

ASD-20 Series, 20Watt
FEATURES:

- ✓ Universal AC input range
- ✓ Low ripple and noise
- ✓ Short circuit, over voltage, and over current protections
- ✓ Board in-line type installation
- ✓ High voltage isolation 4000Vac
- ✓ 100% burn-in test
- ✓ 3 year warranty



Model	Input voltage (Vac)	Output voltage (Vdc)	Output current (A)	Efficiency Typ.
ASD20-3	90-264	3.3	3.5	84%
ASD20-5		5	3.5	86%
ASD20-9		9	2.2	86%
ASD20-12		12	1.66	88%
ASD20-15		15	1.33	88%
ASD20-24		24	0.83	88%

Note: 1. other input and output models may available on request;
2. Add suffix "-C" for chassis mounting.

ELECTRICAL

Input					
Parameters	Test Conditions / Comment	Min.	Typ.	Max.	Units
Input voltage	---	90	--	264	Vac
		100		370	Vdc
Input frequency	---	47	--	440	Hz
Input current	Vin=115Vac	--	360	--	mA
	Vin=230Vac	--	205	--	mA
Inrush current	Cold start, Vin=230Vac	--	30	--	A
Leakage current	265Vac/50Hz	--	--	0.1	mA
Recommend external fuse		T2A/250V			

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Output					
Parameters	Test Conditions / Comment	Min.	Typ.	Max.	Units
Output voltage accuracy	--	--	±2	--	%
Line regulation	--	--	±1	--	%
Load regulation	--	--	±1	--	%
Set-up rise time	Full load, Vin =115Vac	--	200	--	ms
	Full load, Vin =230Vac		100		ms
Hold-up time	Full load, Vin =115Vac	--	15	--	ms
	Full load, Vin =230Vac		40		ms
Ripple	---	--	100	--	mV
Protection					
Over current	Hiccup mode, it will auto-recovery after fault condition is removed				
Over voltage	Hiccup mode, it will auto-recovery after fault condition is removed				
Short circuit	Hiccup mode, it will auto-recovery after fault condition is removed				
Environment					
Storage	Humidity: 10% RH to 95% RH	-40	--	+85	°C
Ambient operating temperature	Startup at rated voltage (≥50°C, derating with 0.1W/°C)	-40	--	+70	°C
Operating relative humidity	Non condensing	--	--	85	%
MTBF	Full load, 230Vac input, 25°C ambient temperature	200	--	--	kHrs
Temperature coefficient	0.03%/ (0~ 50°C)				
Vibration coefficient	10~500Hz, 2G10min./1cycle, 60min.each along X, Y, Z axes				
Dimension(LxWxH)	50.8 x 25.4 x 15.5mm				
Weight	30g/pcs, 350g/tube, 19.45kg/carton				
Package	10pcs/tube, 54tubes/carton, carton size: 360x300x250mm				

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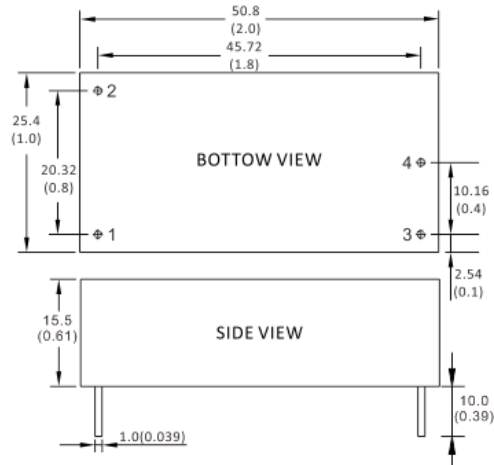
Safety

Safety standards	EN60950, EN60601, UL60950
Isolation voltage	I/P-O/P:4000VAC
Insulation Resistance	I/P-O/P>100M Ohms/500VDC 25°C 70% RH
EMI / EMC	EN55011, EN55022 (CISPR22) CLASS B (refer to below application circuit)
ESD	IEC/EN 61000-4-2 level 4 8KV/15KV (refer to below application circuit)
RF Immunity	IEC/EN 61000-4-3 (refer to below application circuit)
Electrical Fast Transient	IEC/EN 61000-4-4 level 4 4KV (refer to below application circuit)
Surge	IEC/EN 61000-4-5 level 4 2KV

Notes: 1. Unless otherwise specified, all the above parameters are measured at ambient temperature of 25°C and input nominal voltage 230Vac;

2. Ripple & Noise are measured at 20MHZ of bandwidth by using a 12" twisted pair-wire terminated with a 0.1μF & 47μF parallel capacitor.

MECHANICAL

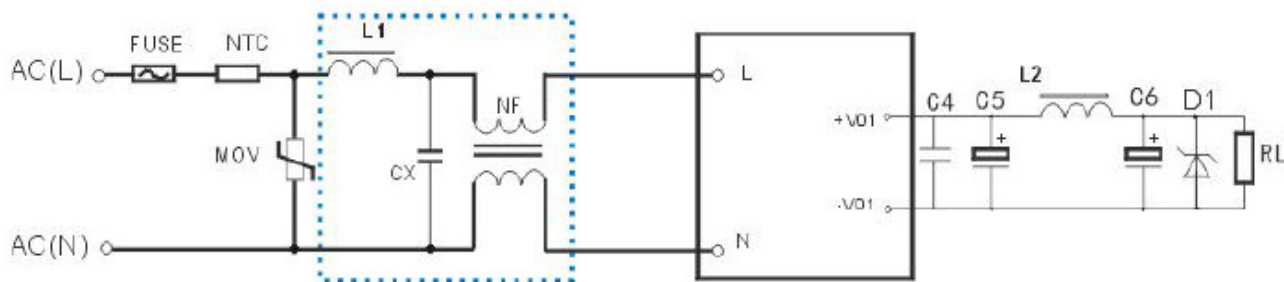


CONNECTION

PIN #	SINGLE
1	AC(L)
2	AC(N)
3	+Vo
4	-Vo

Note:

Unit is mm(inch).

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NOTE
RECOMMENDED TEST AND APPLICATION CIRCUIT

EMC RECOMMENDED APPLICATION CIRCUIT

	3.3VDC	5VDC	9VDC	12VDC	15VDC	24VDC
FUSE				T2A/250V		
NTC				10D-9		
MOV				14D471K		
L1				1mH/0.8A		
CX				104K/275V		
NF				L=30mH,I=0.5A		
L2				10uH/3A		
C4				104K/50V		
C5/C6	2200uF/16V	2200uF/16V	1000uF/16V	680uF/16V	470uF/25V	220uF/35V
D1	P6KE6.8A	P6KE6.8A	P6KE16A	P6KE16A	P6KE20A	P6KE33A