



DESCRIPTION :

3W,4W 3KVAC Isolation Wide Input AC/DC Converters

The rated output power of TP03(04)AB is 3W,4W with wide input voltage range, for both AC input and DC input application. High reliability, precision, large power density, ultra-small size, no external heat sink required, stable output voltage and etc, with over current protection, EMI filter circuit, the rectifier filter circuit, 3000V isolation voltage, short circuit, overload, internal thermal protection, Widely used in industrial control, telecommunications, instrument, data acquisition, signal control and other electronic systems.

FEATURES

Universal input voltage range	Both for AC and DC input voltage	Wide input voltage: 4:1
Low power consumption, Low No-load consumption	High switching frequency , High output density	Output over-load, Short circuit protection
Low Ripple & Noise	RoHS compliant	Operating temperature : -40°C to 70°C

SELECTION GUIDE

Part Number	Input Voltage		Output		Efficiency (Typ.) %
	Voltage		Voltage (VDC)	Current (A)	
	Voltage (VAC)	Voltage (VDC)			
TP03AB220S03W	85-265	120-370	3.3	0.60	64
TP03AB220S05W	85-265	120-370	5	0.60	68
TP03AB220S09W	85-265	120-370	9	0.33	70
TP03AB220S12W	85-265	120-370	12	0.25	72
TP03AB220S15W	90-264	120-370	15	0.20	76
TP04AB220S03W	90-264	120-370	3.3	0.80	64
TP04AB220S05W	90-264	120-370	5	0.80	68
TP04AB220S09W	90-264	120-370	9	0.44	70
TP04AB220S12W	90-264	120-370	12	0.33	74
TP04AB220S15W	90-264	120-370	15	0.266	76

All specifications typical at TA=25°C, nominal input voltage and rated output current unless otherwise specified.

INPUT CHARACTERISTICS

parameter	conditions	Min	Typ	Max	Units
Input Voltage Range	VDC	120	220	370	VDC
Input Voltage Range	VAC	85	220	265	VAC
Input Frequency		50		60	HZ
Input Current	115VAC		130		mA
Input Current	230VAC		80		mA
Inrush current	115VAC		10		A
Inrush current	230VAC		20		A
External fuse recommended value		1A/250V			
hot swapping		Nonsupport			
leak current	Full-Load		0.25mA		

OUTPUT CHARACTERISTICS

parameter	conditions	Min	Typ	Max	Units
Output Voltage accuracy				±2	%
Line regulation				±0.2	%
Load regulation				±0.5	%
Protection		Over Voltage protection ,Over Current protection, Auto recovery			
Ripple & Noise	20MHz bandwidth (peak - peak value)		50	100	mv
The transient response time			1000		μ S
Temperature drift coefficient			±0.03		%/°C

TEMPERATURE CHARACTERISTICS

parameter	conditions	Min	Typ	Max	Units
Isolated voltage input - output	Test for 1 minute			3000	VAC
Operating temperature	According to the output load derating curve	-40		+70	°C
Storage temperature		-40		+85	°C
Storage humidity		10		95	% .RH max

Note: When the module is operating at each ambient temperature level, the enclosure temperature must not exceed the maximum shell temperature level.

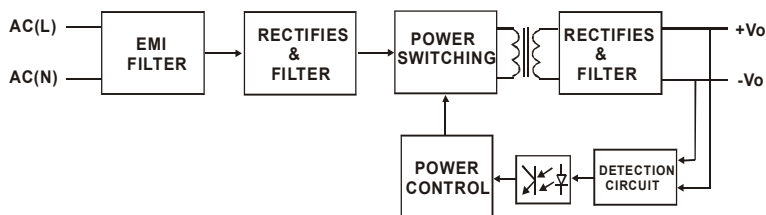
SAFETY AND ELECTROMAGNETIC COMPATIBILITY

Safety standard	UL1012,EN60950,UL60950 compliant				
Isolated Voltage	I/P-O/P:3000VAC 5mA 5secs				
Isolated resistance	I/P-O/P>100MΩ/500VDC 25°C 70% RH				
Conduction and radiation	EN55011, EN55022 (CISPR22) compliant See the application note for details				
Electrostatic discharge (ESD)	IEC/EN 61000-4-2 level 4 8kV/15kV See the application note for details				
Radiofrequency radiation immunity (RF)	IEC/EN 61000-4-3 See the application note for details				
Electrical fast transient (EFT)	IEC/EN 61000-4-4 level 4 4kV See the application note for details				
Surge	IEC/EN 61000-4-5 level 4 2kV/4kV See the application note for details				
Mean Time Between Failure(MTBF)	200K hrs min.	MIL-HDBK-217F(25)			

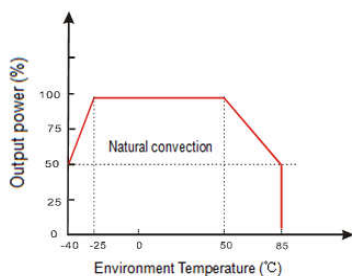
NOTES

- The above data, except for special instructions, are measured at TA = 25°C, humidity <75%, input nominal voltage 230Vac and output rated load
- Power supply in the system is considered as a component, Need to be combined with the terminal equipment for electromagnetic compatibility related confirmation

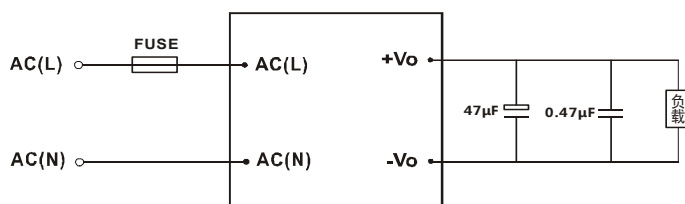
PRODUCT SCHEMATIC



DERATING CURVE



TYPICAL APPLICATION CIRCUIT



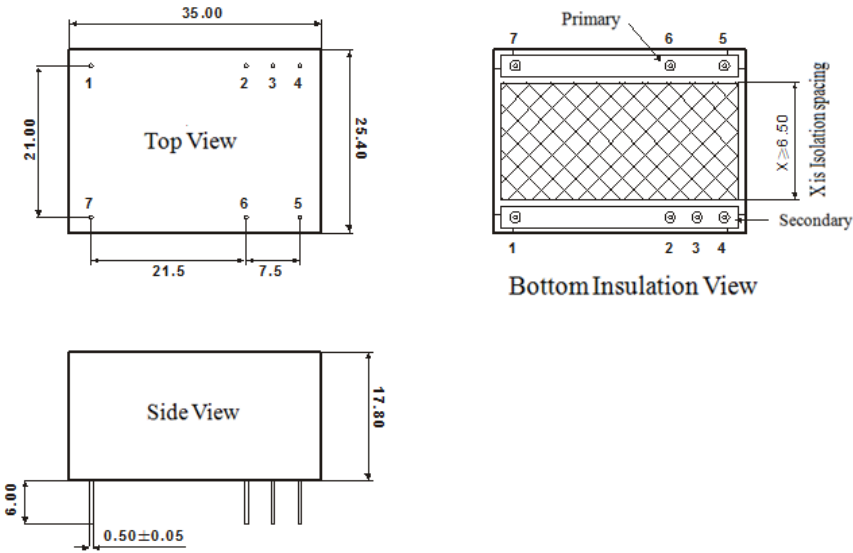
Notes :

1. Fuse: 1A/250V
2. Ripple and noise are measured in the case of a bandwidth of 20MHz, Use a 300mm twisted pair, While the terminals are connected in parallel with a 0.47uF high frequency ceramic capacitor and a 47uF electrolytic capacitor.

MECHANICAL DIMENSIONS

PIN CONNECTION

DIP Package



PIN	Single output
1	NC
2	+Vo
3	-Vo
4	NC
5	L
6	N
7	NC

Units: mm Tolerance: ±0.2mm

SELECTION GUIDE

