

Dimensions


PIN	Function
1	AC
2	AC
3	+Vo
4	-Vo

Note:
 Unit: mm[inch]
 General tolerances:±0.20[±0.008]
 dimensional tolerance:±0.50[±0.020]

Selection Guide

Part No.	Output Power	Nominal Output Voltage and Current	Efficiency at 230VAC (%) Typ.	Capacitive Load (μF) Max.	Dimensions (L×W×H)
HV05-A03	4W	3.3V/1200mA	67%	1000μF	54.0×25.0×18.0mm
HV05-A05		5V/1000mA	68%	1000μF	
HV05-A09		9V/550mA	70%	680μF	
HV05-A12	5W	12V/420mA	73%	470μF	
HV05-A15		15V/330mA	74%	330μF	
HV05-A24		24V/210mA	76%	220μF	

Input Specifications

Item	Operating Conditions	Min	Typ	Max
Input Voltage Range	AC input	85VAC	--	465VAC
	DC input	100VDC	--	650VDC
Input Frequency		47Hz	--	63Hz
Stand-by Power Consumption		--	0.2W	--

Input Current	115VAC	--	70mA	--
	230VAC	--	40mA	--

Output Specifications

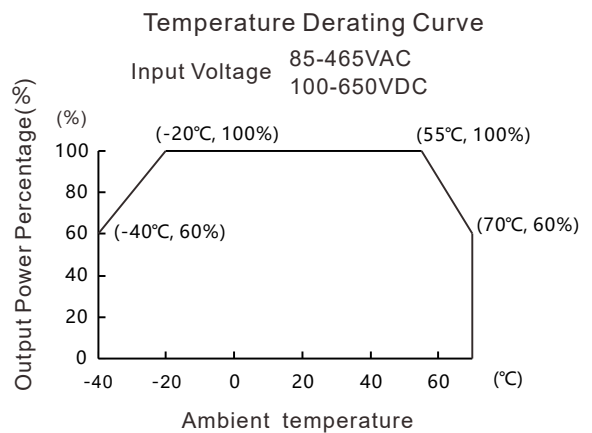
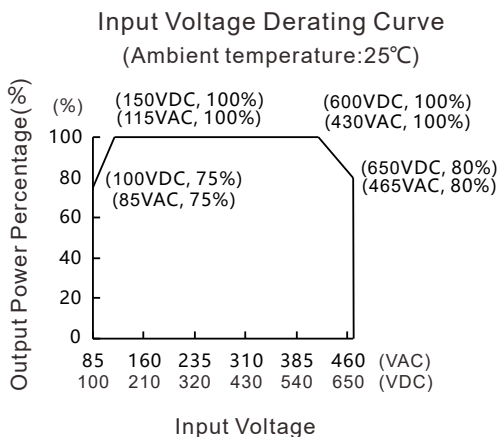
Item	Operating Conditions	Min	Typ	Max	
Output Voltage Accuracy		--	±1%	--	
Line Regulation	Full load	--	±1.5%	--	
Load Regulation	10%~100% Load	--	±3%	--	
Ripple & Noise*	20MHz bandwidth	5V Output	--	150mV	--
	(peak-to-peak value)	Other Output	--	100mV	--
Short Circuit Protection	Hiccup, continuous, self-recovery				
Over-current Protection	≥110%Io				
Minimum Load	0				
Start delay time			500ms	--	
Hold-up Time			10ms	--	

Note: * The "parallel cable" method is used for Ripple and noise test, please refer to AC-DC Converter Application Notes for specific information.

General Specifications

Item	Operating Conditions	Min	Typ	Max
Isolation	Input-Output, Test for 1min	--	3000VAC	--
Operating Temperature		-40°C	--	+70°C
Storage Temperature		-40°C	--	+105°C
Storage Humidity		--	--	95%RH
Working frequency		--	65KHz	--
MTBF	MIL-HDBK-217F, 25°C		215,000h	

Product Characteristic Curve



Design Reference

1 Typical application

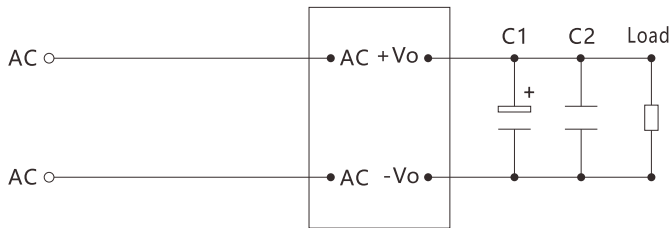


Fig. 1: Typical circuit diagram

Note

We recommend using an electrolytic capacitor with high frequency, and low ESR rating for C1 (refer to manufacturer's datasheet). Choose a Capacitor voltage rating with at least 20% margin, in other words not exceeding 80%. C2 is a ceramic capacitor used for filtering high-frequency noise.

2 EMC compliance recommended circuit

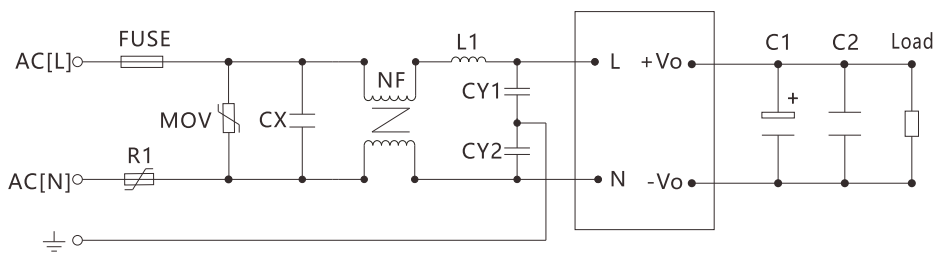


Fig 2: EMC application circuit with higher requirements

3 Input part: parameter recommendation

Component	Recommended value
FUSE	1A/250VAC, Slow fusing (required)
R1	5D-9
MOV	821KD10
CX	0.1 μ F/550VAC
L1	470 μ H
NF	10mH-30mH
CY1,CY2	1000pF/250V

4 Output part: parameter recommendation

Output Voltage	3.3V	5V	9V	12V	15V	24V
C1	100 μ F/10V		100 μ F/25V			68 μ F/35V
C2	1 μ F/50V					

Safety precautions

- 1.If the product is not operated within the required load range, the product performance cannot be guaranteed to comply with all parameters in the datasheet;
2. Unless otherwise specified, parameters in this datasheet were measured under the conditions of $T_a=25^{\circ}\text{C}$, humidity<75% with nominal input voltage and rated output load;
3. All index testing methods in this datasheet are based on our Company's corporate standards;
4. We can provide product customization service, please contact our technicians directly for specific information;
5. For more product information, please visit our official website (www.gzny-boxing.com) or email us (sales@gzny-boxing.com) .