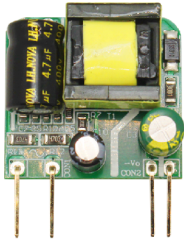
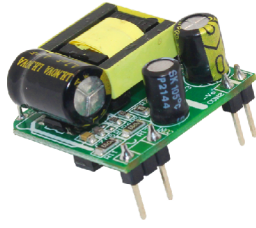


**3W AC/DC SMPS**
**DESCRIPTION**


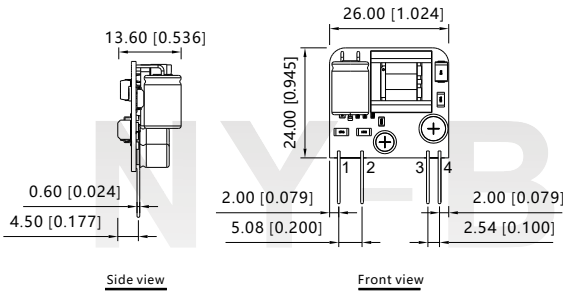
NF03-AxxH(HIGH)



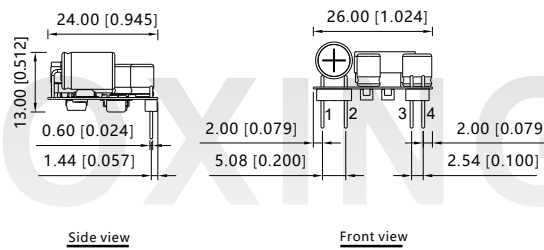
NF03-AxxL(LOW)

- ★ 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

NF03-AxxH(L) 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**


NF03-AxxH(HIGH)



NF03-AxxL(LOW)

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

Note:  
 Unit: mm[inch]  
 Vertical pin length 8.00[0.118]  
 Horizontal pin length 6.00[0.236]  
 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)
NF03-A03H	3W	3.3V/800mA	68%	470μF	26.0×13.0×24.0mm (HIGH)
NF03-A05H		5V/600mA	70%	330μF	
NF03-A12H		12V/250mA	72%	220μF	
NF03-A15H		15V/200mA	73%	220μF	
NF03-A24H		24V/125mA	74%	100μF	
NF03-A03L	3W	3.3V/800mA	68%	470μF	26.0×24.0×13.0mm (LOW)
NF03-A05L		5V/600mA	70%	330μF	
NF03-A12L		12V/250mA	72%	220μF	
NF03-A15L		15V/200mA	73%	220μF	
NF03-A24L		24V/125mA	74%	100μF	

**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	--	70mA	--
	230VAC	--	35mA	--

## Output Specifications

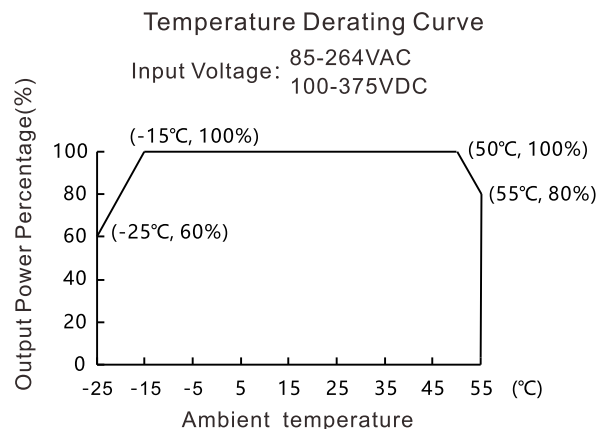
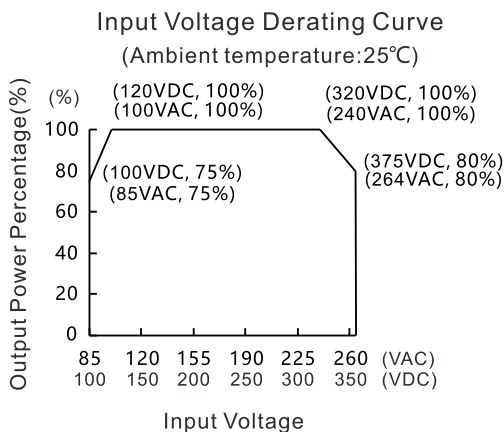
Item	Operating Conditions	Min	Typ	Max	
Output Voltage Accuracy		--	±3%	--	
Line Regulation	Full load	--	±2%	--	
Load Regulation	10%~100% Load	--	±3%	--	
Ripple & Noise*	20MHz bandwidth (peak-to-peak value)	3.3V 5V Output	--	250mV	--
		12V 15V Output	--	150mV	--
		24V Output	--	250mV	--
Short Circuit Protection	Hiccup, continuous, self-recovery				
Over-current Protection	≥ 110%Io				
Minimum Load		0	--	--	
Start delay time		--	500ms	--	
Hold-up Time		--	10ms	--	
Minimum load		0%			

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		-25°C	--	+55°C
Storage Temperature		-40°C	--	+105°C
Storage Humidity		--	--	85%RH
Working frequency		--	65KHz	--
MTBF	MIL-HDBK-217F, 25°C		215,000h	

## Product Characteristic Curve



## Design Reference

### 1 Typical application

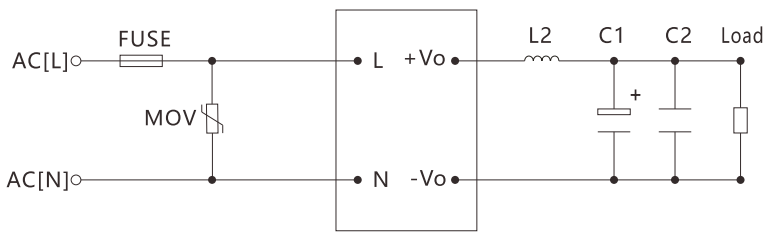


Fig. 1: Typical circuit diagram

#### 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

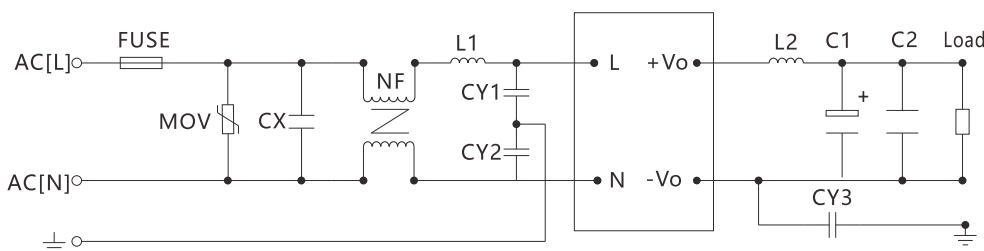


Fig 2: EMC application circuit with higher requirements

### 3 Input part: parameter recommendation

Component	Recommended value
FUSE	10Ω/1W Safety Resistance
MOV	471KD10
CX	0.1μF/275VAC
L1	470μH
NF	10mH-30mH
CY1,CY2,CY3	1000pF/250V

### 4 Output part: parameter recommendation

Output Voltage	3.3V	5V	12V	15V	24V
C1	220μF/10V		100μF/25V		33μF/35V
C2	1μF/50V				
L2	6.8μH				

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