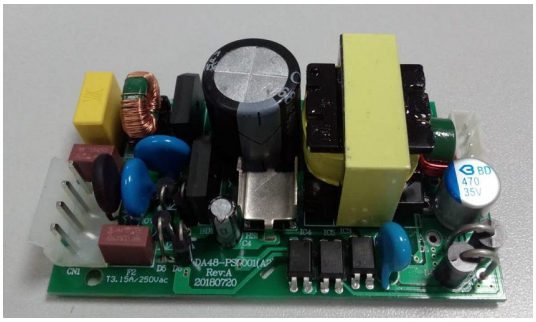
Typical Features

- ◆ Wide input voltage range: 110-270VAC/150-385VDC
- ◆ No load power consumption ≤ 0.60W
- ◆ Transfer Efficiency 87%(TYP.)
- ◆ Switching Frequency: Typical 50-70KHz (Frequency shaking)
- ◆ Protections: short circuit, over current
- ◆ Isolation voltage: 3000Vac
- ◆Security Level: CLASS II



Application Field

DA48-220S24B Series-----*is a high-efficiency bare board power supply provided by Aipu to customers. This series of power supplies has the advantages of global input voltage range, AC/DC dual-use, low ripple, low temperature rise, low power consumption, high efficiency, high reliability, high safety isolation, etc. This series of products has important applications in many fields such as industry, office and civil use.*

Typical Product List

Certificate	Part No.	Output Specifications			Max. Capacitive Load	Ripple& Noise 20MHz (Max)	Efficiency@ Full Load, 220Vac (Typical)
		Power	Voltage	Current			
		(W)	Vo(V)	Io(m A)	u F	mVp-p	%
-	DA48-220S24B	48	+24	2000	2000	200	87

Note 1: Due to limited space, the above is only a partial list of products. If you need products outside the list, please contact our sales department.

Note 2 "*" is a model under development

Note 3: Due to the instrument error of the test equipment, the minimum efficiency is defined as -2% of the typical value.

Note 4: The typical value of output efficiency is based on the product after half an hour of full load aging.

Input Specifications

Item	Operating Condition	Min	Typ.	Max	Unit
Input Voltage Range	AC input	110	220	270	VAC
	DC input	150	300	385	VDC
Input Frequency range	-	47	50	63	Hz
Input Current	115VAC	/	/	0.80	A
	230VAC	/	/	0.50	
Surge Current	115VAC	/	/	16	
	220VAC	/	/	30	
No-load power consumption	Input 115VAC	/	/	0.60	W
	Input 230VAC	/	/		
Leakage Current	-	0.5mA TYP/230VAC/50Hz			
Recommended External Input	-	3.15A-5A/ 250VAC slow fusing			

Fuse		
Hot Plug	-	Unavailable
Remote Control Terminal	-	Unavailable

Output Specifications

Item	Operating Condition		Min	Typ.	Max	Unit
Voltage Accuracy	Full input voltage range, any load	Vo1	-	±1.0	±2.0	%
		Vo2	-	-	-	
Line Regulation	Nominal load	Vo1	-	-	±0.5	%
		Vo2	-	-	-	
Load Regulation	Nominal input voltage, 20%~100% load	Vo1	-	-	±0.5	%
		Vo2	-	-	-	
Minimum Load	Single Output		5	-	-	%
	Positive and negative dual-channel common ground output		-	-	-	%
	Positive and negative dual-channel isolated output		-	-	-	
Start up Delay Time	Input 115VAC (full load)		-	1500	-	mS
	Input 220VAC (full load)		-		-	
Power-off Holding Time	Input 115VAC (full load)		-	65	-	mS
	Input 220VAC (full load)		-		-	
Dynamic Response	25%~50%~25% 50%~75%~50%		Overshoot amplitude (%) : ≤± 5.0			%
			Recovery time (mS) : ≤5.0			mS
Output Overshoot	Full input voltage range		≤10%Vo			%
Short circuit Protection			Continuous, self-recovery			Hiccup
Temperature Drift	-		-	±0.03%	-	%/℃
Over Current Protection	Full input voltage range		≥130% Io, self-recovery			Hiccup
Ripple & Noise	-		-	110	200	mV
	The ripple and noise test method uses the twisted pair test method. The specific test method and matching can be found in the following (Ripple & Noise Test Instructions).					

General Specifications

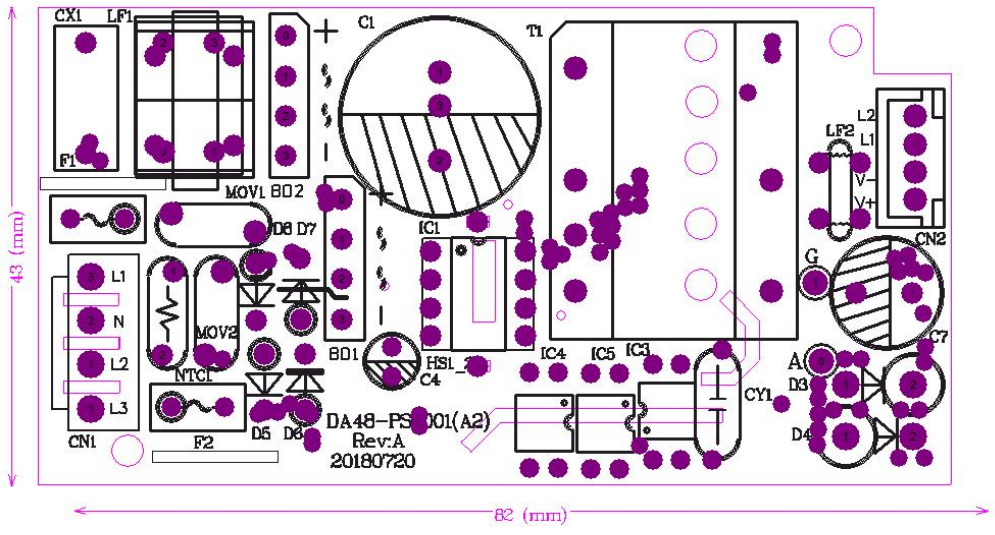
Item	Operating Condition	Min	Typ.	Max	Unit
Switching Frequency	-	50	-	70	KHz
Operating Temperature	-	-25	-	+50	℃
	The temperature derating needs to be performed based on the temperature derating curve. The derating curve can be found in the following (product characteristic curve).				
Storage Temperature	-	-40	-	+85	℃

Soldering Temperature	Wave soldering	260±4℃, time 5-10S			
	Manual soldering	360±8℃, time 4-7S			
Relative Humidity	-	10	-	90	%RH
Isolation Voltage	Input-Output, Test 1min, leakage current≤5mA	3000	-	-	VAC
Insulation Resistance	Input-Output@ DC500V	100	-	-	MΩ
Vibration	-	10-55Hz,10G,30Min,along X,Y,Z			
MTBF	-	MIL-HDBK-217F@25℃＞300,000H			

EMC Characteristics

Total Item		Sub Item	Test Standard	Class
EMC	EMI	CE	CISPR22/EN55014	CISPR22/EN55014，CLASS B
		RE	CISPR22/EN55014	CISPR22/EN55014，CLASS B
	EMS	RS	IEC/EN61000-4-3	IEC/EN61000-4-3 10V/m Perf.Criteria A
		CS	IEC/EN61000-4-6	IEC/EN61000-4-6 10Vr.m.s Perf.Criteria A
		ESD	IEC/EN61000-4-2	IEC/EN61000-4-2 ±6KV/8KV （裸机） Perf.Criteria B
		Surge	IEC/EN61000-4-5	IEC/EN61000-4-5 ±1KV(裸机) Perf.Criteria B
		EFT	IEC/EN61000-4-4	IEC/EN61000-4-4 ±1KV(裸机) Perf.Criteria B

Dimension



Packing Code	L x W x H	
B	81.9X43.0X25.0 mm	3.225X1.693X0.984inch

Pin Specification

Pin Description	1	2	3	4
CN2	AC（2-3）	AC（2-1）	+Vo	-Vo

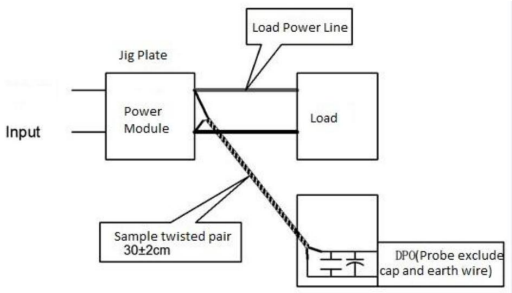
CN1	AC（L1）	AC（N）	AC（L2）	AC（L3）

Ripple& Noise Test: (Twisted Pair Method 20MHZ bandwidth)

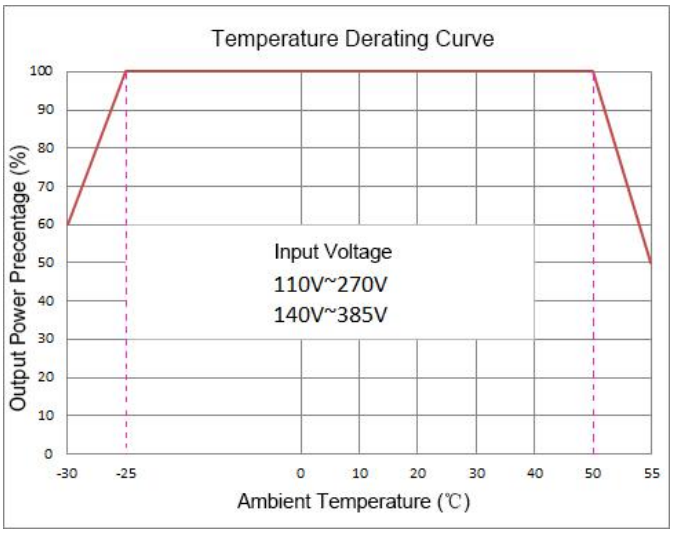
Test Method:

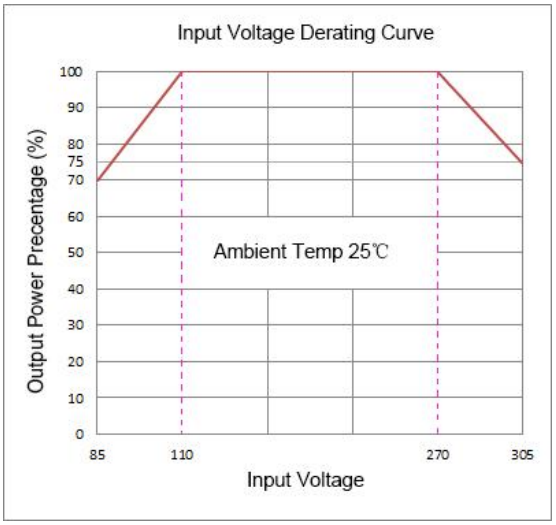
(1) 12# twisted pair to connect, Oscilloscope bandwidth set as 20MHz, 100M bandwidth probe, terminated with 0.1uF polypropylene capacitor and 10uF high frequency low resistance electrolytic capacitor in parallel, oscilloscope set as Sample pattern.

(2) Input terminal connect to power supply, output terminal connect to electronic load through jig plate, Use 30cm±2 cm sampling line, Power line selected from corresponding diameter wire with insulation according to the flow of output current.



Product Characteristic Curve

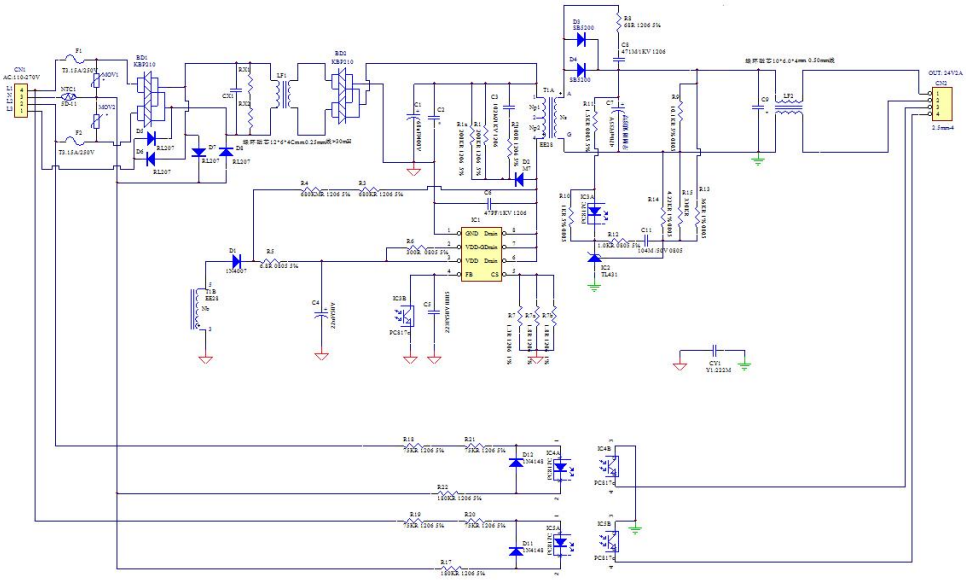




Note 1: Input Voltage should be derated based on Input voltage derating curve when it is 85~110VAC/ 270~305VAC/ 120~150VDC/ 385~430VDC.

Note 2: Our product is suitable to use under natural air cooling environment, if use it under closed condition, please contact with us.

Design Reference Applications



Note:

1. The product should be used within the specification range, or it will cause permanent damage to it;
2. The input terminal should connect to fuse;
3. If the product is worked under the minimum requested load, the product performance cannot be guaranteed to comply with all parameters in the datasheet;
4. 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;
5. Unless otherwise specified, parameters in this datasheet were measured under the conditions of **Ta=25℃**, **humidity<75%** with nominal input voltage and rated output load(pure resistance load);
6. All index testing methods in this datasheet are based on our Company's corporate standards;
7. The performance indexes of the product models listed in this manual are as above, but some indexes of non-standard model products will exceed the above-mentioned requirements, please directly contact our technician for specific information;
8. We can provide product customization service,
9. Specifications are subject to change without prior notice, please follow up with our website for newest manual.

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