





# Product Specification

Product Name: 600W Constant Voltage LED Driver  
Product Model: V6-600B048  
Rev.: B.2

XiLi Songbai Road 1061, Nanshan  
Address: District, Shenzhen City, Guangdong Province, P.R.China  
Post Code: 518108  
TEL: 0755-27657000 FAX: 0755-27657908  
E-mail: info@mosopower.com Web site: <http://www.mosopower.com>

Prepared By	Checked By	Approved By





### Product Features

- Universal input voltage / Full range: 90~305Vac;
- Constant Voltage output;
- Surge protection: 6KV line-line, 10KV line-earth;
- Protections: SCP, OVP, OCP;
- IP67 design for indoor and outdoor applications;
- Suitable for dry / damp / wet locations;
- 5 years warranty.

### Application

- Suitable for LED roadway lighting, plant lighting, industrial lighting, landscape lighting, etc.

### DESCRIPTION

The V6-600Wseries is a 600W constant-voltage, the LED driver that operates from 90~305Vac input with excellent power factor and low THD. It is designed for landscape lighting. The high efficiency of the driver and compact metal case enables them to run cooler, significantly improving reliability and extending product life. To ensure trouble-free operation, protection is provided against input surge , output over current, over voltage, short circuit.

### MODELS

Model Number [1]	Max Output Power(W)	Output Voltage Range(Vdc)	Full Power Current	Typical Efficiency [2]	PF	THD
V6-600B048	600	48	12.50	93%	0.97	10%

### Notes:

All specifications are measured at 25°C ambient temperature, input voltage 230Vac, and the typical value tested by full load, if no specific note.

### INPUT SPECIFICATIONS

Parameter	Min.	Typ.	Max.	Notes
Input Voltage	90Vac	120-277Vac	305Vac	
Input Frequency	47Hz	50/60	63Hz	
Leakage Current	-	-	0.70mA	240Vac/50Hz
Input AC Current	-	-	7.5A	100-277Vac &full load
Inrush Current	-	-	50A	230Vac & full load
Power Factor	0.97	0.99	-	120Vac, 50-60Hz,full load
	0.95	0.97		230Vac, 50-60Hz, full load
	0.90	0.92		277Vac, 50-60Hz, full load
THD	-	10%	15%	100-240Vac,50-60Hz, 80%-100% load
	-	-	20%	277Vac, 50-60Hz, 80%-100% load



### OUTPUT SPECIFICATIONS

Parameter	Min.	Typ.	Max.	Notes
Output Voltage Tolerance	-5%	-	5%	
Total Output Voltage Ripple(pk-pk)	-5%		5%	Full load, Measured by 20 MHz bandwidth oscilloscope and the output paralleled a 0.1uF ceramic capacitor and a 47uF electrolytic capacitor.
Startup Overshoot Voltage	-	-	5%	100~277Vac & 100% Load, load is LED
Load Regulation	-3%	-	5%	25°C±10°C ambient temperature, Input Voltage 230Vac, load changes from 60% to 100%.
Turn-on Delay Time	-	-	1.0S	230Vac, 100% load

### GENERAL SPECIFICATIONS

Parameter	Min.	Typ.	Max.	Remark
Efficiency @120Vac V6-600B048 I <sub>o</sub> =12.5	89%	91%	-	Measured at full load and 25°C ambient temperature
Efficiency @230Vac V6-600B048 I <sub>o</sub> =12.5	92%	93%	-	Measured at full load and 25°C ambient temperature
Dielectric Strength	Input-Output	-	3750Vac	Max 10mA/60S
	Input-PE	-	1875Vac	
	Output-PE	-	1500Vac	
Grounding Resistance	-	-	0.1Ω	25A/60S, under 25°C±10°C ambient temperature
Insulation Resistance	10MΩ	-	-	Input-Output, Input-PE, Output-PE, 500Vdc/60S/25°C/70%RH
MTBF	-	200000Hrs	-	25°C±10°C ambient temperature, 230Vac, 80% load (MIL-HDBK-217F)
Lifetime	-	50000Hrs	-	230Vac&100% load, 75°C case temperature, refer to lifetime curve for details
Ambient Temperature	-40°C		+45°C	230Vac&100% load
Operating Case Temperature for Safety T <sub>c_s</sub>	-40°C	-	+90°C	
Operating Case Temperature for Warranty T <sub>c_s</sub>	-40°C	-	+75°C	7 years warranty case temperature Humidity: 10% to 95% RH
Storage Temperature	-40°C	-	+85°C	Humidity: 5% to 100% RH
Dimensions (LxWxH)mm	L276*W144*H47.5mm;			
Net Weight	3600±100g/PCS			
Package	L465xW400xH210mm 5PCS/Ctn, Gross Weight:20Kg			

Specification subject to change without notice



**SAFETY STANDARDS**

Safety Category	Country / Territory	Standards	Approved
CCC	China	GB19510.1, GB19510.14	√
CE	Europe	EN61347-1, EN61347-2-13	
ENEC		EN62493	
		EN62384	
CB	CB Countries	IEC61347-1, IEC61347-2-13	
BIS	India	IS 15885(PART 2/SEC 13)	
UL	USA	UL 8750	
CUL	Canada	CSA C22.2 No.250.13	

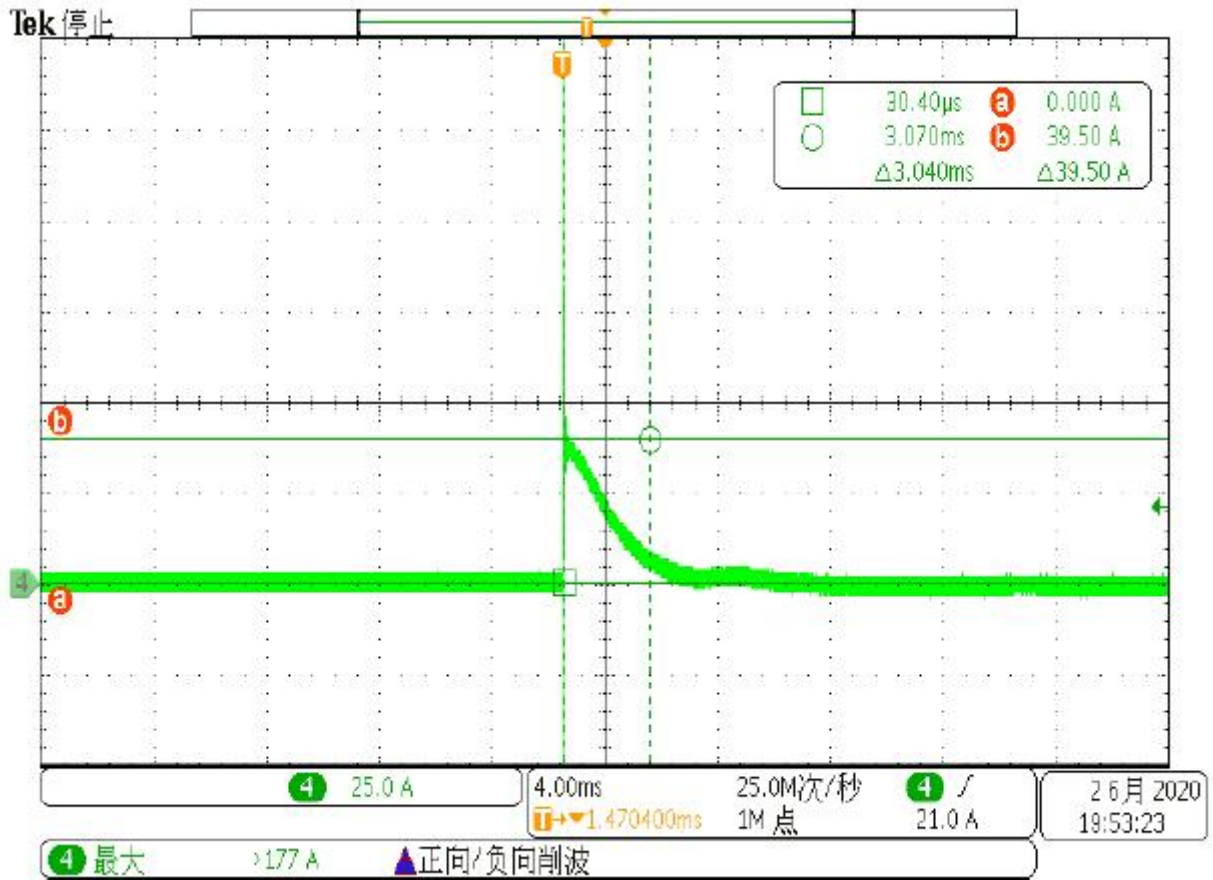
**EMC COMPLIANCE**

EMC Category	Country / Territory	Standards	Approved
CCC	China	GB/T 17743, GB 17625.1	√
CE	Europe	EN 55015	
		EN 61000-3-2, EN 61000-3-3	
		EN61000-4-2,3,4,5,6,11	
		EN 61547	
KC	South Korea	K61547	
		K00015	
PSE	Japan	J55015	
FCC	USA	FCC part 15	

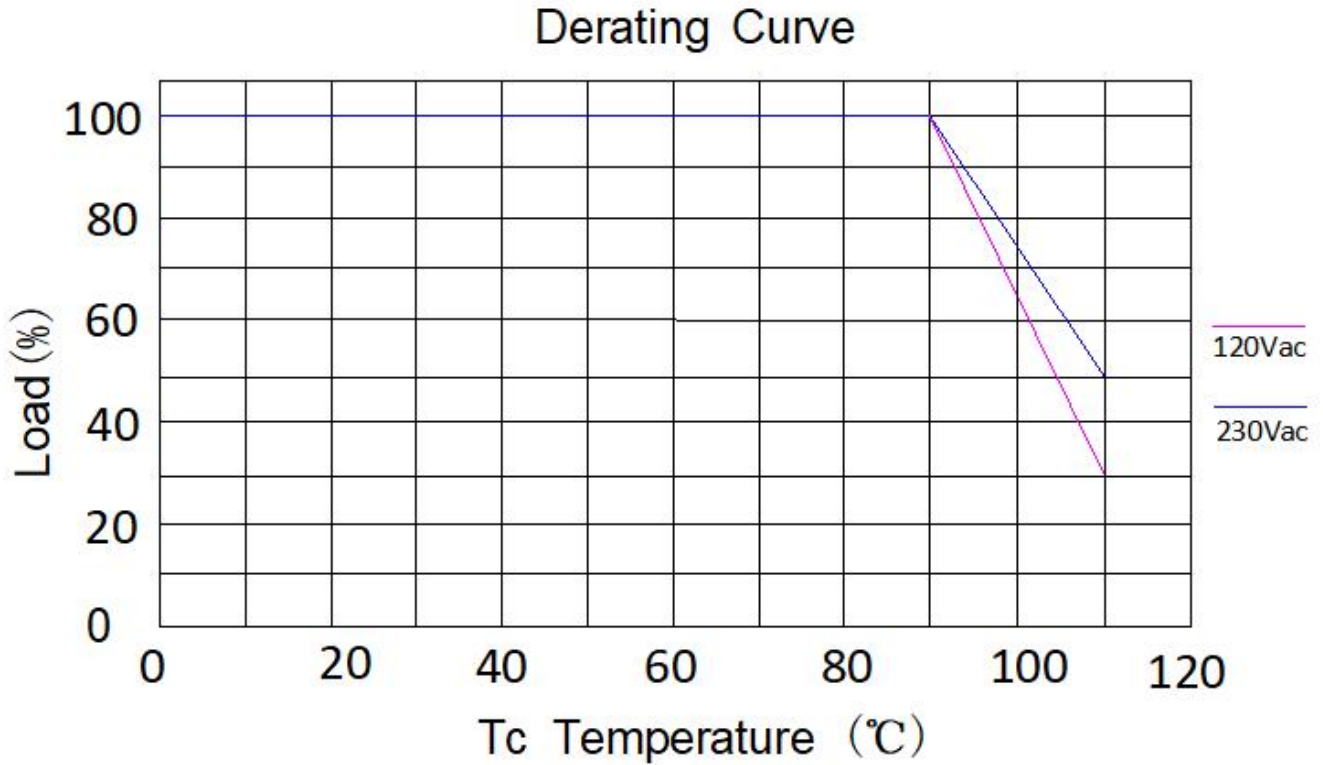
**NOTE:**

This LED driver meets the EMI specifications above, but as a component of a luminaire, end customer need to identify the EMI performance of a luminaire including LED driver, other devices connected to the driver and on the luminaire itself.

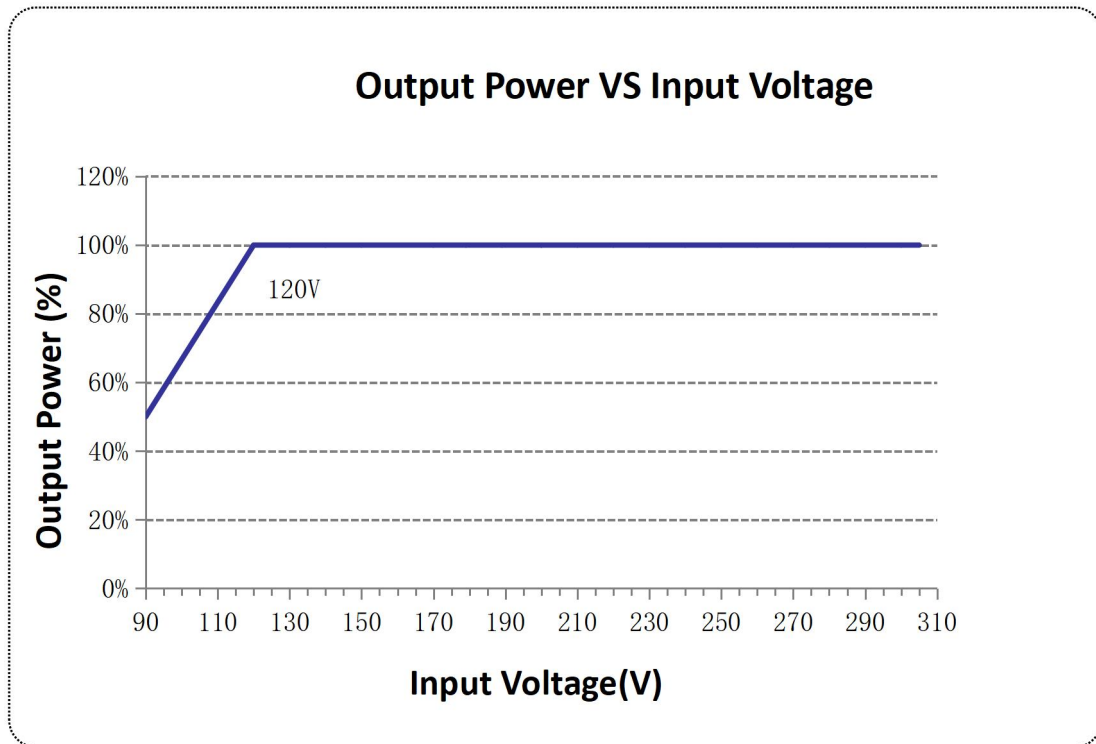
**INRUSH CURRENT WAVEFORM**



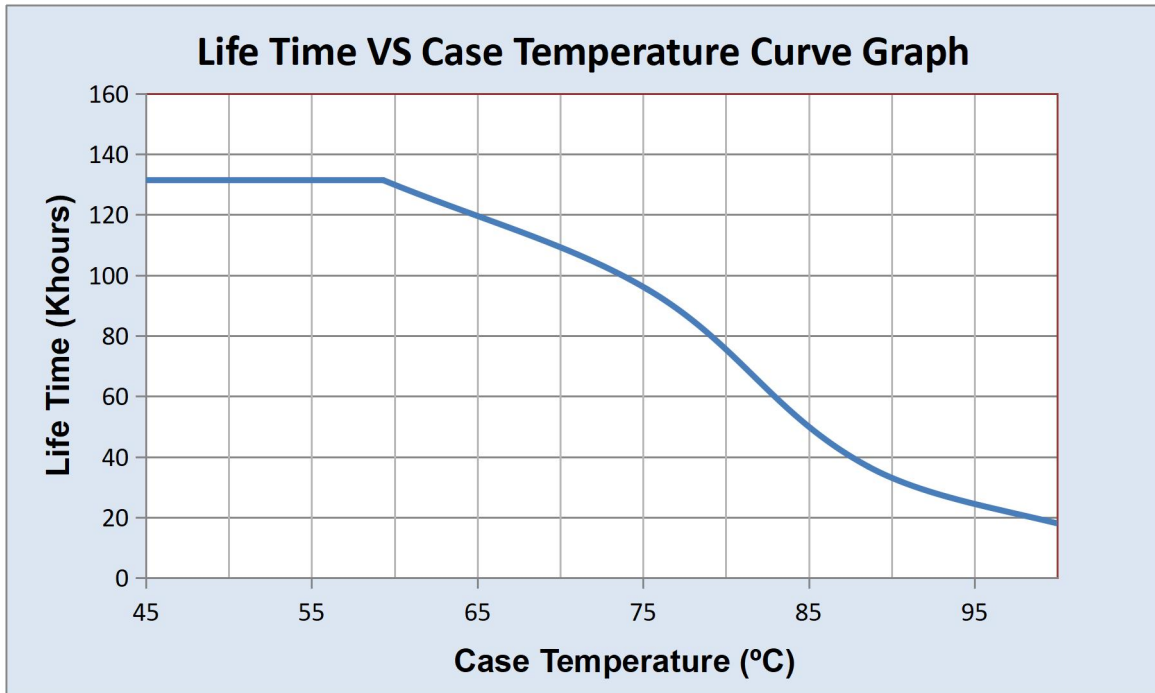
**DERATING CURV**



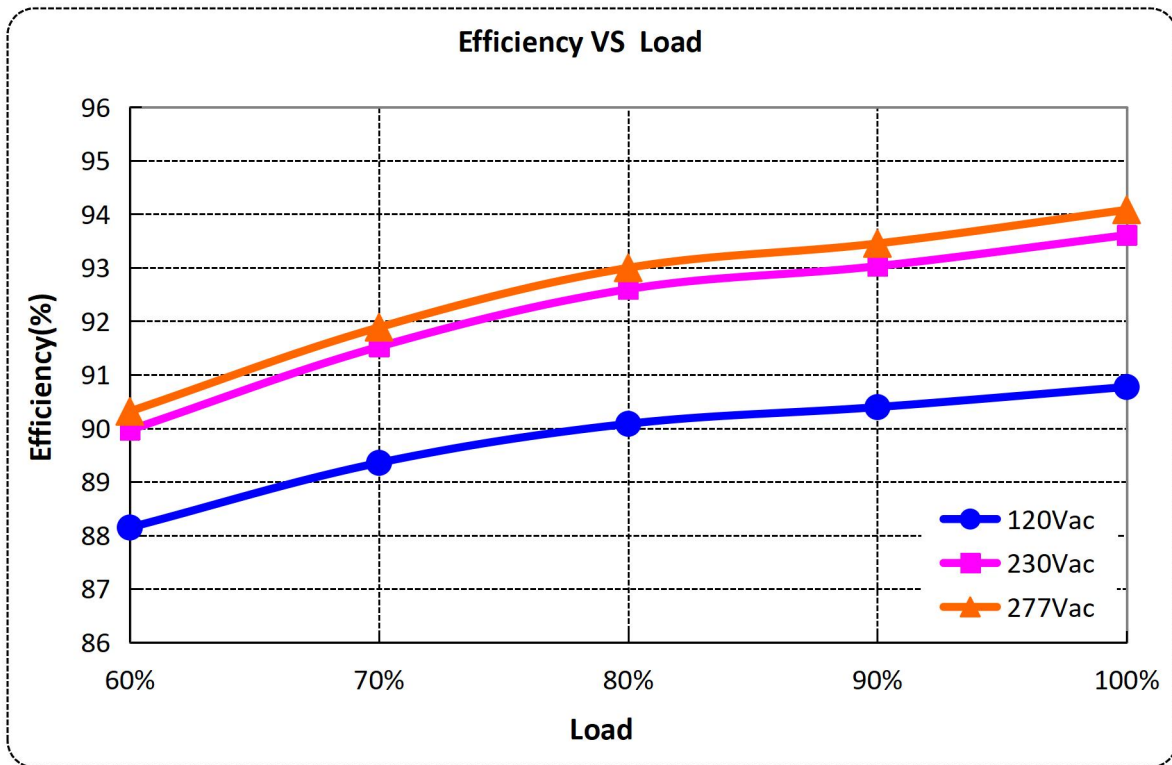
**OUTPUT POWER VS INPUT VOLTAGE**

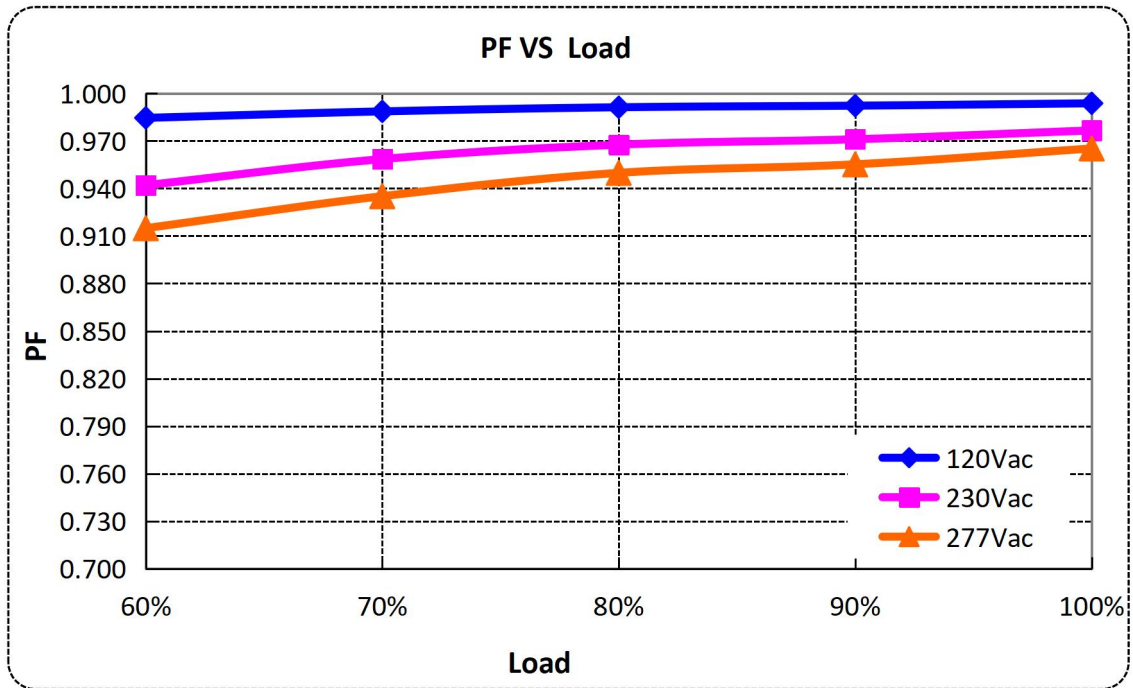
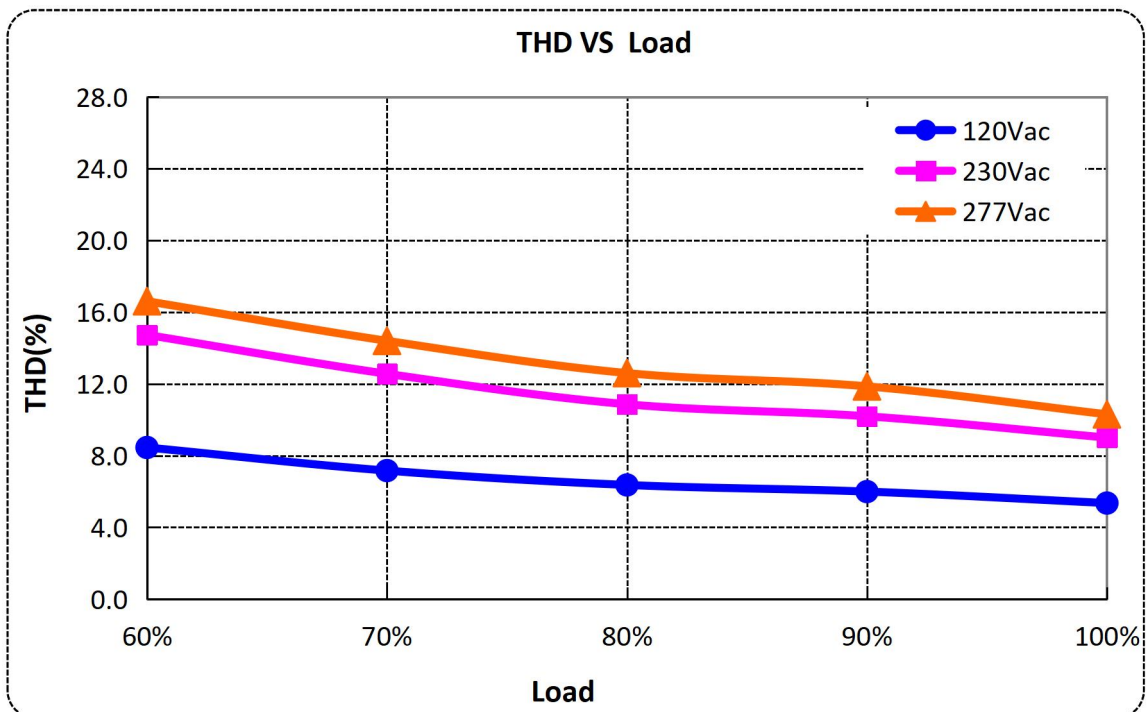


**LIFETIME VS CASE TEMPERATURE**



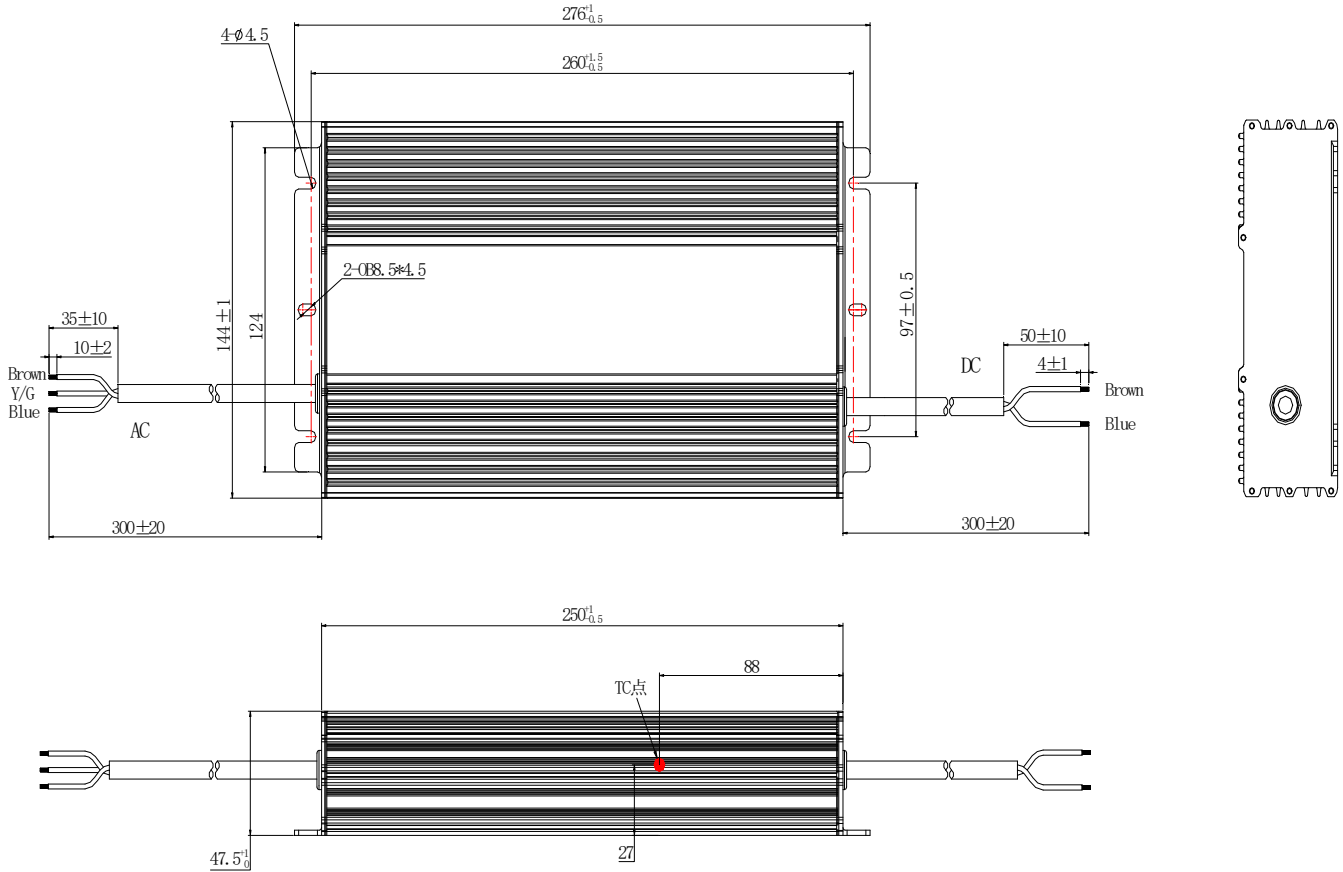
**EFFICIENCY VS LOAD**



**POWER FACTOR VS LOAD****TOTAL HARMONIC DISTORTION**

## MECHANICAL OUTLINE

V6-600B048 types



Wire	Specification	Note
Input	SJOW 17AWG 3X1.0 mm <sup>2</sup> external diameter: 8.2mm L=300±20mm	CCC/CE/UL
Output	CCC 2X1.5 mm <sup>2</sup> external diameter: 8.0mm L=300±20mm	CCC

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