

## Specification for Approval

Product Name: 150W Constant Voltage LED Driver  
Product Model: V6E-150B012  
Rev. C.2

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

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Prepared By	Checked By	Approved By







### Product Features:

- ◆ Input voltage: 176~264Vac;
- ◆ Constant voltage output;
- ◆ High power factor >0.97(230Vac& full load);
- ◆ THD<10%;
- ◆ Protection: Input UVP, output SCP, OVP, OTP, OCP;
- ◆ Surge immunity: DM 6KV, CM 10KV;
- ◆ IP67, glue potted, suitable for dry / wet / damp locations;
- ◆ 5 years warranty.

### Application

- ◆ Suitable for landscape lighting.

### DESCRIPTION

The V6E-150 series is a 150W constant-voltage, the LED driver that operates from 176~264Vac 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, under voltage, output over current, over voltage, short circuit, and over temperature.

### MODELS

Model Number	Max Output Power(W)	Output Voltage (Vdc)	Output Current Range (A)	Typical Efficiency	Typical PF	Typical THD
V6E-150B012	150	12	0~12.5	92%	0.97	10%

### Notes:

All performance parameters are measured at 25°C ambient temperature, 230Vac input, and full load conditions, except for those specified.

**INPUT SPECIFICATIONS**

Parameter	Min.	Typ.	Max.	Notes					
Input Voltage	176Vac	200-240Vac	264Vac						
Input Frequency	47Hz	50/60	63Hz						
Leakage Current	-	-	0.70mA	240Vac/60Hz					
Input AC Current	-	-	1.0A	200-240Vac & full load					
Inrush Current	-	-	75A	Cold start, 10%Ipeak, 230Vac & full load					
Power Factor	0.96	0.97	-	220-240Vac , 50-60Hz, 100% load					
	0.95	0.96	-	220-240Vac , 50-60Hz, 75% load					
	0.93	0.95	-	220-240Vac , 50-60Hz, 50% load					
THD	-	-	10%	220-240Vac , 50-60Hz, 50%-100% load					
Max. No. of PSUs on CIRCUIT BREAKER	B10	5	B16	7	B20	9	B25	11	230Vac
	C10	8	C16	12	C20	15	C25	18	

**OUTPUT SPECIFICATIONS**

Parameter	Min.	Typ.	Max.	Notes
Output Voltage Tolerance	-5%	-	+5%	Full load
Total Output Voltage Ripple(pk-pk)	-3%	-	+3%	Full load, Measured by 20MHz bandwidth oscilloscope and the output paralleled a 0.1uF ceramic capacitor and a 47uF electrolytic capacitor.
Output overshoot	-5%	-	+5%	200-240Vac & full load
Line Regulation	-0.5%	-	+0.5%	25°C±10°C ambient temperature, input voltage changes from 200Vac to 240Vac.
Load Regulation	-1%	-	+1%	25°C±10°C ambient temperature, 230Vac input, load changes from 50% to 100%.
Turn-on Delay Time	-	-	0.5S	230Vac, 100% load
Temperature Coefficient		0.03%/°C		-40°C ~ +60°C

### GENERAL SPECIFICATIONS

Parameter		Min.	Typ.	Max.	Notes
Efficiency@230Vac		90.5%	91.5%	-	Full load. Measured at full load and 25°C ambient temperature
		91.0%	92.0%	-	75% load. Measured at full load and 25°C ambient temperature
		91.0%	92.0%	-	50% load. Measured at full load and 25°C ambient temperature
Dielectric Strength	Input-Output	-	3750Vac	-	5mA/60S
	Input-PE	-	1875Vac	-	
	Output- PE	-	500Vac	-	
Grounding Resistance		-	-	0.1Ω	25A/60S
Insulation Resistance		10MΩ	-	-	Input-Output, Input-PE, Output-PE, 500Vdc/60S/ 25°C/70%RH
MTBF		-	200Khrs	-	25°C±10°C ambient temperature, 230Vac, 80% load (MIL-HDBK-217F@SR332)
Lifetime		-	50000Hours	-	230Vac&100% load, 75°C case temperature, refer to lifetime VS Tc curve for details
Ambient Temperature		-40°C		+60°C	
Operating Case Temperature for Safety Tc_s		-40°C	-	+90°C	
Operating Case Temperature for Warranty Tc_w		-40°C	-	+75°C	5 years warranty case temperature Humidity: 10% to 95% RH
Storage Temperature		-40°C	-	+90°C	Humidity: 10% to 95% RH
Dimensions (L*W*H)mm		L162.5*W67.2*H37			
Net Weight		750±50g/PCS			
Package		L500mm*W310mm*H160mm; 15PCS/ Ctn. Gross Weight: 13Kg			

**SAFTY STANDARDS**

Safety Category	Country / Territory	Standards	Approved
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	

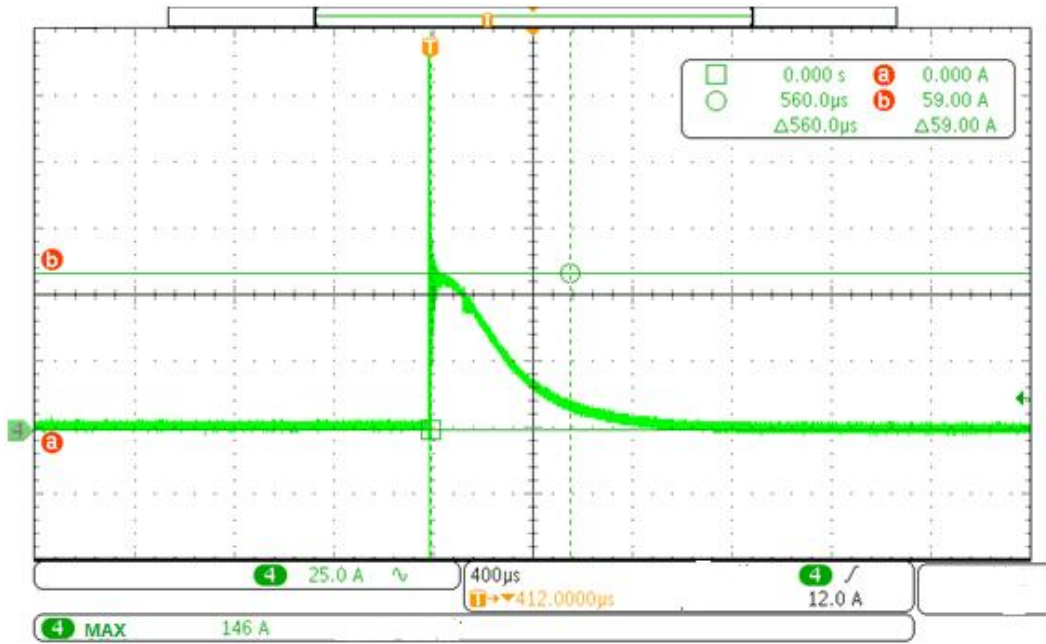
**EMC COMPLIANCE**

EMC Category	Country / Territory	Standards	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:**

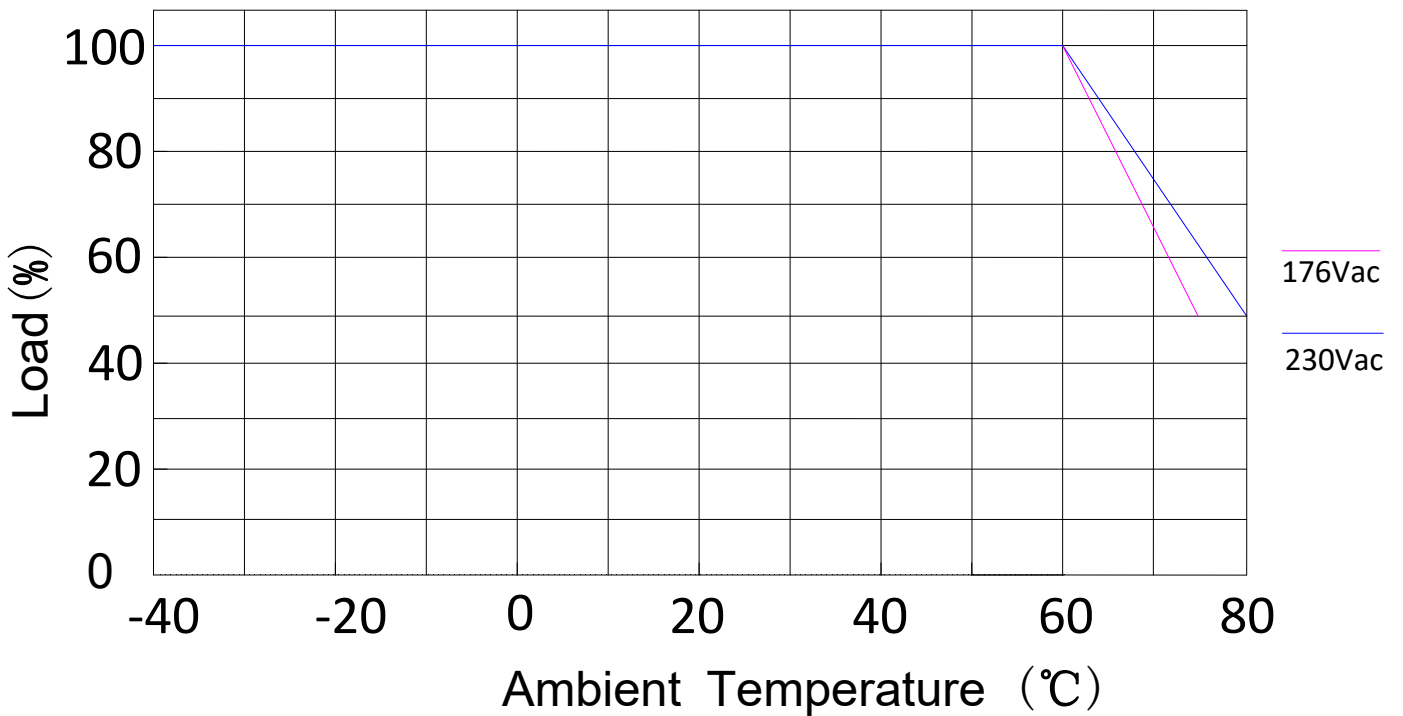
This LED driver meets the EMI specifications above, but as a component of a luminaire, end customer need to identify the EMI performance of a luminaire including LED driver, other devices connected to the driver and on the luminaire itself.

## INRUSH CURRENT WAVEFORM



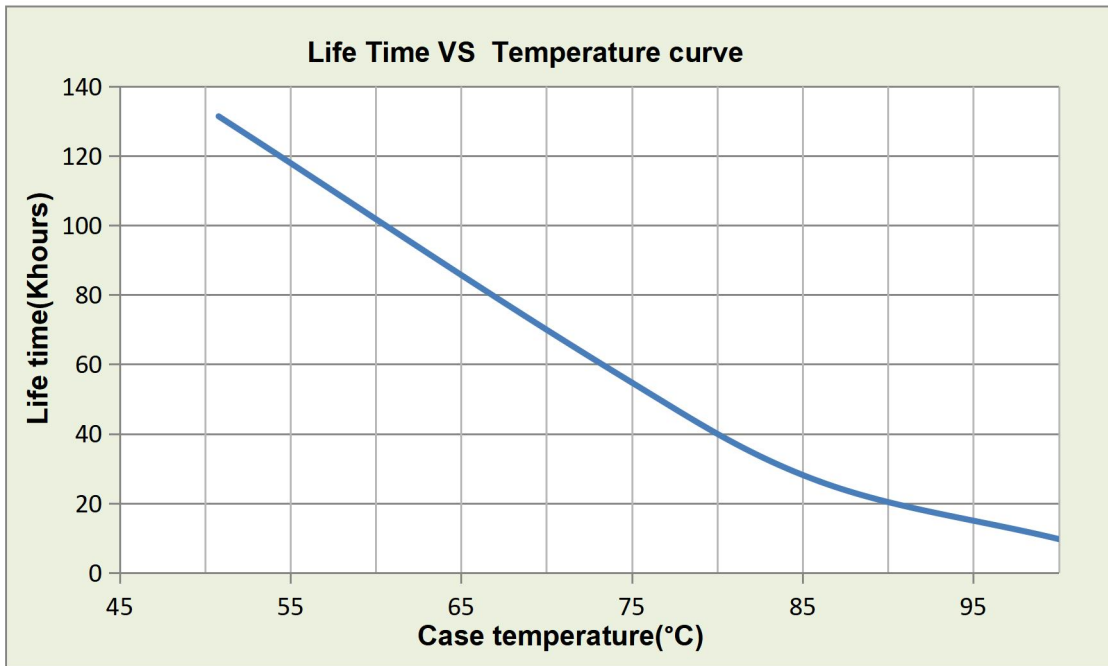
## DERATING CURVE

### Derating Curve

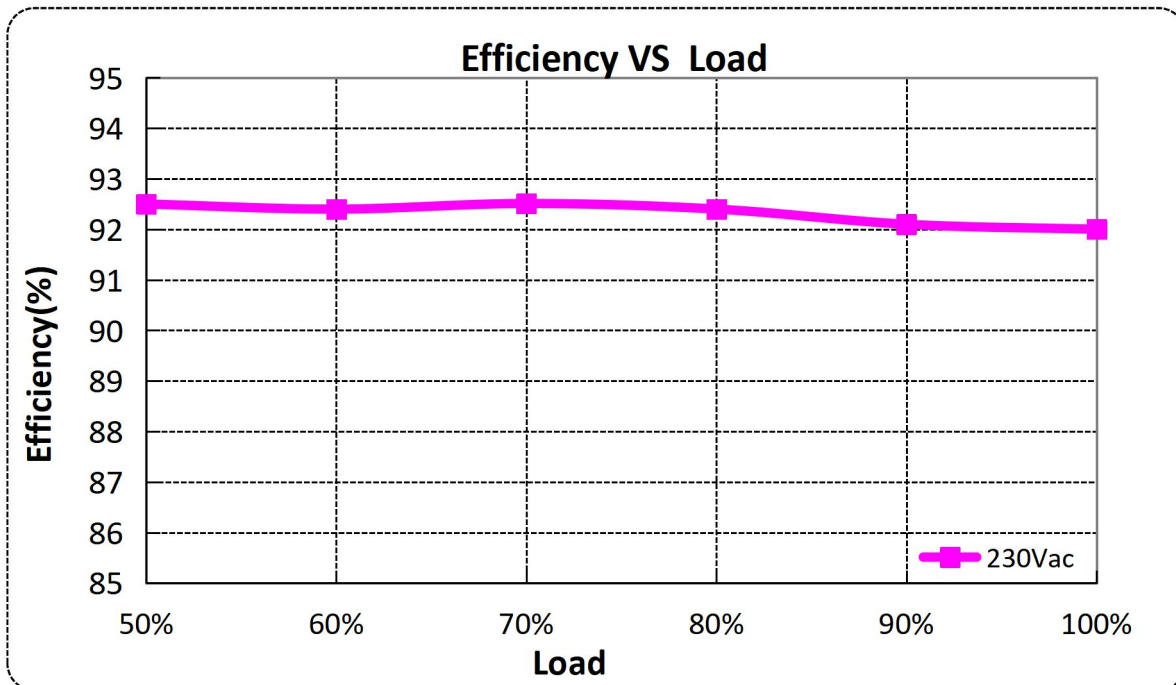




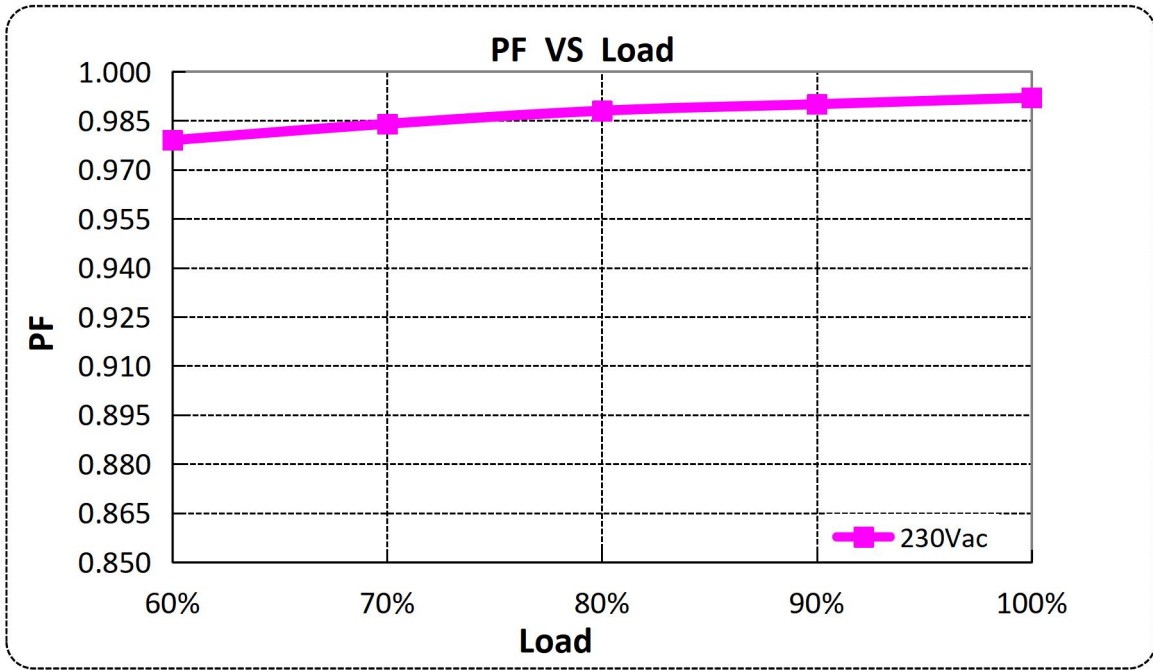
### LIFETIME VS CASE TEMPERATURE



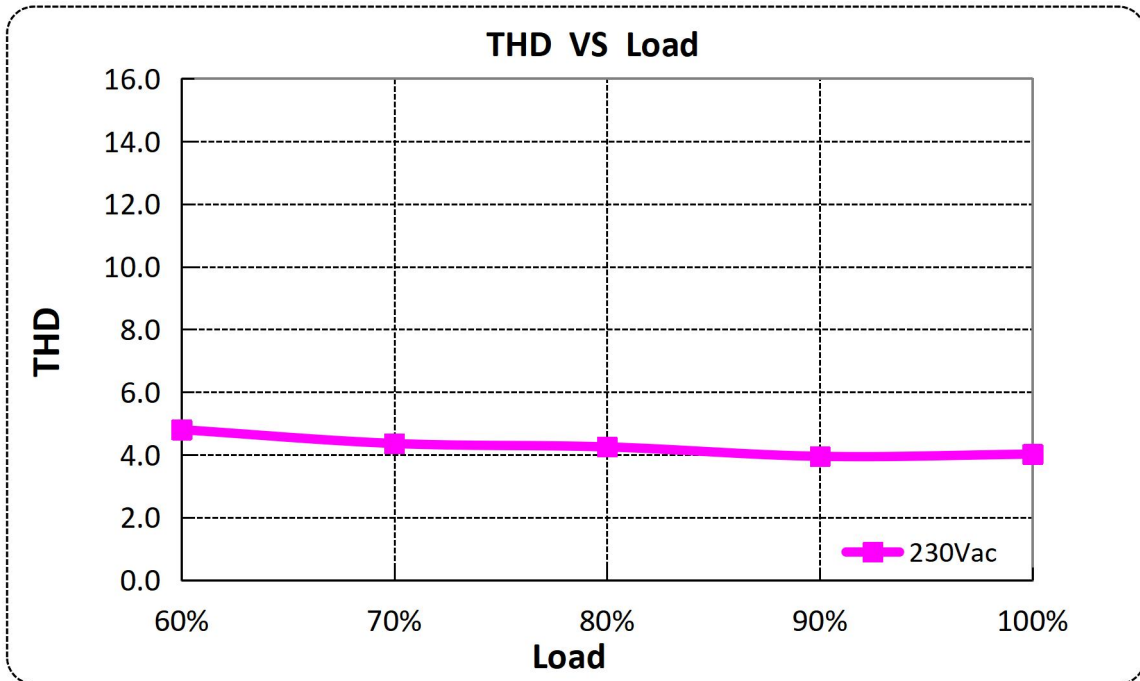
### EFFICIENCY VS LOAD



### POWER FACTOR VS LOAD



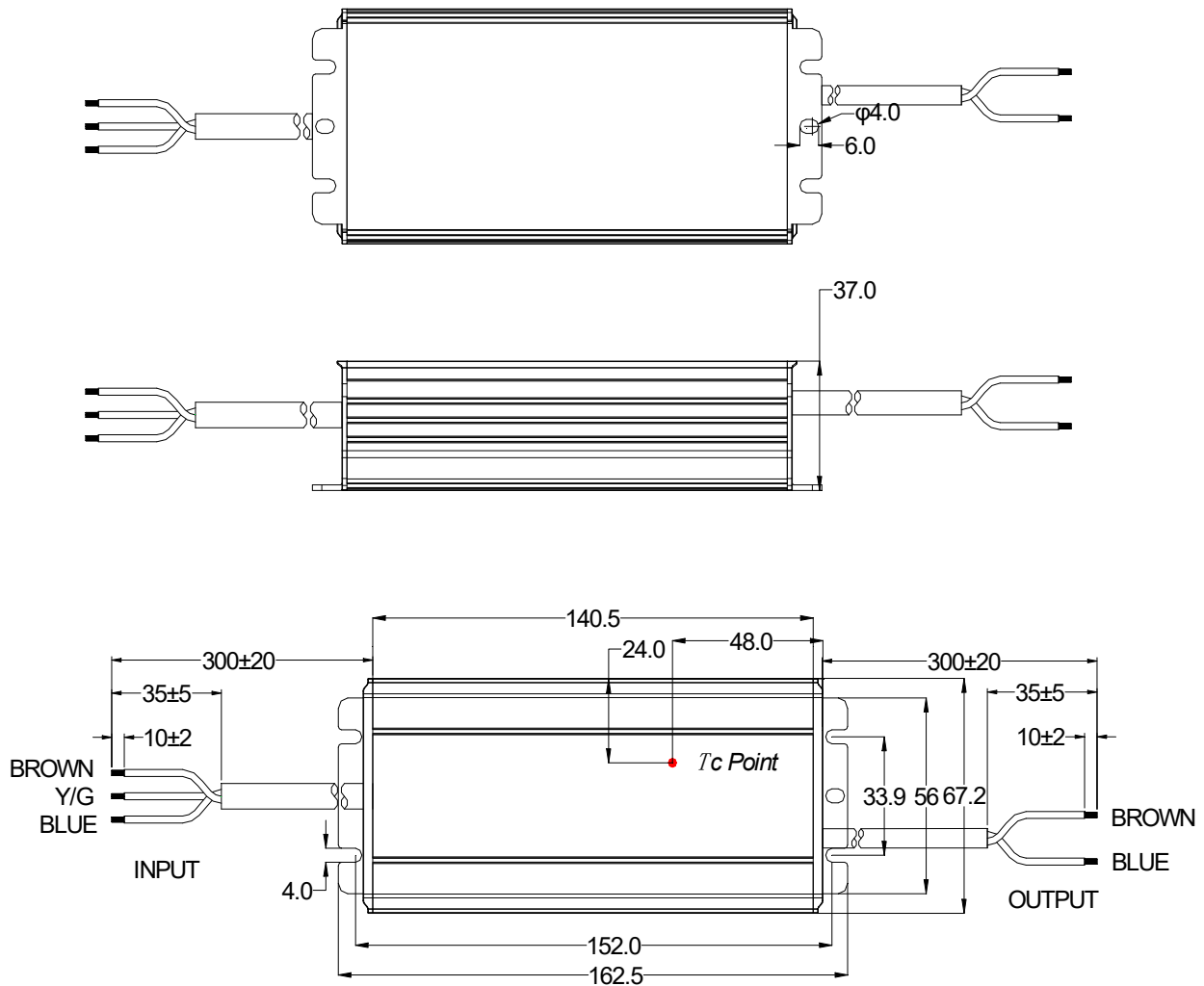
### TOTAL HARMONIC DISTORTION



### PROTECTIONS

Parameter	Min.	Typ.	Max.	Notes
Input under voltage protection	156V		176V	The product will shut down when input undervoltage
Over temperature protection	Turn off the output. Returning to normal after over temperature is removed.			
Short circuit protection	Hiccup mode. The output shall return to normal when the fault condition is removed.			
Over current protection	When the load is 1.1- 2 times as high as the rated load, the driver will be in hiccup state The output shall return to normal when the fault condition is removed.			
Over voltage protection	Turn off the output voltage, when the fault is removed, restart and resume.			

### MECHANICAL OUTLINE



Wire	Specification			Note
Input	CCC+VDE	3*1.0mm <sup>2</sup>	L=300±20mm	CCC/CE
Output	CCC+VDE	2*1.5mm <sup>2</sup>	L=300±20mm	CCC/CE

### LABEL

138.00 mm

32.00 mm

<b>INPUT</b>	<b>MOSO<sup>®</sup> V6E-150B012</b>						<b>OUTPUT</b>
	<small>LED DRIVER LED 控制装置 (恒压型, 内置防浪涌)</small>				<b>SELV</b>		
L (BROWN 棕)	<small>INPUT (输入)</small> 200-240V~50/60Hz, 1.0A Max						(BROWN 棕) Vo +
G (Y/G 黄/绿)	<small>OUTPUT (输出)</small> Output current: 12.50A Max. Urated 12V~, Prated: 150W Max.						
N (BLUE 蓝)	<small>t c: 90°C</small>	<small>t a: 60°C</small>	<small>Input: 200-240V~</small>				(BLUE 蓝) Vo -
<small>中国制造 仅适用LED模块 MADE IN CHINA For LED module only</small>		<small>深圳茂硕电子科技有限公司 SHENZHEN MOSO ELECTRONICS TECHNOLOGY CO., LTD No. 1061, Songbai Road, Xili Town, Nanshan District, Shenzhen, CHINA</small>					

### ROHS

Our products comply with RoHS Directive (EU) 2015/863