PAIRUI

AC-DC Converter
DIP-Package

ASP10 Series 10Watt

FEATURES:

- ✓ **Compact Size, High Power Density**
- ✓ **Universal Input Voltage Range: 85~265Vac/120~370Vdc**
- ✓ **Output Voltage Range: 3.3VDC~24VDC**
- ✓ **Low Standby Power Consumption<0.1W**
- ✓ **Better Energetic Efficiency: Meet Requirements of Energy Star and EC Code of Conduct**
- ✓ **Encapsulated Design and Same Footprint as EI48 Transformer**
- ✓ **Protections: Short Circuit, Over Temperature, Over Current**

MODEL LIST

Model number	Nominal input voltage	Output voltage	Output power	Maximum output current	efficiency	Maximum ambient temperature	authentication
ASP10210	85-265VAC	3.3V	10W	3000mA	72%	50˚C	UL, CUL, CE, CB, FCC,UKCA
ASP10211	85-265VAC	5V	10W	2000mA	74%	60˚C	UL, CUL, CE, CB, FCC,UKCA
ASP10212	85-265VAC	9V	10W	1100mA	80%	60˚C	UL, CUL, CE, CB, FCC,UKCA
ASP10213	85-265VAC	12V	10W	830mA	82%	60˚C	UL, CUL, CE, CB, FCC,UKCA
ASP10214	85-265VAC	15V	10W	670mA	82%	60˚C	UL, CUL, CE, CB, FCC,UKCA
ASP10215	85-265VAC	18V	10W	560mA	82%	60˚C	UL, CUL, CE, CB, FCC,UKCA
ASP10216	85-265VAC	24V	10W	420mA	82%	60˚C	UL, CUL, CE, CB, FCC,UKCA

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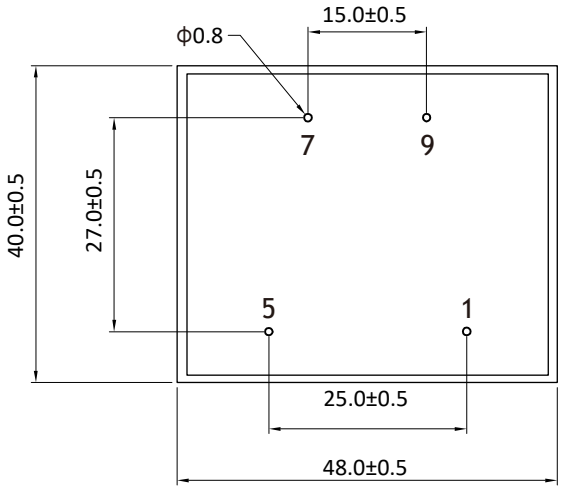
ELECTRICAL PARAMETER

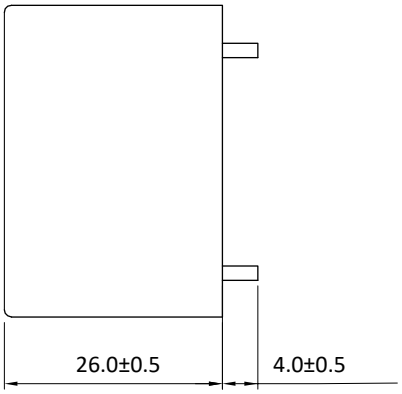
item	Conditions	min	typ	max	unit
Input voltage		85	---	265	Vac
		120	---	370	Vdc
Input frequency	Vin=85~265Vac	47	---	63	Hz
Input current	Full load, Vin=85~265Vac/120~370Vdc	---	0.4	---	A
Inrush current	Cold start, Vin=230Vac	---	---	25	A
Standby power	No load, rated output voltage	---	---	0.1	W
Output voltage accuracy	Rated input voltage, full load	---	±2	±4	%
Line regulation	Vin from 85~265Vac or 120~370Vdc	---	±1	---	%
Load regulation	Vout from min. to max.	---	±1	---	%
Dynamic Response(Vout)	50%~100% load, 1A/us, 1Khz, 50% duty ratio	---	---	110	%
Turn-on delay time	Rated input voltage, full load, cold start	---	---	3	S
Turn-on rise time	Rated input voltage, full load	---	---	50	ms
Hold up time	Rated input voltage, full load	5	---	---	ms
Overshoot	Rated input voltage, full load	---	---	10	%
Undershoot	Rated input voltage, full load	---	---	10	%
Ripple	Refer to below note	---	150	---	mV P-P
Short circuit	In hiccup mode, it will recover automatically after fault condition is removed; No excessive heat, odor, or plastic deformation shall occur with no safety hazard				
Over temperature	130-150℃, shut off output voltage, it will recover automatically after the temperature turn to normal				
Over current	When output current exceeds the rated range, it will be protected automatically, and will recover automatically after fault condition is removed				
Ambient operating temperature	Startup at rated voltage	-25		/	℃
Operating relative humidity	Non condensing	10		90	%
Storage temperature	Humidity 5 ~ 95% RH	-40		+85	℃
MTBF	Full load, 220Vac input, 25℃ ambient temperature	550			Khrs
Dimension(LxWxH)	48 x 40 x 26mm, pin length 4mm				
Weigh	76.5g				
Safety	Design refer to UL/CUL60950, UL/CUL62368, IEC/EN60950, IEC/EN61558-2-16, IEC/EN62368				
Withstand voltage	I/P-O/P: 4KVAC, 5mA, 3s				
EMI	Design refer to EN55032,EN55014,FCC part15,ClassB under 3dB margin				
EMS	Design refer to EN61000-3-2:2014,ClassA EN61000-3-3:2013 IEC61000-4-2:2008 Contact Discharge±4KV,Air Discharge±8KV IEC61000-4-3:2006+A1:2007+A2:2010 IEC61000-4-4:2012,±1KV IEC61000-4-5:2014,±1KV IEC61000-4-6:2013 IEC61000-4-11:2004				

OVERALL DIMENSION

Bottom view



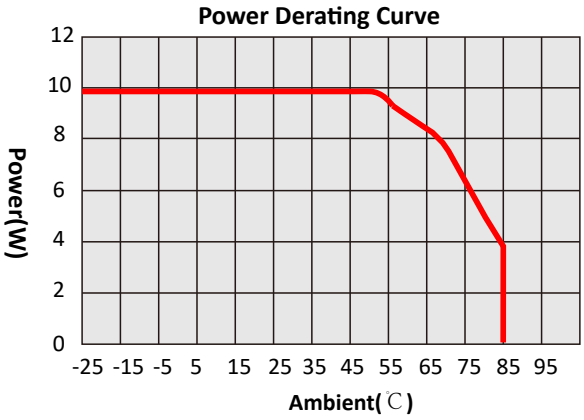
Side view

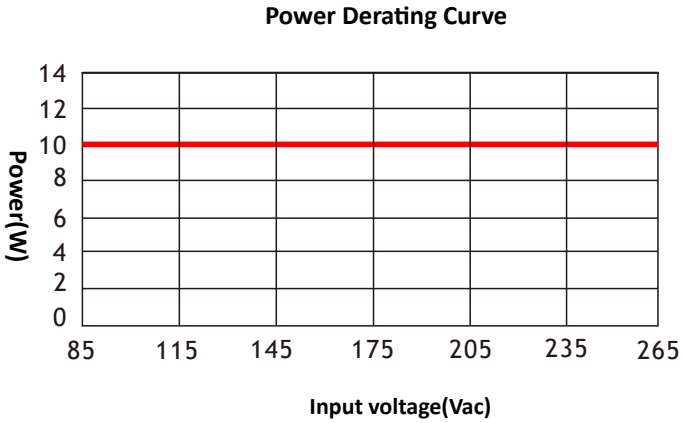


PIN DEFINITION

No	definition
1	AC(L)
5	AC(N)
7	Vout(+)
9	Vout(0V)

ELECTRICAL CURVE



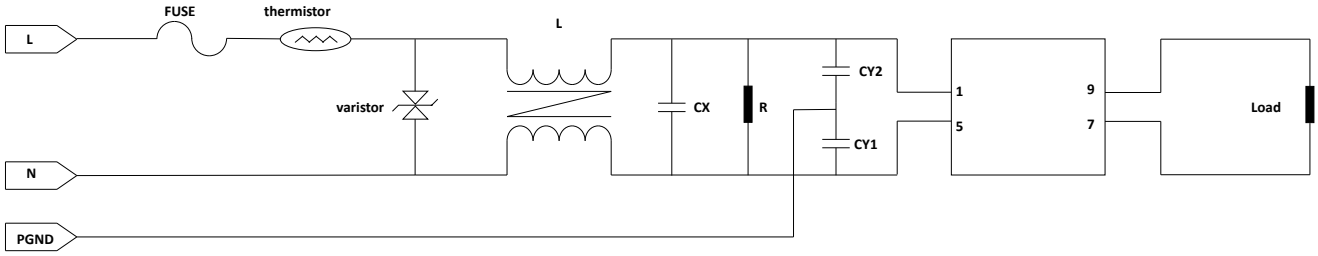


APPLICATION GUIDE

1. Storage guide
Storage temperature: -40℃ to +85℃, storage humidity: 5% to 95%

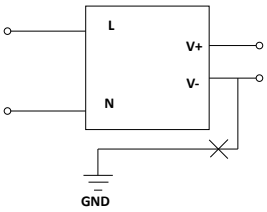
2. Warranty Guide
In order to best ensure the reliability and life of the power supply, we recommend customers to use within 6 months. If the power supply is stored unused for more than 12 months,Then we recommend that the product needs to be aged for 2 hours before use.

3. Suitable for applications that require high EMC performance
This product is certified to EN55022 and EN55014 CLASS B EMC without any additional internal components. As follows
The circuit can meet the more stringent EMC performance requirements.

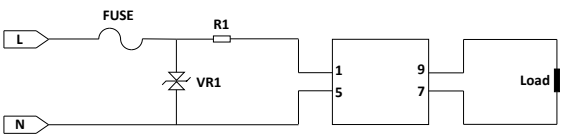


Fuse: Recommended parameters: 5A to 10A/250Vac, slow-acting fuse type
Thermistor: Recommended parameters: 2A,5Ω,1.8W to 5A D10,2.5Ω,2.4W.
Varistor: Recommended parameters: 14D471,300Vac, maximum energy 118 joules.
L is common mode inductor: Recommended parameter: 10mH to 30mH
CX is an X2 capacitor: Recommended parameters: 0.1uF to 0.22uF/275Vac
R is a resistor: Suggested parameter: 1.0MQ to 3.0 MQ2.

4. Suitable for grounding:
The application does not support ASQ/ASP products



5. High surge circuit
The ASQ /ASP series tests and certificates surge levels to 1EC61000-4-5 and does not require any additional external components. To wave
When the surge level is increased to 6KV, the following external circuits may be recommended.



VR1 is a varistor, recommended parameters: 14D471,300 Vac, maximum energy 118 joules.
R1 is a winding resistor, recommended parameters: 10R/1W~10R/3W, resistance wire diameter 0.1 to 0.23mm.
F1 is a fuse, recommended parameters: 6.3A to 10A/250 VAC, slow-acting fuse.