

Power Modules

DPL50SXX00EAA DC-DC Power Module

FEATURES

- DC input voltage range: 80VDC~750VDC
- DC input rated voltage: 150VDC~650VDC
- Ambient temperature range: -40°C~+70°C
- Isolation voltage: Input –Output≥4000VAC 60S
- Compact size :L*W*H:109×58.5×30mm
- Built-in output OCP, OVP, SCP
- Operating up to 5000m altitude
- Low standby power consumption <0.3W@500VDC



MODEL LIST

Model No.	Output Power	DC Voltage	Rated Current	Efficiency 500VDC, % Typ.	Ripple & Noise (max)	Ambient TEMP(°C)	Weight typ.	Certificate		
								UL	TUV	CB
DPL50S1200EAA	50W	12Vdc	4170mA	85%	<200mV	70	315g			•
DPL50S2400EAA	50W	24Vdc	2083mA	85%	<200mV	70	315g			•

GENERAL DATA

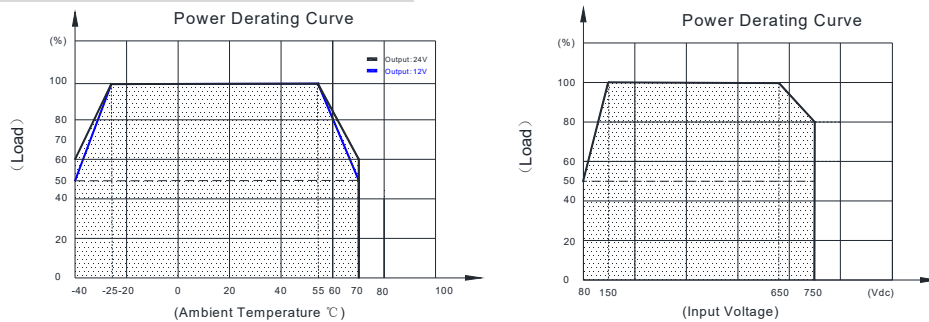
Input 输入参数	Rated Voltage / 额定电压	150-650VDC		
	Voltage Range / 输入电压范围	80-750VDC		
	Current (Full load) / 输入电流	150VDC	750VDC	
		900mA	300mA	
	Inrush Current (<500us) / 冲击电流	60A		
	No Load Loss / 待机功耗	0.7W @750VDC		
	HOT PLUG / 热拔插	Unavailable		
Output 输出参数	Voltage (V) / 输出电压	Refer to "Model List"		
	Current (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	±1%		
	Load Regulation / 负载调节率	±2%		
	Minimum Load (mA) / 最小负载	0		
	Ripple & Noise / 输出纹波	Refer to "Model List"		
	Efficiency (typ.) / 工作效率	Refer to "Model List"		
Start-up Time / 开机延迟时间	<3s @25°C			
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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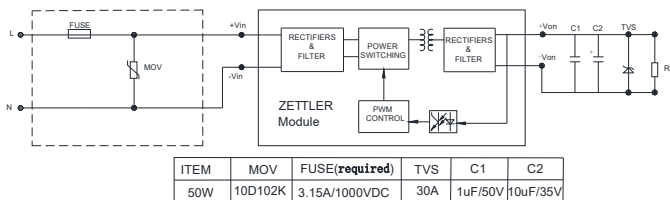
GENERAL DATA

Environment 环境	Operating Temperature / 工作温度	-40°C...+ 70°C @free air convection (refer to the Power Derating Curve)	
	Operating Humidity / 工作湿度	10~90% RH	
	Storage Temperature / 存储温度	-40°C~+85°C	
	Storage Humidity / 存储湿度	5~95% RH	
	Temperature Coefficient/温度漂移系数	±0.15%/°C (0~55°C)	
	Operating Altitude/工作海拔	5000m	
Physical 外观结构	Case Material / 外壳材质	Plastic (UL 94V-0)	
	Weight / 产品净重	315g (Ref)	
Safety & EMC 安全认证及电磁兼容	Dielectric Strength / 绝缘强度	I/P-O/P : 4000VAC for 1Min; leakage current <10mA	
	Protection against electric shock	Class II construction <input type="checkbox"/>	
	Safety Standards / 安全标准	IEC/EN62109-1 certified; Design compliance with UL1741	
	EMI / 电磁兼容	EN55032	
	EMS (Noise Immunity)/ 电磁抗干扰	EN55035; EN/IEC 61000-6-2; EN/IEC 61000-6-4; EN/IEC 61204-3	Need to add external EMC component (Refer to the Schematic)
	Over Voltage Category (OVC) / 过电压类别	OVC II	
Reliability Requirement 可靠性要求	MTBF/平均故障间隔时间	MIL-HDBK-217F @25°C 300Khrs Min	
	Burn-In Test/ 老化测试	The unit shall be burned in for 2~4 Hours under 650VDC input and with full load at 25°C	

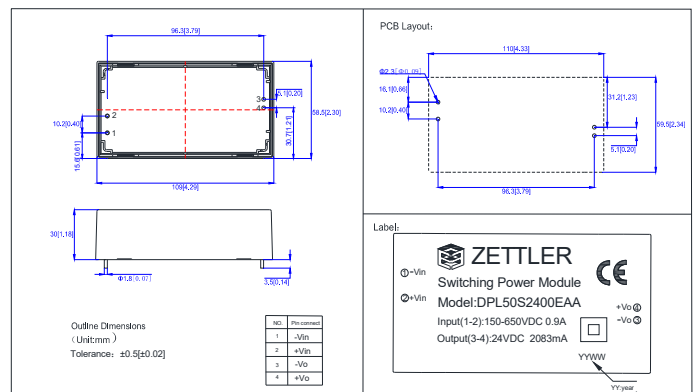
PRODUCT CHARACTERISTIC CURVE



TYPICAL APPLICATION SCHEMATIC



PCB FOOTPRINT



ORDERING DATA

DPL 50 S 24 00 E AA

Case Dimension: AA:= AA Type case
 Input AC Voltage Range: E= Extra Voltage
 Second Output Voltage: 00 = No Second
 First Output Voltage: 24 = 24V
 Output Type: S = Single Output
 Output Power (W): 50= 50W
 DPL=DC-DC High Performance series

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Power Modules

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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SITES FOR ZETTLER MAGNETICS

NORTH AMERICA

Zettler Magnetics, Inc.
www.zettlermagnetics.com
sales@zettlermagnetics.com

EUROPE

Zettler Electronics, GmbH
www.zettlerelectronics.com
office@zettlerelectronics.com

Zettler Electronics, Poland
www.zettlerelectronics.pl
office@zettlerelectronics.pl

CHINA

Zettler Group, China
www.zettlercn.com
relay@zettlercn.com

ASIA PACIFIC

Zettler Electronics (HK) Ltd.
www.zettlerhk.com
sales@zettlerhk.com



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