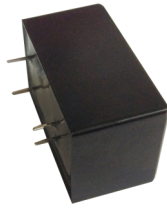
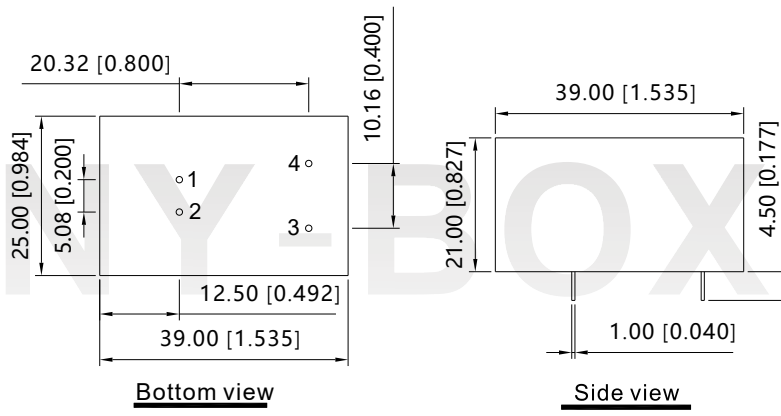


**25W AC/DC SMPS**
**DESCRIPTION**


- ★ Wide input : AC85~264V & DC100~375V
- ★ 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
- ★ Three-year quality assurance

NS25Axx 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	
	AC IN	DC IN
1	L	DC
2	N	DC
3	+Vo	+Vo
4	-Vo	-Vo

Note:  
Unit:mm[inch]  
Pin diameter tolerances:±0.20[±0.008]  
General tolerances:±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)
NS25A03	9.9W	3.3V/3000mA	80%	2000μF	39.0×25.0×21.0mm
NS25A05	15W	5V/3000mA	84%	2000μF	
NS25A09		9V/2780mA	84%	2000μF	
NS25A12	25W	12V/2100mA	85%	2000μF	
NS25A15		15V/1670mA	86%	2000μF	
NS25A24		24V/1050mA	87%	1000μF	

**Input Specifications**

Item	Operating Conditions	Min	Typ	Max
Input Voltage Range	AC input	85VAC	--	264VAC
	DC input	100VDC	--	375VDC

Input Frequency		47Hz	--	63Hz
Stand-by Power Consumption		--	0.1W	--
Input Current	115VAC	--	480mA	--
	230VAC	--	240mA	--

### Output Specifications

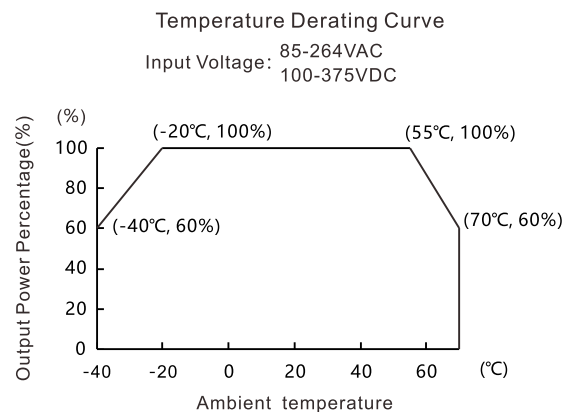
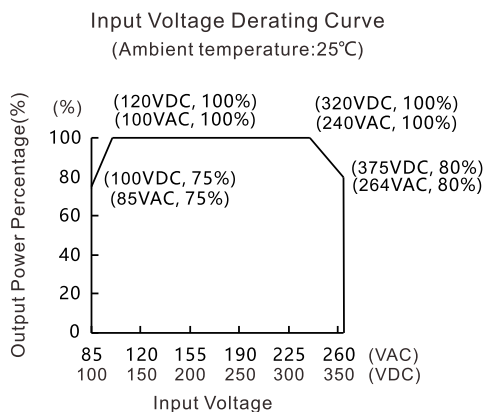
Item	Operating Conditions	Min	Typ	Max
Output Voltage Accuracy		--	±1%	--
Line Regulation	Full load	--	±1.5%	--
Load Regulation	10%~100% Load	--	±2.5%	--
Ripple & Noise*	20MHz bandwidth	--	80mV	--
Short Circuit Protection	(peak-to-peak value)	Hiccup, continuous, self-recovery		
Over-current Protection		≥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	
Casing Material		Metal aluminum shell		

### Product Characteristic Curve



## Design Reference

### 1 Typical application

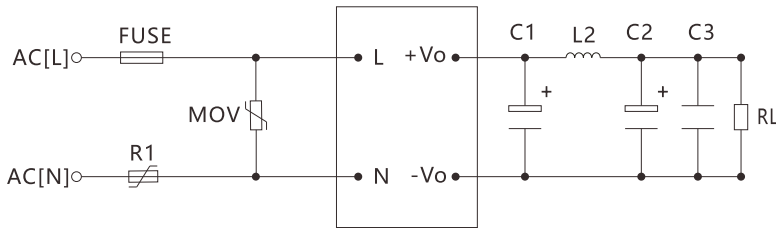


Fig. 1: Typical circuit diagram

#### 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

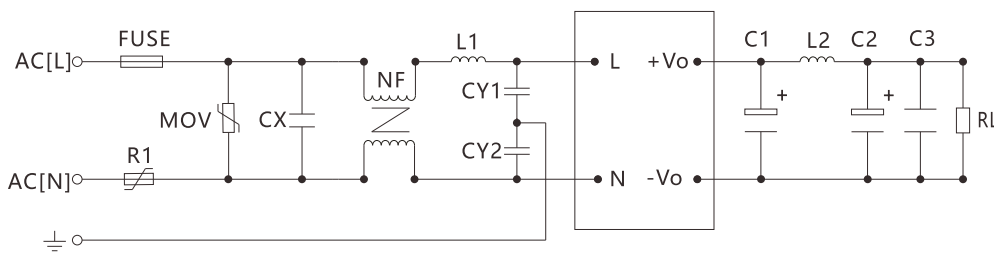


Fig 2: EMC application circuit with higher requirements

### 3 Input part: parameter recommendation

Component	Recommended value
FUSE	3.15A/250VAC slow-blow required
R1	5D-9
MOV	471KD10
CX	0.33 $\mu$ F/275VAC
L1	330 $\mu$ H
NF	10mH-30mH
CY1,CY2	1000pF/250V

### 4 Output part: parameter recommendation

Output Voltage	3.3V	5V	9V	12V	15V	24V
C1	2200 $\mu$ F/10V		1000 $\mu$ F/25V		680 $\mu$ F/35V	
C2	1000 $\mu$ F/10V		680 $\mu$ F/25V		470 $\mu$ F/35V	
C3	1 $\mu$ F/50V					
L2	2 $\mu$ F(Wire diameter greater than 1mm)					

## 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 Ta=25°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](http://www.gzny-boxing.com) ) or email us ( [sales@gzny-boxing.com](mailto:sales@gzny-boxing.com) ).