

Specification for Approval

Product Name : 150W Constant Voltage LED Driver

Product Model: V6E-150B036

Rev. A.1

Sample Date: —

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

Prepared By	Checked By	Approved By

Product Specification

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Product Model: V6E-150B036

Rev. A.1

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Prepared By	Checked By	Approved By

[illegible]



Product Features:

- ◆ Input voltage: 176~264Vac;
- ◆ Constant voltage output;
- ◆ High power factor >0.97(230Vac& full load);
- ◆ THD<10%;
- ◆ Surge immunity: DM 6KV, CM 10KV;
- ◆ Protection: Input UVP, Output SCP, OVP, OTP, OCP;
- ◆ 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-150B036	150	36	0~4.17	93%	0.97	10%

Notes:

All performance parameters are measured at 25°C ambient temperature, 230Vac input, 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	-		-		75 A		Cold start, 10%I _{peak} , 230Vac & full load,
Power Factor	0.96				-		220-240Vac & 50-60Hz & full load
	0.95						220-240Vac & 50-60Hz& 75% load
	0.90						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	230Vac
	C10	8	C16	12	C20	15	

OUTPUT SPECIFICATIONS

Parameter	Min.		Typ.		Max.		Notes
Output Voltage Tolerance	-2%		-		+2%		
Total Output Voltage Ripple(pk-pk)	-2%		-1%		2%		Full load, Measured by 20 MHz 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 0% 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 V6E-150B036		91%	93%	-	100% load, 25℃ ambient temperature
		88%			75% load, 25℃ ambient temperature
		85%			50% load, 25℃ 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℃/70%RH
MTBF		-	200Khrs	-	230Vac,25℃,80% load (MIL-HDBK-217F)
			1232.28khrs		Telcordia SR-332 (Bellcore)
Lifetime		-	50000Hours	-	230Vac&100% load,75℃case temperature, refer to lifetime VS Tc curve for details
Ambient Temperature		-40℃		+60℃	
Operating Case Temperature for Safety Tc_s		-40℃	-	+90℃	
Operating Case Temperature for Warranty Tc_w		-40℃	-	+75℃	5 years warranty case temperature Humidity: 10% to 100% RH
Storage Temperature		-40℃	-	+90℃	Humidity: 10% to 100% RH
Dimensions (L*W*H)mm		L162.5xW67.2xH37			
Net Weight		750±50g/PCS			
Package		L500mm*W310mm*H160mm 10PCS/Ctn			

SAFTY STANDARDS

Safety Category	Country / Territory	Standards	Approved
CCC	China	GB19510.1, GB19510.14	√
CE	Europe	EN61347-1, EN61347-2-13	√
		EN62493	√
ENEC		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	
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	

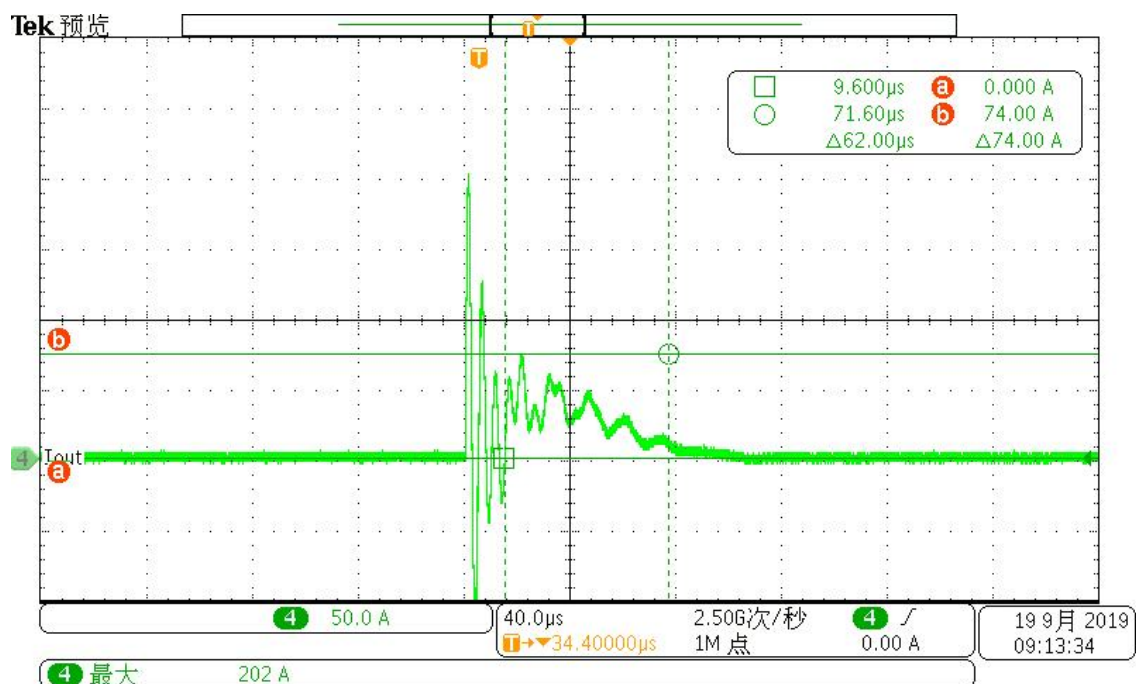
EMC COMPLIANCE

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	

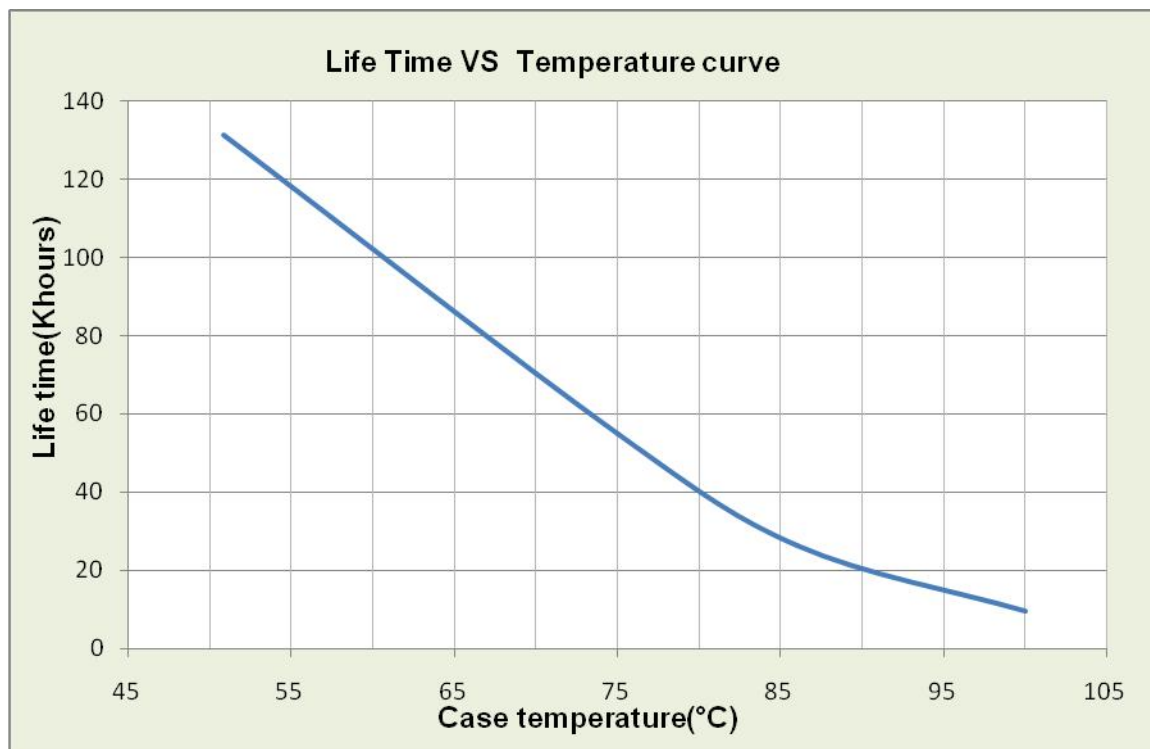
NOTE:

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

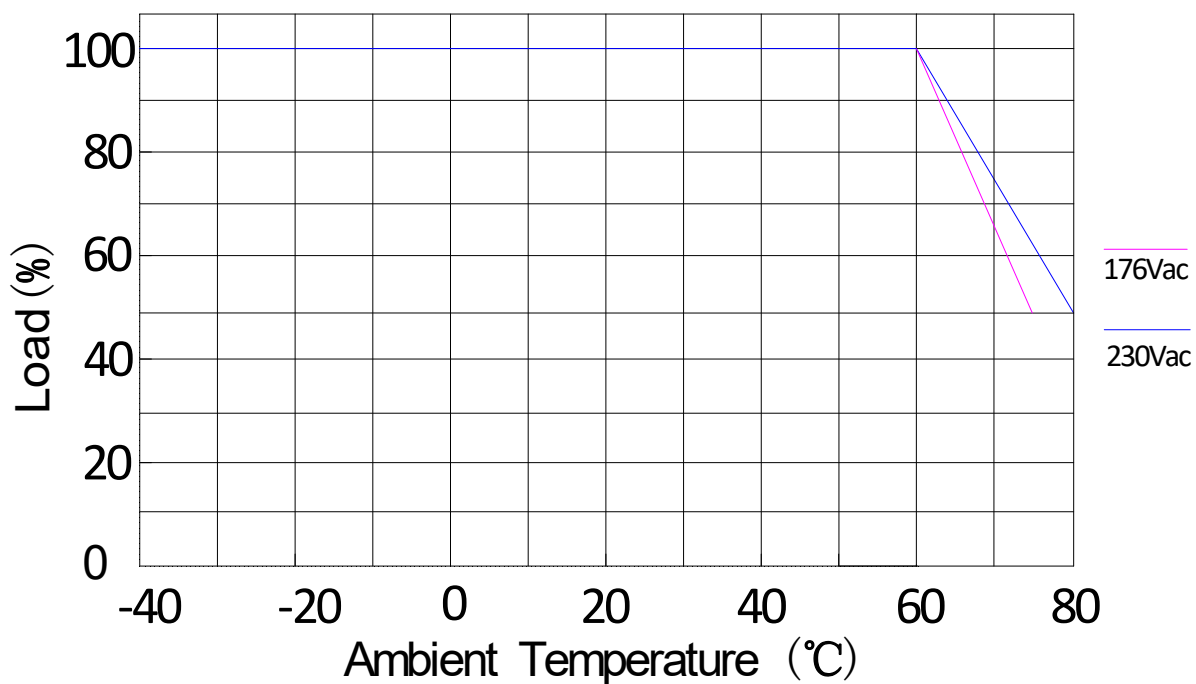


Life Time VS Temperature Curve

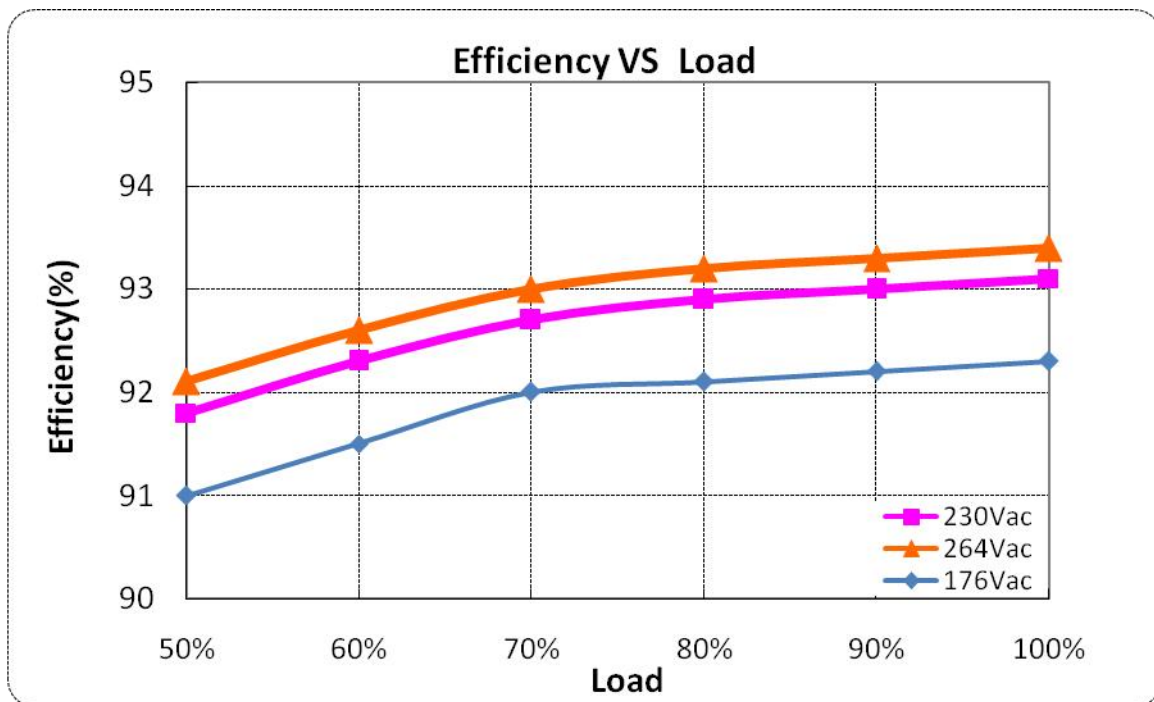


DERATING CURVE

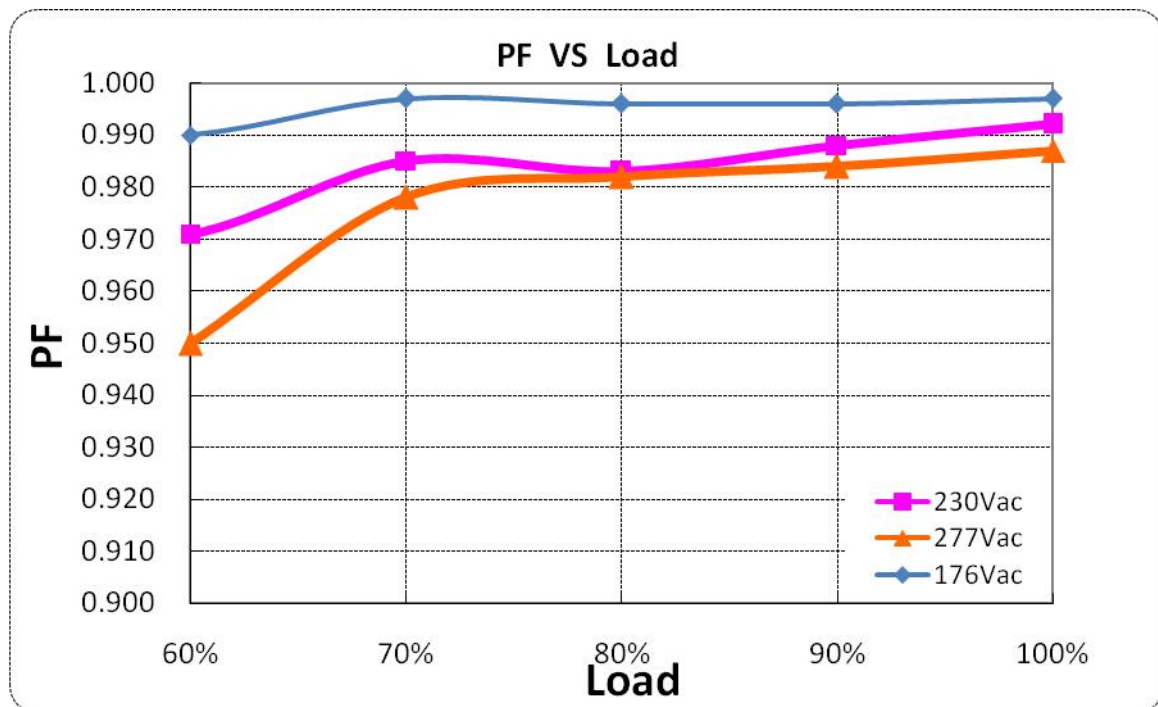
Derating Curve



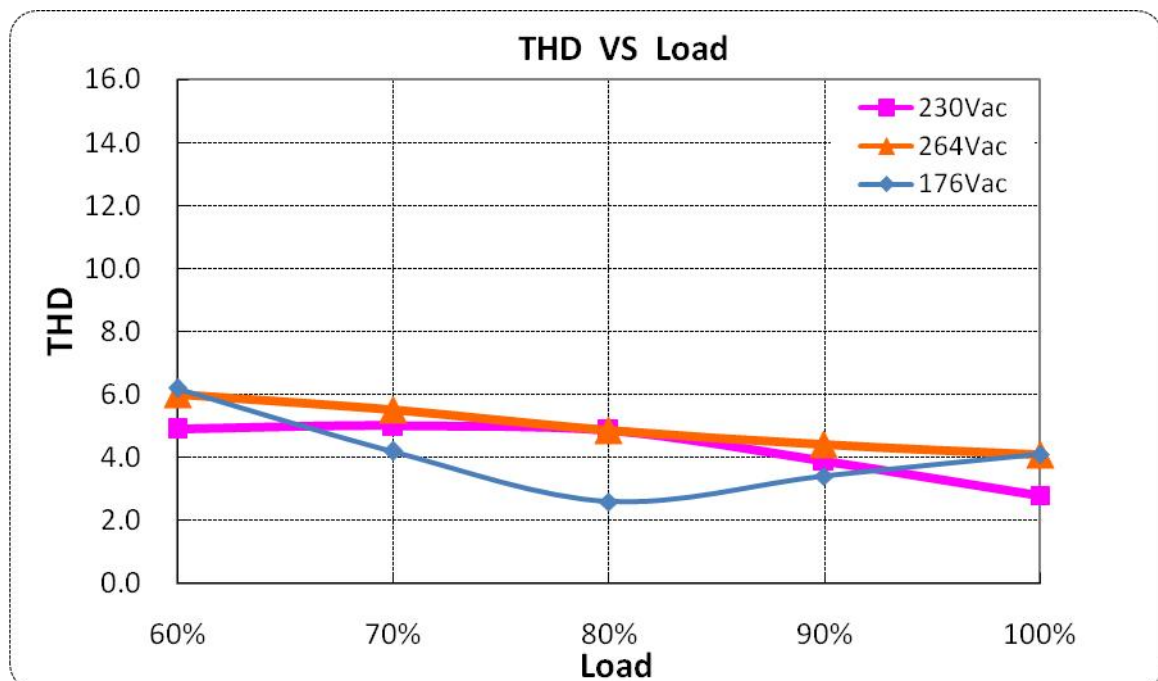
EFFICIENCY VS LOAD



POWER FACTOR VS LOAD



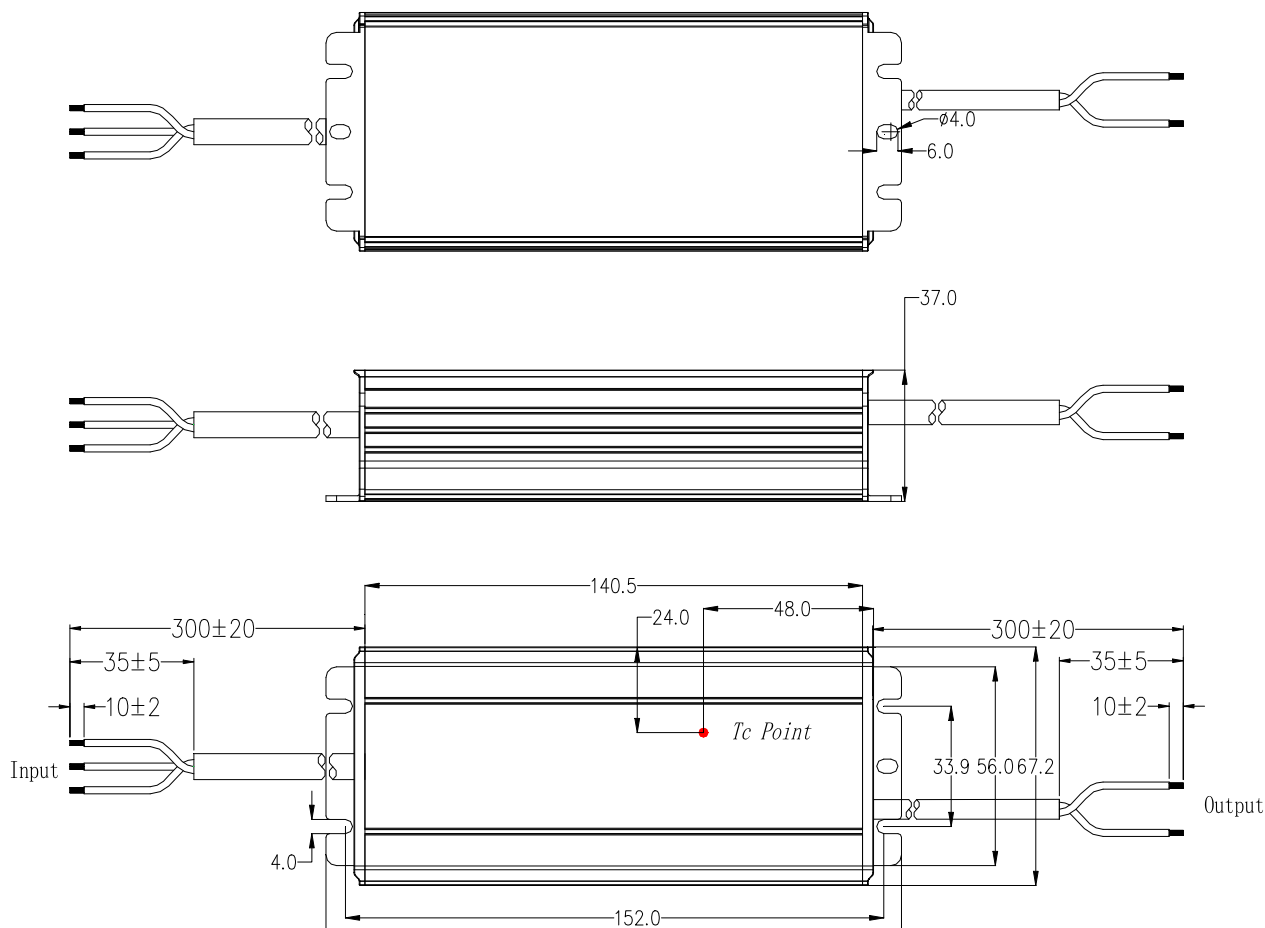
TOTAL HARMONIC DISTORTION



PROTECTIONS

Parameter	Min.	Typ.	Max.	Notes
Input under voltage protection	156V		176V	The product will shut down when input undervoltage
Over temperature protection	The product will enter the protection state, when the case temperature exceeds 95°C.			
Short circuit protection	Hiccup mode. The output shall return to normal when the fault condition is removed.			
Over current protection	>1.5 times the load into Hiccup mode, 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 ² external diameter: 7.15mm; L=300±20mm	CCC/CE
Output	CCC+VDE 2*1.0mm ² external diameter: 6.7mm; L=300±20mm	CCC/CE

The products comply with EU RoHS Directive 2011/65/EU and its latest revision Directive (EU) 2015/863.

TABLE

138.00 mm							
32.00 mm							
INPUT L (BROWN 棕) G (Y/G 黄/绿) N (BLUE 蓝)	V6E-150B036 LED DRIVER LED 控制装置 (恒压型, 内置防雷管) <table> <tr> <td>INPUT (输入)</td><td>200-240V~50/60Hz, 1.0A Max</td></tr> <tr> <td>OUTPUT (输出)</td><td>Output current: 4.17A Max. U_{rated} 36V $\overline{\sim}$, P_{rated}:150W Max.</td></tr> <tr> <td>t_e: 90°C</td><td>t_a: 60°C Input:200-240V~</td></tr> </table> 中国制造 仅适用LED模块 MADE IN CHINA For LED module only 深圳茂硕电子科技有限公司 Suitable for Dry, Damp and Wet locations SHENZHEN MOSO ELECTRONICS TECHNOLOGY CO., LTD No.10611, Songbai Road, Xili Town, Nanshan District, Shenzhen, CHINA	INPUT (输入)	200-240V~50/60Hz, 1.0A Max	OUTPUT (输出)	Output current: 4.17A Max. U _{rated} 36V $\overline{\sim}$, P _{rated} :150W Max.	t _e : 90°C	t _a : 60°C Input:200-240V~
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OUTPUT (输出)	Output current: 4.17A Max. U _{rated} 36V $\overline{\sim}$, P _{rated} :150W Max.						
t _e : 90°C	t _a : 60°C Input:200-240V~						
	OUTPUT (BROWN 棕) Vo+ (BLUE 蓝) Vo-						