

DPV01SXX00LAC DC-DC Power Module

FEATURES

- DC input voltage range: 4.5VDC-5.5VDC
 - DC output voltage spec: 3.3V, 5V, 9V, 12V, 15VDC
 - Isolation voltage: Input-Output $\geq 4200\text{VAC}$
 - Ambient temperature range: $-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$
 - High efficiency low standby Power consumption
 - Meet EN IEC-62368-1 international safety standard@5000M
- Operating altitude & PD3 Pollution degree
- Compact size, easy installation



MODEL LIST

Model No.	Output Power	DC Voltage	Rated Current	Efficiency 5VDC, % Typ.	Ambient TEMP($^{\circ}\text{C}$)	Weight ref.	Certificate		
							UL	TUV	CB
DPV01S0300LAC	1W	3.3Vdc	303mA	81%	85	3.8g		•	
DPV01S0500LAC	1W	5Vdc	200mA	84%	85	3.8g		•	
DPV01S0900LAC	1W	9Vdc	111mA	85%	85	3.8g		•	
DPV01S1200LAC	1W	12Vdc	83.3mA	85%	85	3.8g		•	
DPV01S1500LAC	1W	15Vdc	66.7mA	86%	85	3.8g		•	

GENERAL DATA

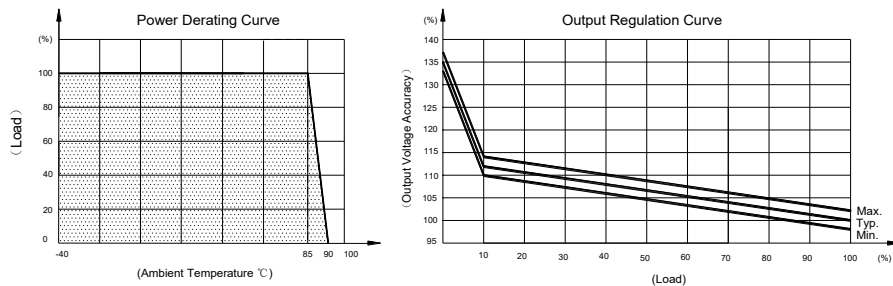
Input 输入参数	Rated Voltage / 额定电压	5VDC	
	Voltage Range / 输入电压范围	4.5VDC-5.5VDC	
	Current (Full load) / 输入电流	5VDC	
		250mA max.	
	No Load Loss / 待机功耗	0.1W Typ. @5VDC	
	HOT PLUG / 热拔插	Unavailable	
Output 输出参数	Voltage (V) / 输出电压	Refer to “Model List”	
	Current (mA) max. / 输出额定电流	Refer to “Model List”	
	Voltage Accuracy / 输出电压精度	3.3V /5V: ±20%	9V /12V /15V: ±15%
	Line Regulation / 线性调节率	1.5% for 1% input variation	
	Load Regulation / 负载调节率	3.3V /5V: ±20%	9V /12V /15V: ±15%
	Minimum Load (mA) / 最小负载	10%	
	Ripple & Noise / 输出纹波	100mV max.	
	Efficiency (typ.) / 工作效率	Refer to “Model List”	
	Start-up Time / 开机延迟时间	1s	
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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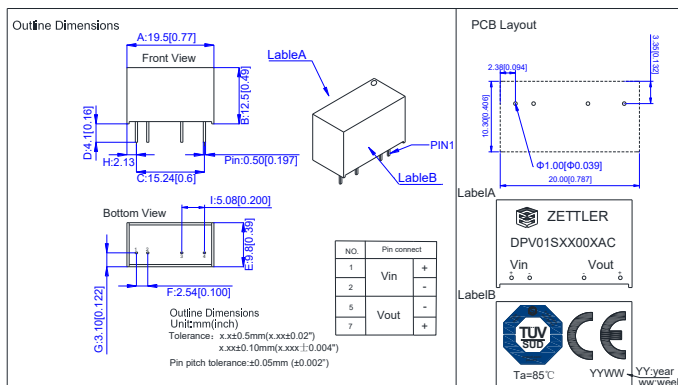
GENERAL DATA

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~105°C	
	Storage Humidity / 存储湿度	10~95% RH non-condensing	
	Temperature Coefficient/温度漂移系数	±0.05%/°C (0~60°C)	
	Polution Degree/ 污染等级	PD3	
	Operating Altitude/工作海拔	EN IEC 62368-1	5000m
Physical 外观结构	Case Material / 外壳材质	Plastic (UL 94V-0)	
	Weight / 产品净重	3.8g ref.	
Safety & EMC 安全认证及电磁兼容	Dielectric Strength / 绝缘强度	I/P-O/P : 4200VAC	
	Safety Standards / 安全标准	EN IEC 62368-1	
	EMI / 电磁兼容	EN55032 CLASS A	Need to add external EMC component (Refer to the Schematic)
Reliability Requirement 可靠性要求	MTBF/平均故障间隔时间	3500KHrs Min @5VDC MIL-HDBK-217F (25°C)	
	Burn-In Test/ 老化测试	The unit shall be burned in for 2~4 Hours under 5VDC input and with full load at 25°C	

PRODUCT CHARACTERISTIC CURVE



PCB FOOTPRINT

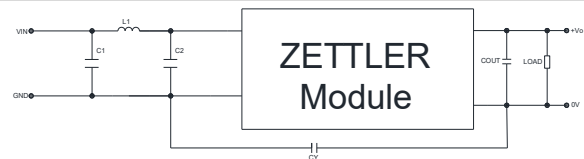


ORDERING DATA

DPV 01 S 05 00 L AC

Case Dimension: AC:= AC Type case
Input DC Voltage Range: L=4.5-5.5Vdc
Second Output Voltage: 00 = No Second
First Output Voltage: 05 = 05V
Output Type: S = Single Output
Output Power (W): 01= 1W
DPV=Low Voltage Input

TYPICAL APPLICATION SCHEMATIC



EMC	Vout(VDC)	C1/C2(uF)	CY	L1(uH)	Coat(uF)
EMI	3.3/5	4.7	1nF/6KVDC	6.8	10uF/16V
	9				10uF/16V
	12				2.2uF/25V
	15				1.0uF/25V

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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

1. Protect SMPS from exposure to corrosive gases. Corrosion of internal magnetic device and electronics may cause failure.
2. 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.
3. 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.
4. 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

1. The input voltage must be within the rated voltage range. Otherwise irreversible damage may be caused.
2. The load must be within the rated range and refer to the product characteristic curve; otherwise the electrical parameters may exceed the specification range.
3. The operating temperature range must be within the rated range.
4. 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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