

Power Module

ZPO40SXX00WAH Series AC-DC Power Module

FEATURES

- AC input voltage range:90V-305V
- DC output voltage range: 12V,15V,24V,48V
- Ambient temperature range: -40°C ~ +85°C
- OVC IV (EN IEC61558)
- Insulation: Class II
- Isolation voltage: Input-Output ≥ 6275VAC
- Safety Approval : EN IEC62368, EN IEC61558



MODEL LIST

Model No.	Output Power	DC Voltage	Rated Current	Efficiency 230VAC, % Typ.	Ripple & Noise (max)	Ambient TEMP(°C)	Weight	Certificate		
								UL	TUV	CB
ZPO40S1200WAH	40W	12Vdc	3333mA	>85%	<120mV	50	120g		✓	
ZPO40S1500WAH	40W	15Vdc	2666mA	>85%	<150mV	50	120g		✓	
ZPO40S2400WAH	40W	24Vdc	1666mA	>85%	<240mV	50	120g		✓	
ZPO40S4800WAH	40W	48Vdc	833mA	>85%	<480mV	50	120g		✓	

GENERAL DATA

Model No. / 型号		ZPO40SXX00WAH	
Input 输入参数	Rated Voltage / 额定电压	100-277 VAC	
	Voltage Range / 输入电压范围	90-305 VAC	
	Frequency (Hz) / 输入频率范围	47-440 Hz	
	Current (Full load) / 输入电流	115VAC	230VAC
		1000mA	500mA
	Inrush Current (<500us) / 冲击电流	60A max.	100A max.
	No Load Loss / 待机功耗	0.2W max.@230V	
	HOT PLUG / 热拔插	Unavailable	
Output 输出参数	Voltage (V) / 输出电压	Refer to "Model List"	
	Current (mA) max. / 输出额定电流	Refer to "Model List"	
	Voltage Accuracy / 输出电压精度	±2%	
	Line Regulation / 线性调节率	±0.5%	
	Load Regulation / 负载调节率	±1%	
	Minimum Load (mA) / 最小负载	0	
	Ripple & Noise (mV)/ 输出纹波	Refer to "Model List"	
	Efficiency (typ.) / 工作效率	>85%	
	Start-up Time / 开机延迟时间	3S	
	Hold up Time / 掉电保持时间(典型值)	30ms/230VAC at full load	
Protection 保护特性	Over Current Protection / 过流保护	Hiccup mode	
	Short Circuit Protection / 短路保护	Hiccup mode	

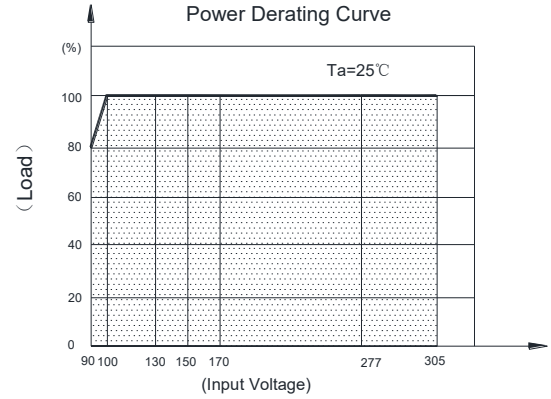
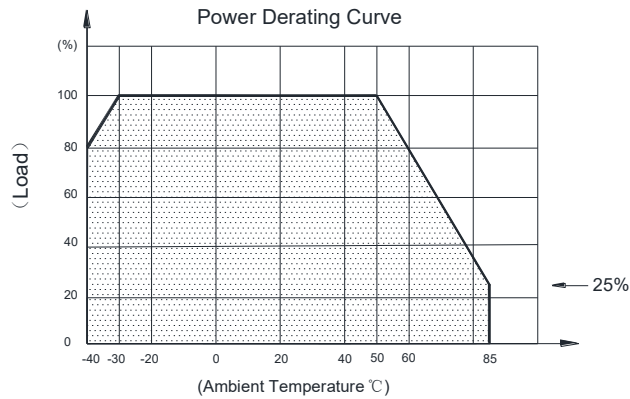
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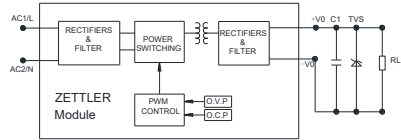
GENERAL DATA

Environment 环境	Operating Temperature / 工作温度	-40°C...+85°C @free air convection (refer to the Power Derating Curve)	
	Operating Humidity / 工作湿度	20-90% RH non-condensing	
	Storage Temperature / 存储温度	-40°C...+85°C	
	Storage Humidity / 存储湿度	95% RH	
	Temperature Coefficient/温度漂移系数	±0.05%/°C (0~50°C)	
Physical 外观结构	Case Material / 外壳材质	Plastic (UL 94V-0 rated)	
	Weight / 产品净重	120g (ref.)	
Safety & EMC 安全认证及电磁兼容	Dielectric Strength / 绝缘强度	I/P-O/P: 6275VAC	
	Altitude / 海拔高度	5000m	
	Overvoltage Category / 过电压类别	EN IEC61558	OVC IV
		EN IEC62368	OVC II
	Safety Standards / 安全标准	EN IEC62368, EN IEC61558	
	EMI / 电磁兼容	Compliance with EN55032 CLASS B, EN61000-3-2, EN61000-3-3	Need to add external EMC component
EMS (Noise Immunity)/ 电磁抗干扰	Compliance With EN55035		
Reliability Requirement	MTBF/平均故障间隔时间	300Khrs Min MIL-HDBK-217F (25°C)	
	Burn-In Test/ 老化测试	The unit shall be burned in for 2~4 Hours under 277Vac input and with full load at 25°C	

PRODUCT CHARACTERISTIC CURVE



TYPICAL APPLICATION SCHEMATIC



Note: External circuit components are only recommendations, customers should choose their own components and values according to their specific system application requirements.

ORDERING DATA

ZPO 40 S 12 00 W AH

Case Dimension: AH:= AH Type case

Input AC Voltage Range: W=Wide Voltage

Second Output Voltage:00 = No Second

First Output Voltage: 12 = 12V

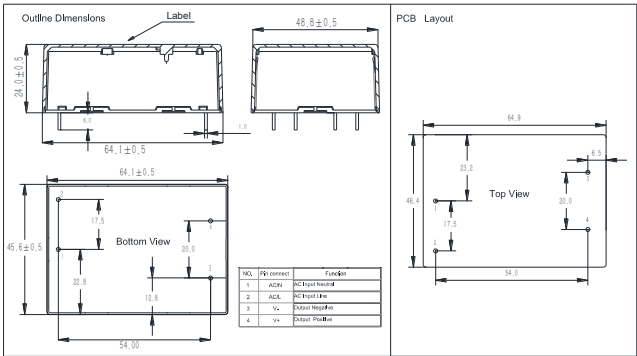
Output Type: S = Single Output

Output Power (W): 40= 40W

ZPO=Zettler standard series

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PCB FOOTPRINT



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NOTES

General

1. All values in this datasheet are at a reference temperature of 23°C (73°F) unless stated otherwise.
2. Evaluate the component's performance and operating conditions under the worst-case conditions of the actual application.
3. The datasheet and the component's specifications are subject to change without notice.

Storage, handling, and environmental guidelines

4. Protect SMPS from exposure to corrosive gases. Corrosion of internal magnetic device and electronics to may cause failure.
5. For automated dual wave soldering process we recommend preheating at 120°C (248°F) for max. 120 seconds and a soldering temperature at 260 ±5°C (500 ±9°F) for max. 10 seconds soldering time (max. 5 seconds per wave). For manual soldering we recommend 350°C (662°F) max. temperature for max. 5 seconds. Do not apply force to SMPS terminals during soldering.
6. Non-sealed SMPS must not be washed, immersion cleaned or conformal coated as substances may enter the case and cause corrosion or seizure of Internal magnetic device and electronics to fail.
7. During operation, storage and transport, ambient temperature should be within the specified operating temperature range. Humidity should be in the range of 5% to 85% RH. Icing and condensation must be avoided.

Design guidelines

8. The input voltage must be within the rated voltage range. Otherwise irreversible damage may be caused.
9. The load must be within the rated range and refer to the product characteristic curve ; otherwise the electrical parameters may exceed the specification range.
10. The operating temperature range must be within the rated range
11. The peripheral EMC circuit can refer to the recommended circuit diagram.

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DISCLAIMER

This product specification is to be used in conjunction with the application notes, which can be downloaded from the regional ZETTLER magnetic websites. The specification provides an overview of the most significant part features. Any individual applications and operating conditions are not taken into consideration. It is recommended to test the product under application conditions. Responsibility for the application remains with the customer. Proper operation and service life cannot be guaranteed if the part is operated outside the specified limits.

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