

# Specification for Approval

Product Name: 42WConstant Current Driver

Product Model: X6-042M052

X6-042V052

Rev: A.1

XiLiSongbai Road 1061,  
Address: Nanshan District, Shenzhen City,  
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Prepared By	Checked By	Approved By

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Product Model:            X6-042M052

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<b>CUSTOMER AUTHORIZED SIGNATURE</b>		
<b>Tested By</b>	<b>Checked By</b>	<b>Approved By</b>
(Company seal)Return one copy to MOSO with approved signature and company seal.		

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### Product Feature:

- Input voltage range: 90~305Vac;
- Constant current design;
- Output current adjustable by Built-in potentiometer;
- THD<10%;
- 3-in-1 dimmable: 0~10Vdc, PWM, Resistor;
- Output and Dimming Signal Isolating, Dim to off;
- Surge protection:4KV line-line, 6KV line-earth;
- Protections: OVP, SCP,OTP;
- 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 X6-42W is a 42W, constant-current, IP67 LED driver that operates from 90-305Vac input with excellent power factor and low THD. It is created for industrial lights, tunnel and street lights. The high efficiency of these drivers and compact metal case enable them to run cooler, significantly improving reliability and extending product life. To ensure trouble-free operation, protection is provided against input surge, output over voltage, over temperature and short circuit protection.

### Models

Model Number	Input voltage range(Vac)	Max Output Power (W)	Output Voltage Range (Vdc)	Output current adjust range(A)	Default output current (A)	Typical Efficiency	Typical THD	Typical PF	
								120Vac	230Vac
X6-042Y052	90-305	42	28-52	0.47-0.94	0.94	89%	5%	0.99	0.96

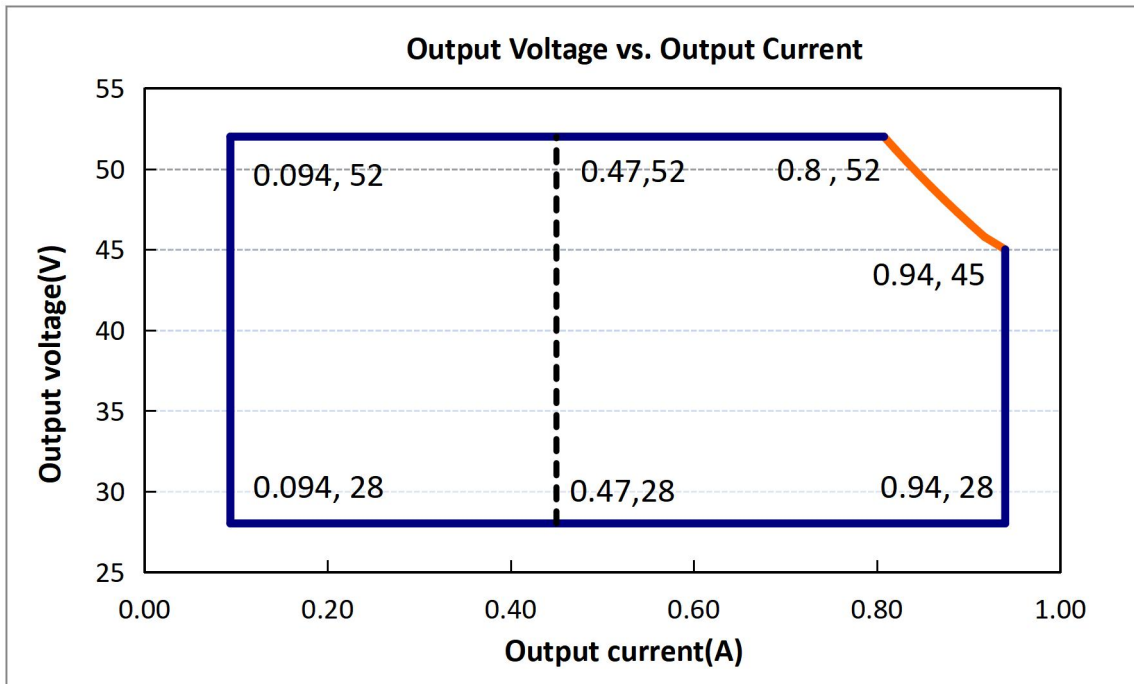
### Notes:

[1]Y=M means 0-10V/PWM dimming. Y=V means non-dimmable, adjustable output current potentiometer.,

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

### OPERATING AREA I-V

#### X6-042Y052



Notes:1.The drivers are not allowed to work in over-load condition, otherwise warranty will expire.

2. Y = V for the region to the right of the dotted line , Y = M for the region containing the solid line.

### INPUT SPECIFICATIONS

Parameter	Min.	Typ.	Max.	Notes
Input Voltage	90Vac	100-277Vac	305Vac	Please refer to the derating curve
Input Frequency	47Hz	50/60	63Hz	
Leakage Current	-	-	0.70mA	277Vac/60Hz
Input AC Current	-	-	0.60A	120-277Vac with full load
Inrush Current	-	-	0.25A <sup>2</sup> S	230Vac input, Ta=25°C (cold start)
Power Factor	0.97	0.99	-	120Vac, 50-60Hz,full load
	0.94	0.96	-	230Vac, 50-60Hz, full load
	0.90	0.92	-	277Vac, 50-60Hz, full load
THD	-	5%	10%	120-240Vac with 70%-100% load
	-	-	15%	277Vac with 70%-100% load

## OUTPUT SPECIFICATIONS

Parameter	Min.	Typ.	Max.	Notes
Output Current Tolerance	-8%	-	+8%	
Output Current Set Range(A) X6-042Y052	0.47		0.94	
Total Output Current Ripple(pk-pk)	-	5%	10%	20MHz BW, full load & LED Load, ripple is different with difference LED load.
Startup Overshoot Current	-	5%	10%	120~277Vac & full load, LED Load
No Load Output Voltage(V) X6-042Y052	-	-	80	
Line Regulation	-3%	-	+3%	25°C±10°C ambient temperature, input voltage changes from 120Vac to 277Vac.
Load Regulation	-8%	-	+8%	25°C±10°C ambient temperature, 230Vac input, load changes from 60% to 100%.
Turn-on Delay Time	-	-	1S	120Vac, 100% load
	-	-	0.5S	230Vac, 100% load
Standby Power(W)	-	-	0.5W	230Vac@50Hz

## GENERAL SPECIFICATIONS

Parameter	Min.	Typ.	Max.	Notes	
Efficiency @120Vac X6-042Y052	86%	88%		Measured at full load and 25°C ambient temperature	
Efficiency @230Vac X6-042Y052	87%	89%		Measured at full load and 25°C ambient temperature	
Efficiency @277Vac X6-042Y052	87%	89%		Measured at full load and 25°C ambient temperature	
Dielectric Strength	Input-Output	-	3750Vac	-	10mA/60S
	Input-PE	-	1600Vac	-	
	Output- PE	-	1600Vac	-	
Grounding Resistance	-	-	0.1Ω	25A/60S	
Insulation Resistance	10MΩ	-	-	Input-Output, Input-PE, Output-PE, 500Vdc/60S/25°C/70%RH	
MTBF	-	200000 Hours	-	230Vac, 80% load (MIL-HDBK-217F)	
Lifetime	-	50000 Hours	-	230Vac&100% load, 75°C case temperature, refer to lifetime VS Tc curve for details	
Operating Case Temperature for Safety Tc_s	-40°C	-	+85°C		
Operating Case Temperature	-40°C	-	+75°C	5 Years Warranty	

for Warranty Tc_w				Humidity: 10% to 95% RH
Storage Temperature	-40°C	-	+85°C	Humidity: 10% to 95% RH
Dimensions (L×W×H)mm	L132mm*65W mm*H34mm			
Net Weight	500±50g/PCS			
Package	L424mm*W354mm*H146mm; 12PCS/Ctn, Gross Weight: 8Kg			

**Note:** All specifications are tested by Cree XLamp XP-G2 and typical measured at 230Vac and 25°C unless otherwise stated.

### DIMMING

Parameter	Min.	Typ.	Max.	Notes	
0~10V Absolute Maximum Voltage on the Vdim (+) Pin	-	18V	-		
1~10V Source Current on Vdim(+)Pin	-	100uA	200uA		
Dimming Output Range	X6-042M052	5% I <sub>max</sub>	-	100% I <sub>max</sub>	I <sub>max</sub> =0.94A
	X6-042M052	0.05		0.94	
Recommended Dimming Range for 0-10V	0V	-	10V		
PWM_in High Level	9.7V		10.3V		
PWM_in Low Level	0V		0.3V		
PWM_in Frequency Range	300Hz		2KHz		
PWM_in Duty Cycle	1%		100%		

### SAFETY STANDARDS

Safety Category	Country / Territory	Standards	Whether have Certification
CCC	China	GB19510.1, GB19510.14	√
CE	Europe	EN61347-1, EN61347-2-13	√
		EN62493	√
		EN62384	
ENEC			
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	
KC	South Korea	K61347-1, K61347-2-13	
PSE	Japan	J61347-1, J61347-2-13	
SAA	Australia	AS/NZS IEC 61347.2.13	
		AS/NZS 61347.1	

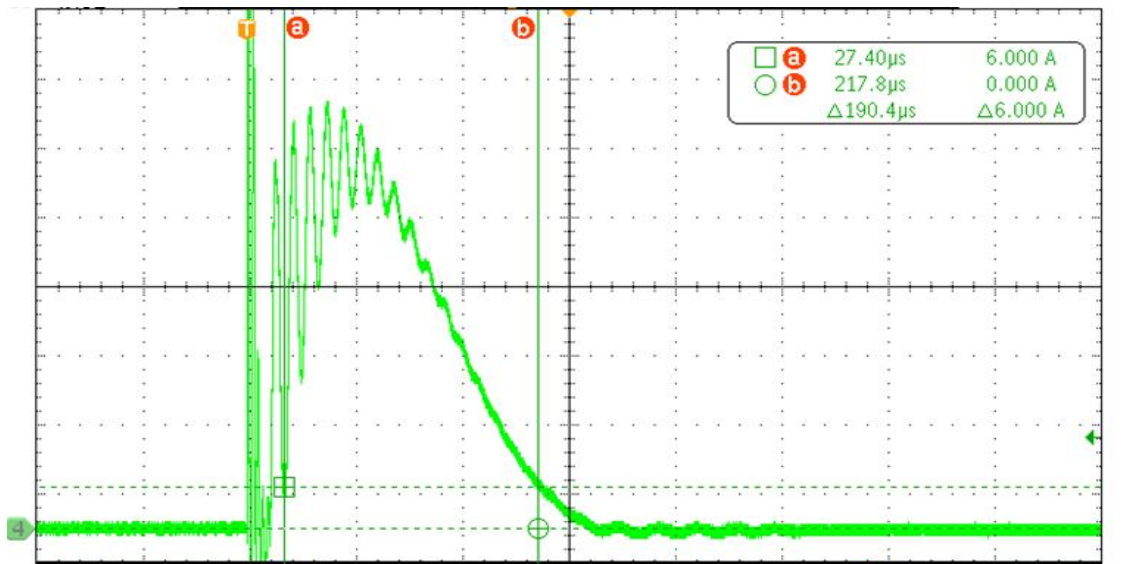
### EMC COMPLIANCE

EMC Category	Country / Territory	Standards	Whether have Certification
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	

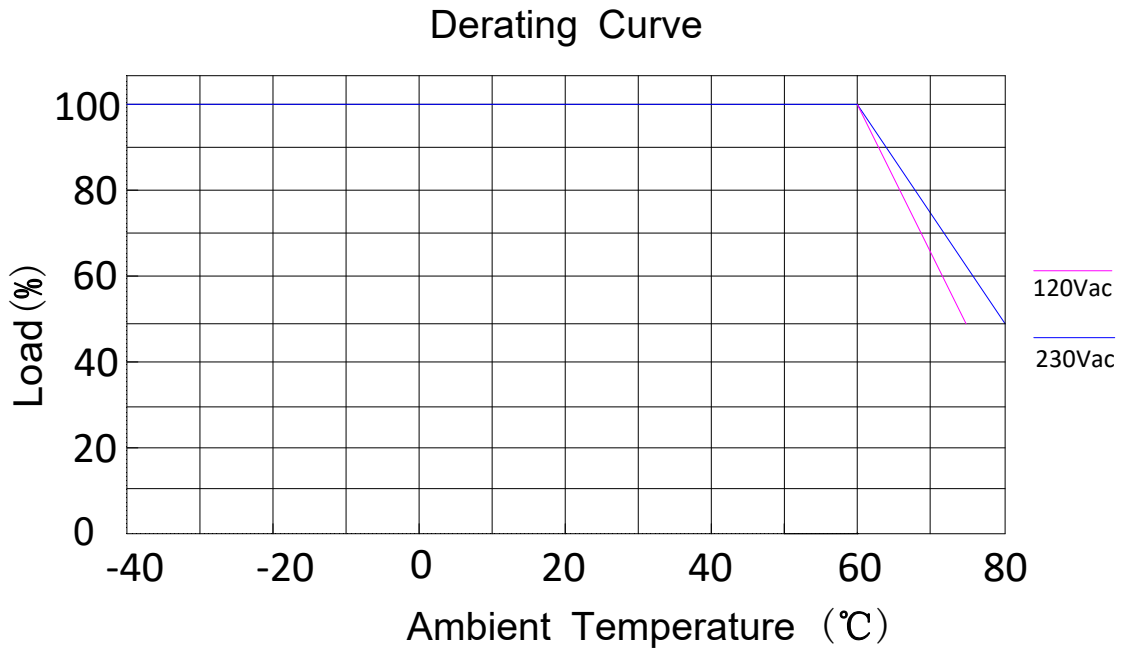
### NOTE:

This LED driver meets the EMI specifications above, but EMI performance of a luminaire that contains it depends also on the other devices connected to the driver and on the fixture itself.

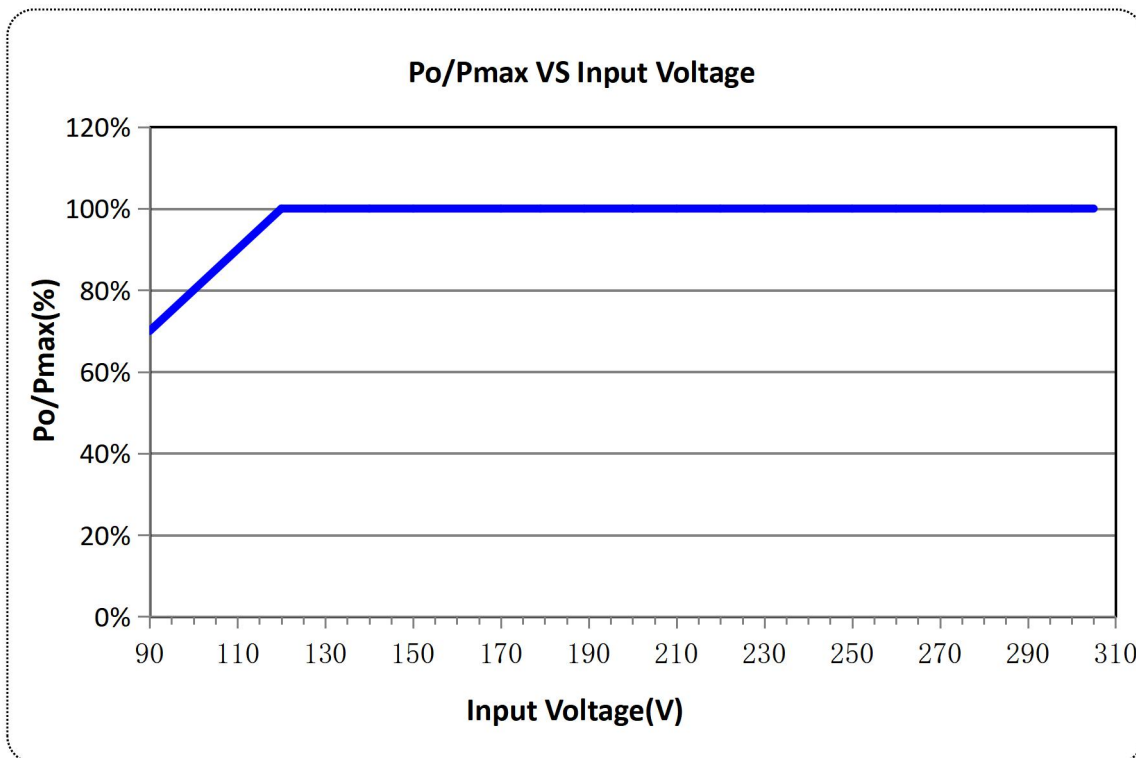
### INRUSH CURRENT WAVEFORM



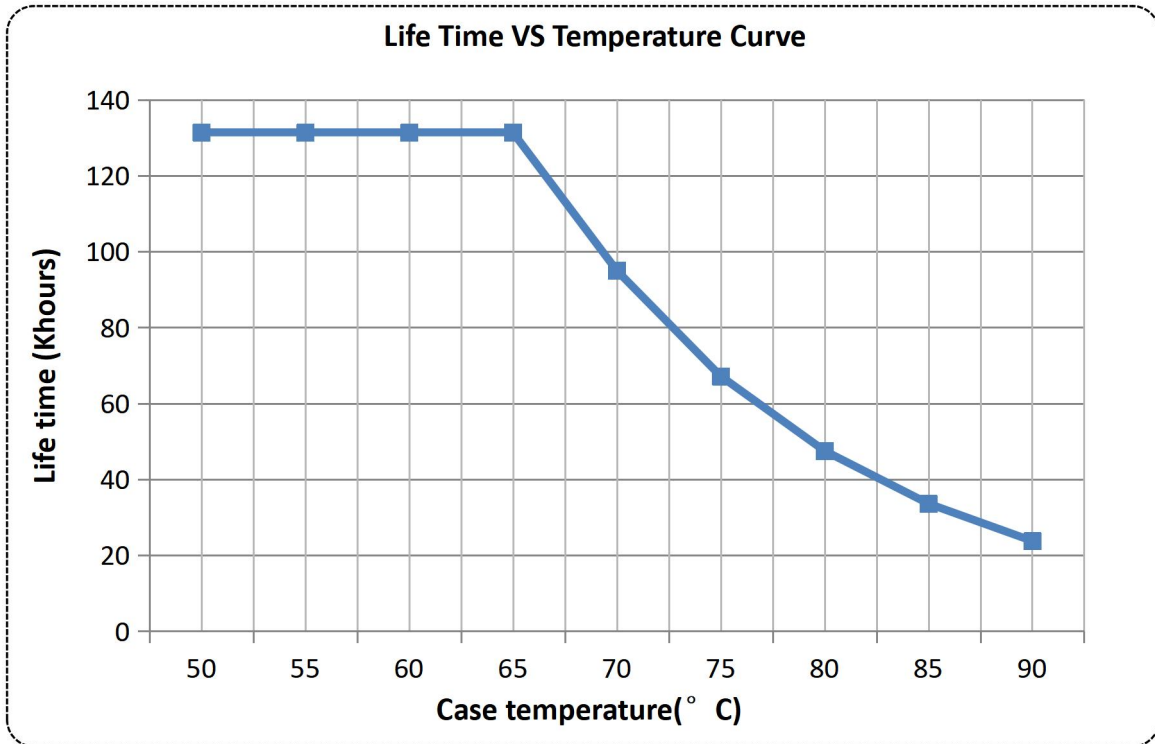
### DERATING CURVE



### OUTPUT POWER VS INPUT VOLTAGE

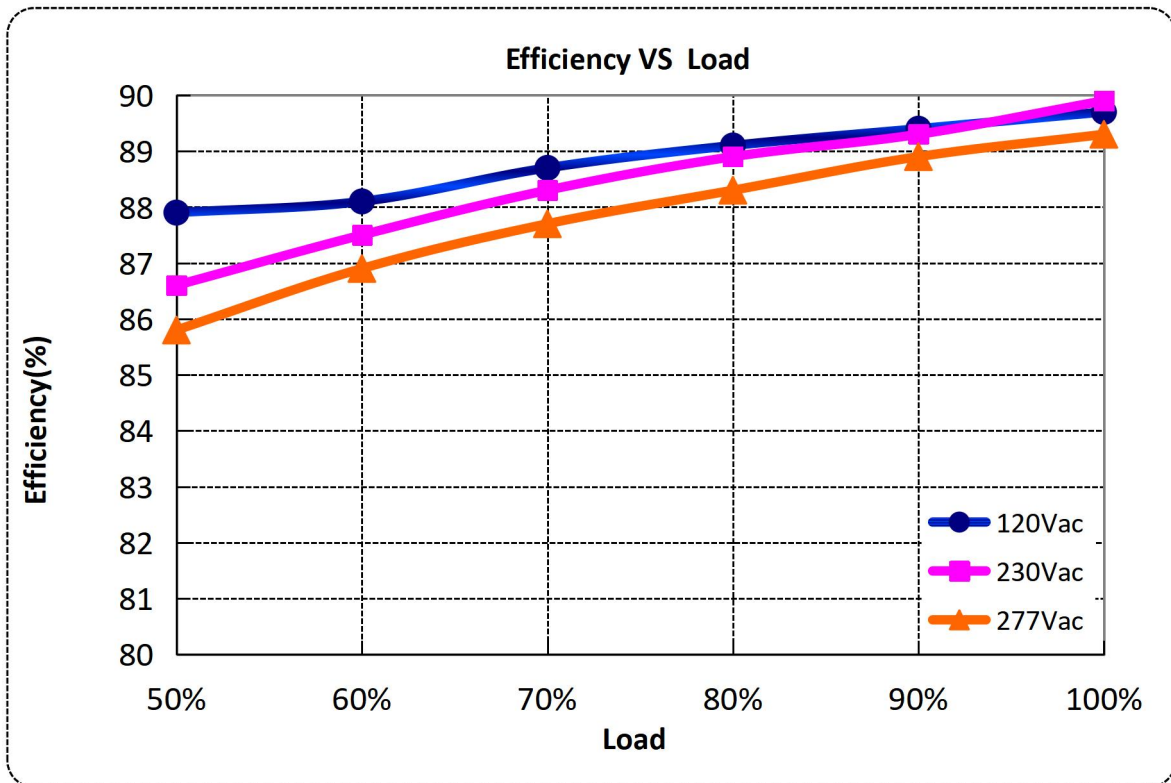


### LIFETIME VS CASE TEMPERATURE

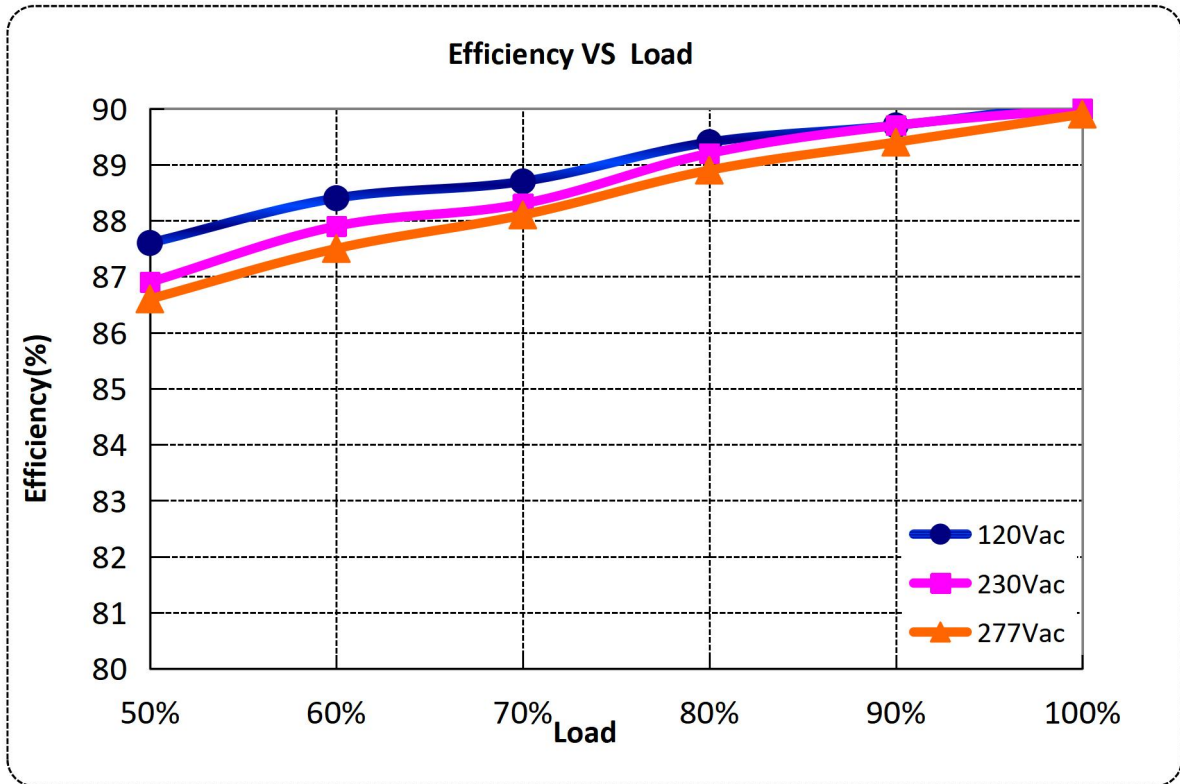


### EFFICIENCY VS LOAD

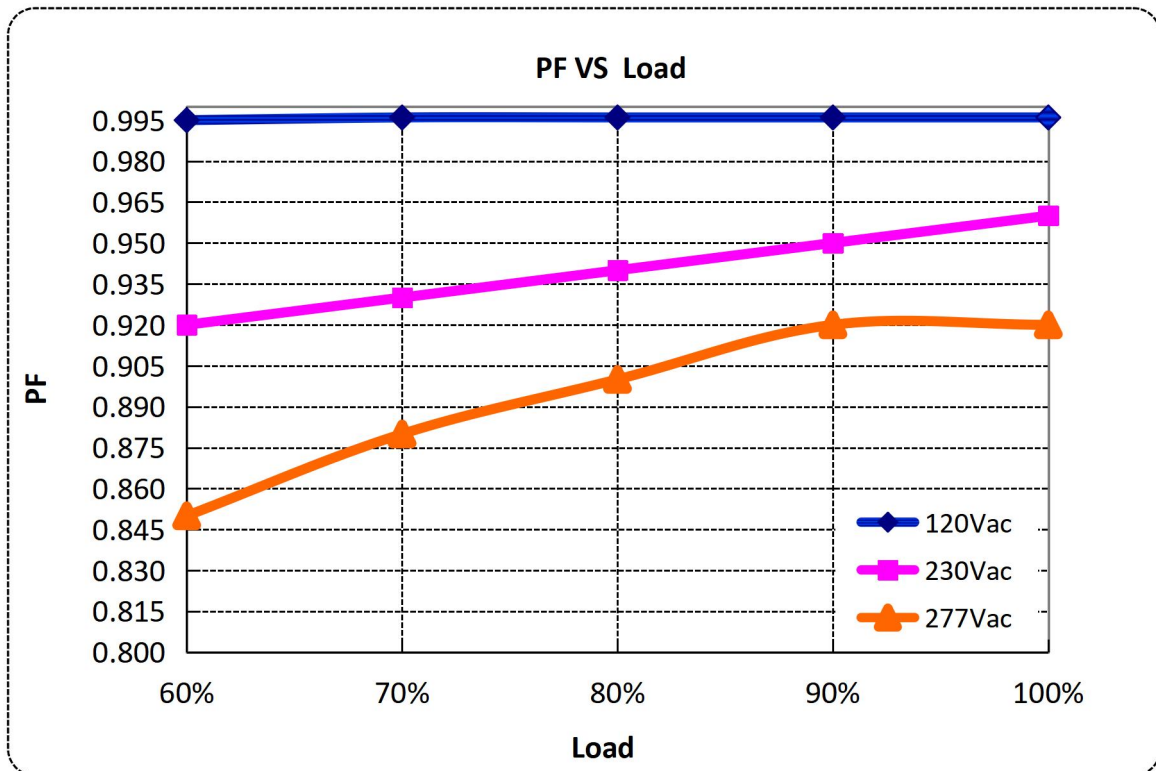
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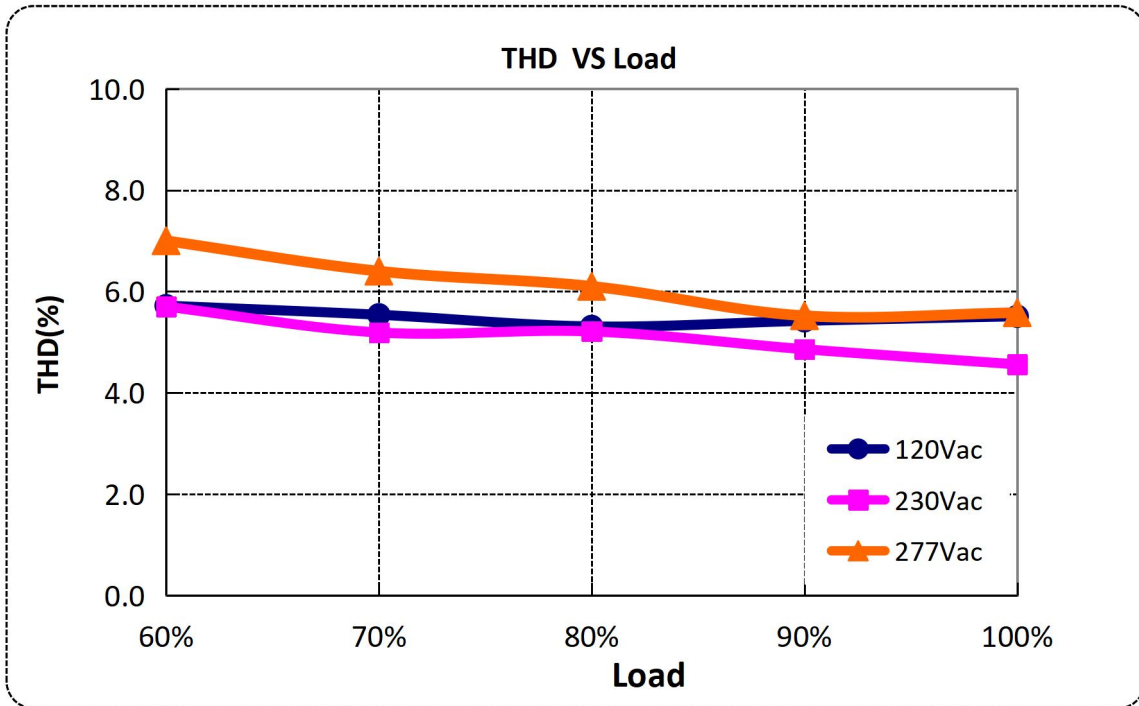
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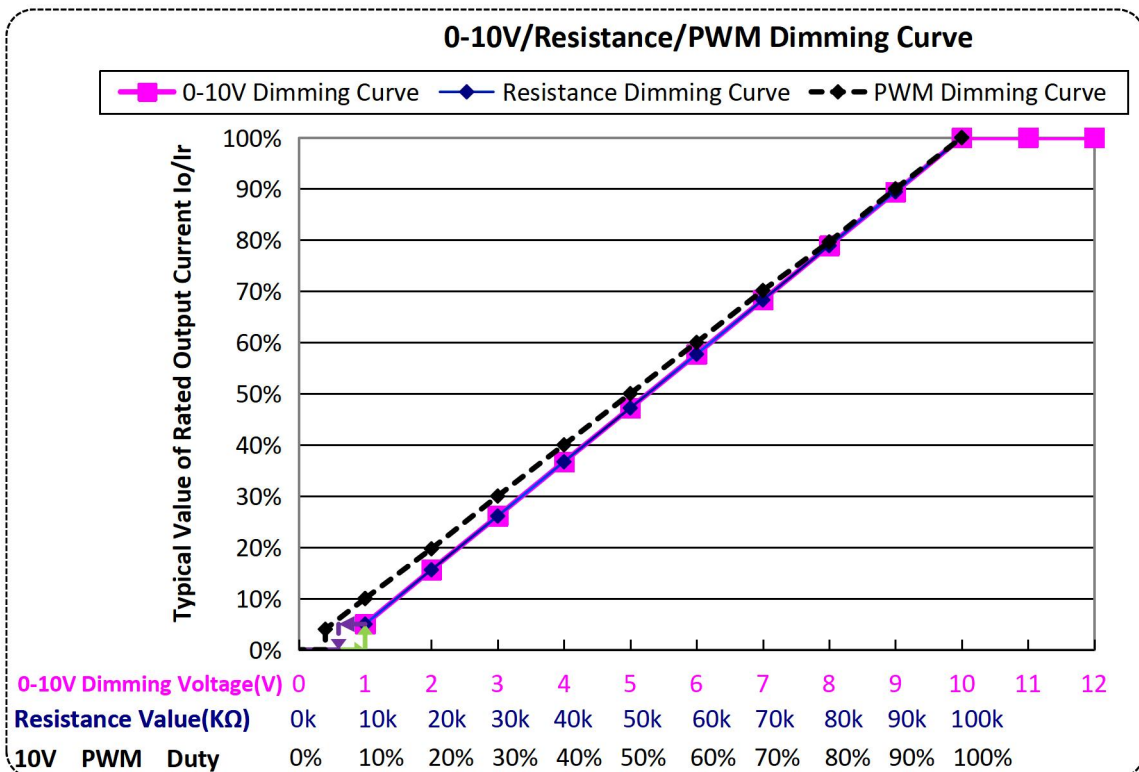
### POWER FACTOR VS LOAD



### TOTAL HARMONIC DISTORTION



### 0-10V/Resistance/PWM DIMMING CURVE



#### Notes:

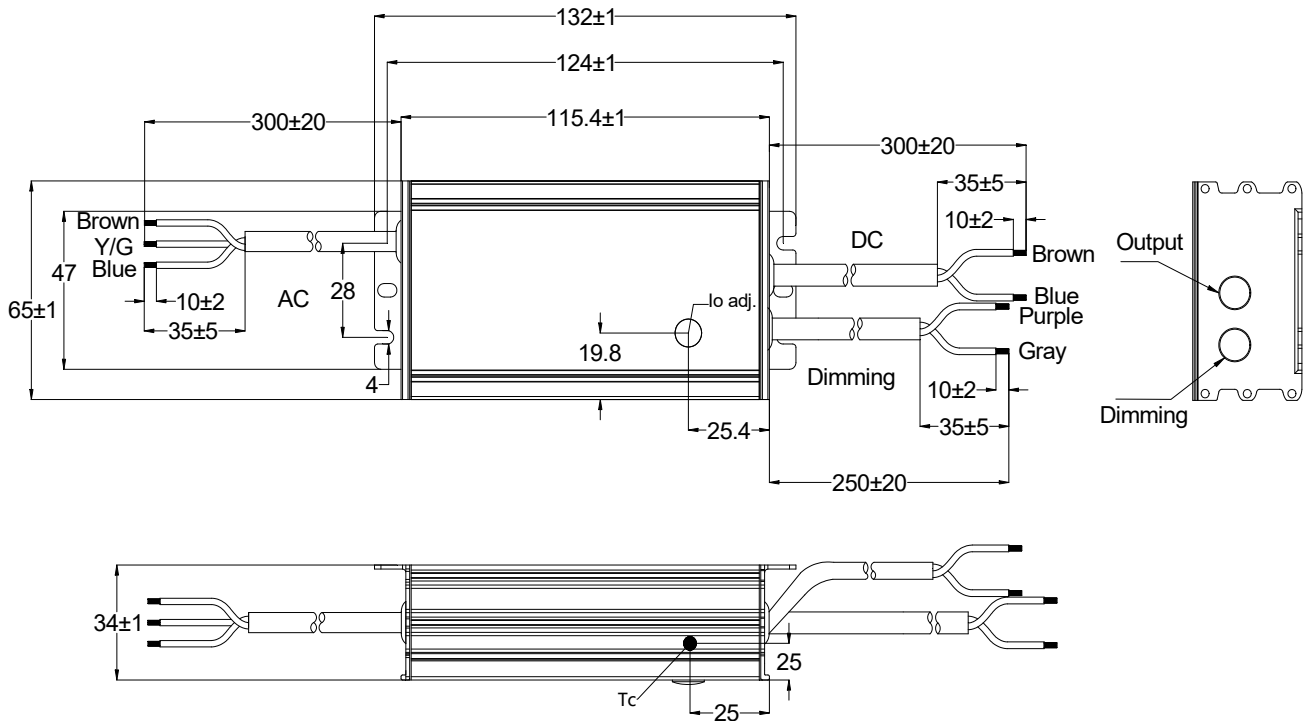
1. Y=M, The minimum dimming current is about 5%Imax. When the output current is less than 5%Imax, the output current accuracy is not required;
2. Y=M, When the dimming input signal reaches 0V or 10VPWM duty cycle to 0% or the resistance value reaches 0kΩ, the output can be turned off.
3. Y=V, Resistance Dimming Curve.

### PROTECTIONS

Parameter	Notes
Over Temperature Protection	Decreases output current, returning to normal after over temperature is removed.
Short Circuit Protection	Constant current mode and auto recovery. No damage will occur when any output is short circuited. The output shall return to normal when the fault condition is removed.
Output over Voltage Protection	Run into protection model when output voltage exceeds limit, and return to normal when the fault.

### MECHANICAL OUTLIN

#### X6-042M052



Wire	Specification	Note
Input	CCC+VDE H05RN-F *3C L=300±20mm	CCC/CE
Output	CCC+VDE H05RN-F *2C L=300±20mm	CCC/CE
Dimming	UL 2733 22AWG *2C L=250±20mm	Y=M

### LABEL

← 107.00 mm →


↑ 45.50 mm ↓

**INPUT**

L (BROWN 棕)





G (Y/G 黄/绿)





N (BLUE 蓝)



**MOSO<sup>®</sup> X6-042M052**  
LED DRIVER  
LED 控制装置(恒流型, 内置防雷管)

INPUT (输入)	100-240V~ 50/60Hz, 0.60A Max. PF:0.95 277V~ 50/60Hz, 0.30A Max (277V~ for North America only)
OUTPUT (输出)	28-52V== 0.094-0.940A Max. (最大电压): 80V == Max. Power (最大功率): 42W
t <sub>c</sub> : 85°C	t <sub>a</sub> : 60°C Input: 100-240V~ 277V~

**SELV**

**OUTPUT**

(BROWN 棕) Vo +

(BLUE 蓝) Vo -

(PURPLE 紫) DIM +

(GRAY 灰) DIM -

○ lo adj.

MADE IN CHINA  
For LED module only

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