SOSEN
LED DRIVER

SOSEN LED Driver, Your Smart Choice

Specifications

SS-200EP-56B LED Driver

Model: SS-200EP-56B

Description: 200W LED Driver

Rev.: V02

Release Date: 2021-09-02

SS-200EP-56B LED Driver

SOSEN
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LED DRIVER
—
EP Series

Features:

- Efficiency up to 93%
- Isolated dimming:1-10V,PWM,Resistor
- Protections: SCP/OTP/OVP/OPP
- Surge protection: CM: 10kV, DM: 6kV
- Warranty: 5 years

c US E360758 RoHS

Description:

SS-200EP-56B are 200W constant current LED Driver with wide O/P voltage and adjustable O/P current. It has high efficiency, compact housing, good cooling, all-around protections. LED luminaries manufactures can easily design luminaries and reduce cost.

Applications:

High Pole lighting, Wall washer lighting,Flood lighting

Model List:

Model	AC Input Range	Max. Pout	Vout Range	Full Power Vo Range	Iout	Default Current	THD(Typ.)	PF(Typ.)	Eff.(Typ.)	Max.Tc
SS-200EP-56B	108-305Vac	200W	28-56V	36-56V	2.8-5.6A	4.8A	8%	0.97	92%	90℃

Note:

1.Default Tested: at 220Vac, full load, Ta 25℃。

2.The performance of the LED Driver can be guaranteed within the full power Vo range.The voltage lower than full power Vo range, it is need to test the performance with the LED module;

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SS-200EP-56B LED Driver

Input Characteristics:

Parameter	Min.	Typ.	Max.	Remark
Rated AC Input Range	120Vac		277Vac	Ref. derating curve
AC Input Range	108Vac		305Vac	Ref. derating curve
Input Frequency Range	47Hz	50/60Hz	63Hz	
Max Input Current			2.4A	120Vac, Full load
Max Input Power			240W	120Vac, Full load
Max Inrush Current(120Vac)			70A	Cold start
Max Inrush Current(220Vac)			110A	Cold start
Max Inrush Current(277Vac)			140A	Cold start
No Load Power			3W	220Vac/50Hz, No load
Power Factor	0.95	0.97		220Vac/50Hz, Full load
	0.90			120-277Vac/50Hz, 70%-100% load
THD		8%	10%	220Vac/50Hz, Full load
			20%	120-277Vac/50Hz,70%-100% load

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O/P Characteristics:

Parameter	Min.	Typ.	Max.	Remark
O/P Voltage Range	28V		56V	Power derated @28-36V
Rated O/P Voltage	36V		56V	Po=Vo*Io=200W, Full load
Rated O/P Current	3.6A		5.6A	5.6A for 36V,3.6A for 56V
Adj. O/P Current (AOC)Range	2.8A		5.6A	
No Load Voltage			60V	
Efficiency @120Vac	88.0%	89.0%		O/P 46V/4.35A
Efficiency @220Vac	91.0%	92.0%		O/P 46V/4.35A
Efficiency @277Vac	91.0%	92.0%		O/P 46V/4.35A
O/P Current Tolerance	-5%		+5%	
O/P Current Ripple(PK-AV)		5%	10%	Full load
Start-up Current Overshoot			10%	Full load
Start-up Time			0.5S	120Vac, Full load
			0.5S	220Vac, Full load
Line Regulation	-2%		+2%	Full load
Load Regulation	-2%		+2%	
Temperature Coefficient	-0.03%/℃		+0.03%/℃	Tc:0℃~90℃
OTP	90℃	100℃	110℃	>Tc Typ., Current derating <Tc Min., Current recovery
Short Circuit Protection			10W	Driver will not be damaged, Hiccup mode

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Other Characteristics:

Parameter		Min.	Typ.	Max.	Remark
1-10V Dimming (Optional)	Dim Vmax	0V		12V	DIM+ source current 110uA.
	Dim Range	10%Iomax		100%Ioset	Dimming prohibits reverse connection
	Rec.Dim Range	1V		10V	
PWM Dimming (Optional)	PWM High	9.8V		10.2V	DIM+ source current 110uA.
	PWM Low	0V		0.3V	Dimming prohibits reverse connection
	Frequency	1KHz		2KHz	
	PWM Duty	10%		100%	
Resistor Dimming (Optional)	Resistance	10Kohm		100Kohm	DIM+ source current 110uA.
	Dim Range	10%Iomax		100%Ioset	
Lifetime(Tc≤72℃)		≥62,000 hours			80% load,220Vac
MTBF		205,000 hours			220Vac,Full load, Ta=25℃ (MIL-HDBK-217F)
Tc		90℃			
Warranty		5 years			Tc：72℃
Net Weight		850g			
Dimension		183mm*63.5mm*37mm			L x Wx H

NOTE: All the parameters above are tested Ta 25℃ and LED load, unless specified.

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Environmental Requirements

Parameter	Min.	Typ.	Max.	Remark
Operating Temperature(Tcase)	-40℃	25℃	+90℃	
Storage Temperature	-40℃	25℃	+90℃	
Operation Humidity	10%RH		90%RH	
Storage Humidity	5%RH		95%RH	
Altitude	-65m		4000m	

Safety and EMI/EMS Standards

Certification	Standard	Status	Remark
UL/cUL	UL8750	✓	
TUV	EN 61347-2-13:2014/A1:2017 EN 61347-1:2015 EN 62493:2015	✓	
RCM	AS/NZS61347.2.13		
CCC	GB 19510.14-2009	✓	
CE	EN 61347-2-13:2014 EN61347-1:2008+A1:2011+A2:2013		

EMI/EMS	Criterion	Remark
Conduction Emission	EN55015:2013+A1:2015	
Radiation Emission	EN55015:2013+A1:2015	
Harmonic Current Emissions	IEC/EN 61000-3-2	Class C
Surge	IEC/EN61000-4-5	DM: 6kV,CM: 10kV,Criterion B
	ANSI/C82.77-5-2017	DM: 6kV,CM: 6kV,Criterion B
Ring Wave	IEC/EN 61000-4-12	DM: 6kV,CM: 6kV,Criterion B

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Safety Test Items:

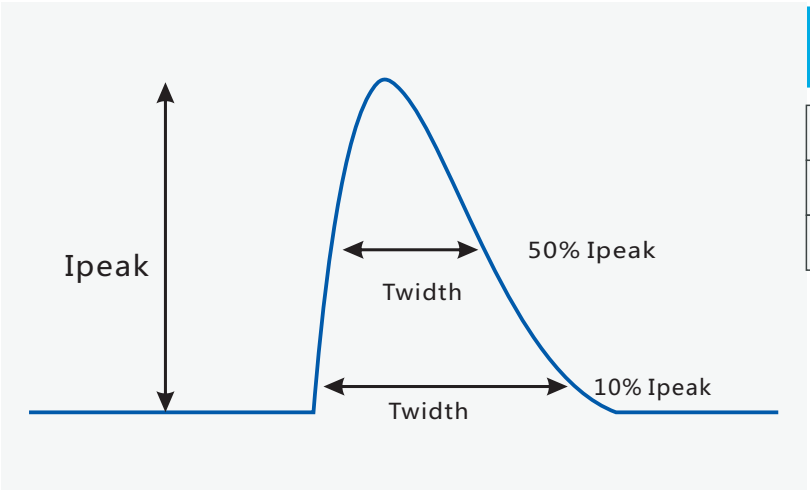
Safety Test Items	Technical Indicators			Remark
Insulation Requirements	UL Insulation Requirements	TUV Insulation Requirements	CCC Insulation Requirements	
Input-O/P	1600Vac	3000Vac	3750Vac	Reinforced insulation
Input-Case	1600Vac	1500Vac	1875Vac	Basic insulation
Input-Dim	1600Vac	3000Vac	3750Vac	Reinforced insulation
O/P-Dim	1600Vac	1000Vac	1000Vac	Basic insulation
O/P-Case	500Vac	1000Vac	1000Vac	Basic insulation
Dim-Case	500Vac	250Vac	500Vac	Basic insulation
Insulation Resistance	≥10MΩ			Input-O/P,Test voltage:500Vdc
Ground Resistance	≤0.1Ω			25A/1min
Leakage Current	≤0.75mA			277Vac

NOTE:

1. SOSEN warrants the LED Driver itself complies with EMC standard. However, LED Driver's EMC should be re-checked when integrated into lighting systems due to unexpected interference of components.
2. Please short (ACL and ACN), (V+ and V-), (Dim+ and Dim -)when Hi-pot test.
3. The CCC withstand voltage test needs to disconnect the built-in lightning protection tube.According to the IEC 60598-1:14 standard section 10.2, the "built-in lightning protection tube" can be marked on the nameplate to disconnect the discharge tube on testing.

Performance Curves:

Input Inrush Current



Vin	Ipeak	T(@10% of Ipeak)	T(@50% of Ipeak)
120Vac	70A	400uS	
220Vac	110A		200uS
277Vac	140A	400uS	

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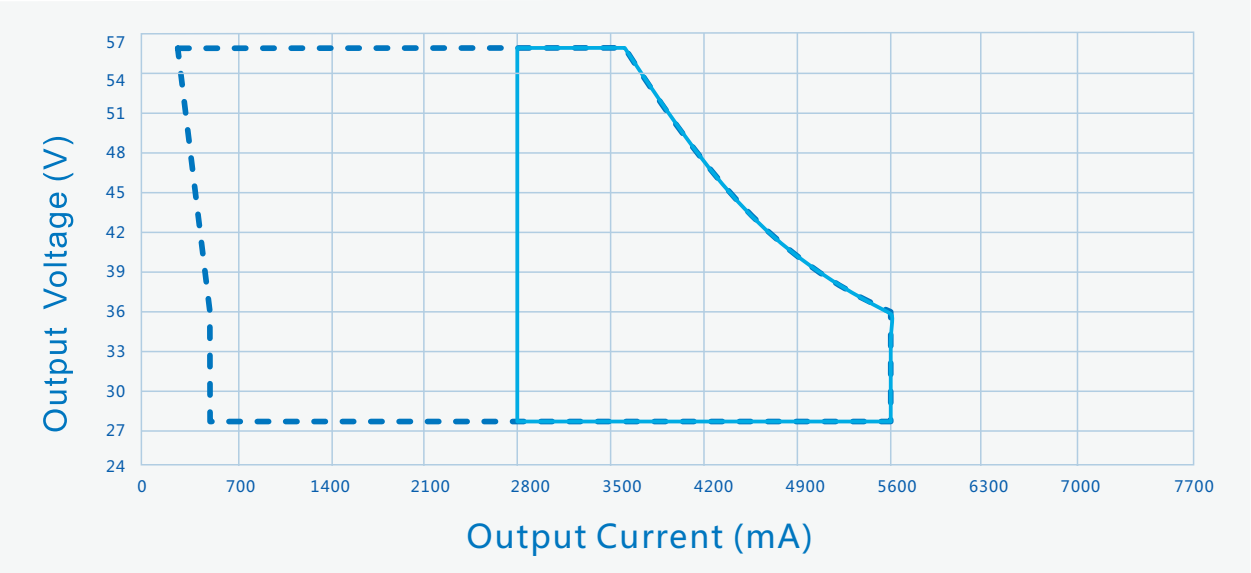
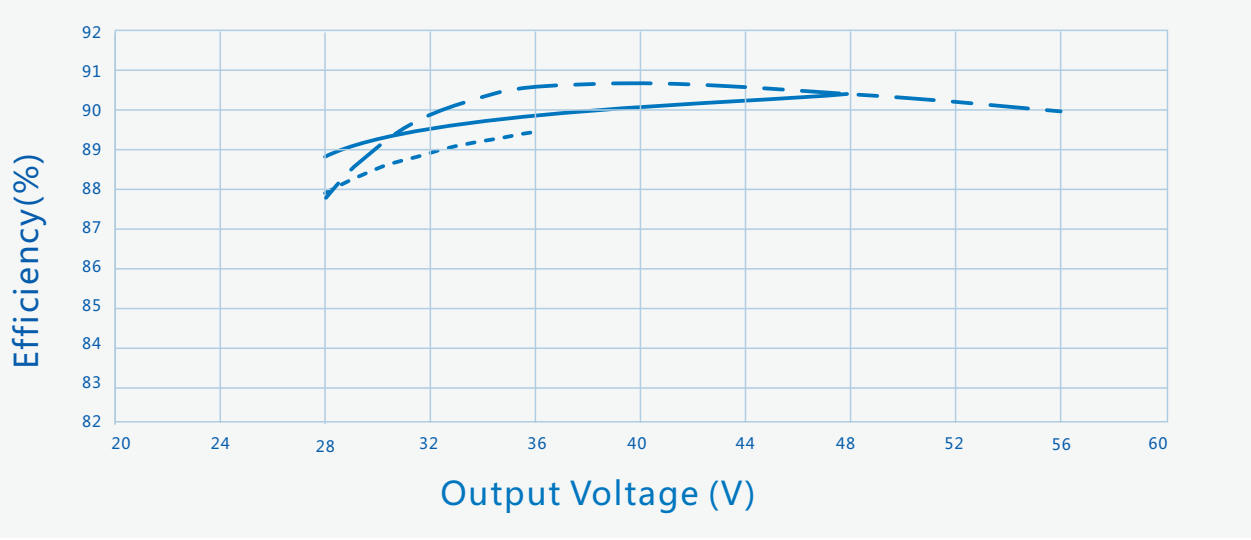
Performance Curves:

O/P Voltage Vs. O/P Current(Dim/AOC Window)



Dimming Window — AOC Window

Efficiency Vs. O/P Voltage (Vin=120Vac)



Io=5600mA — Io=4200mA — Io=3600mA

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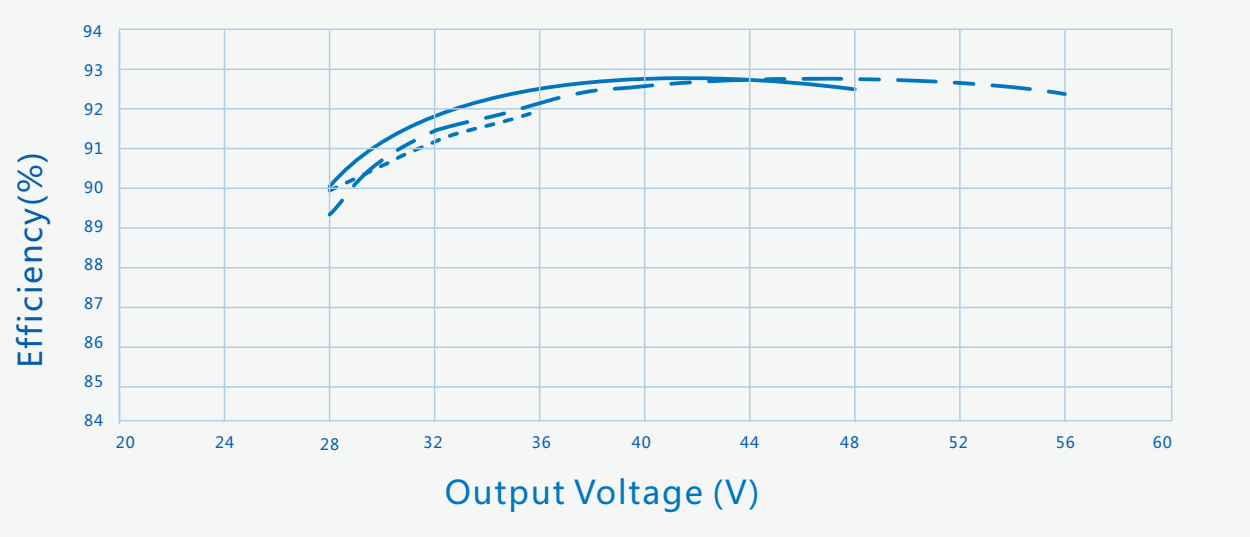
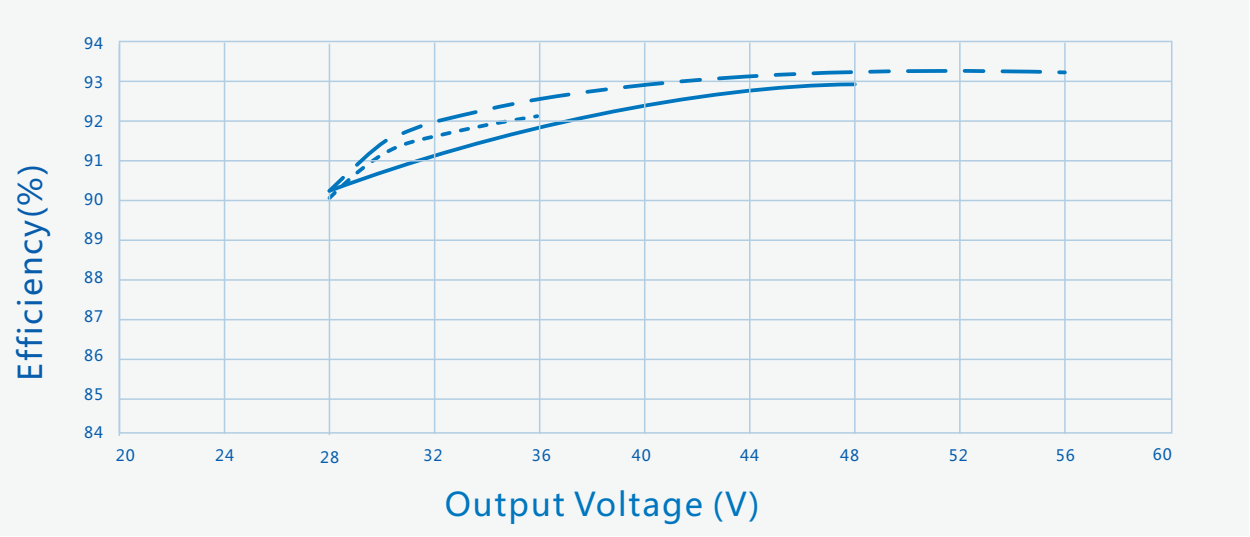
Performance Curves:

Efficiency Vs. O/P Voltage (Vin=220Vac)



-------- Io=5600mA ——— Io=4200mA – — – Io=3600mA

Efficiency Vs. O/P Voltage (Vin=277Vac)



------- Io=5600mA ——— Io=4200mA – — – Io=3600mA

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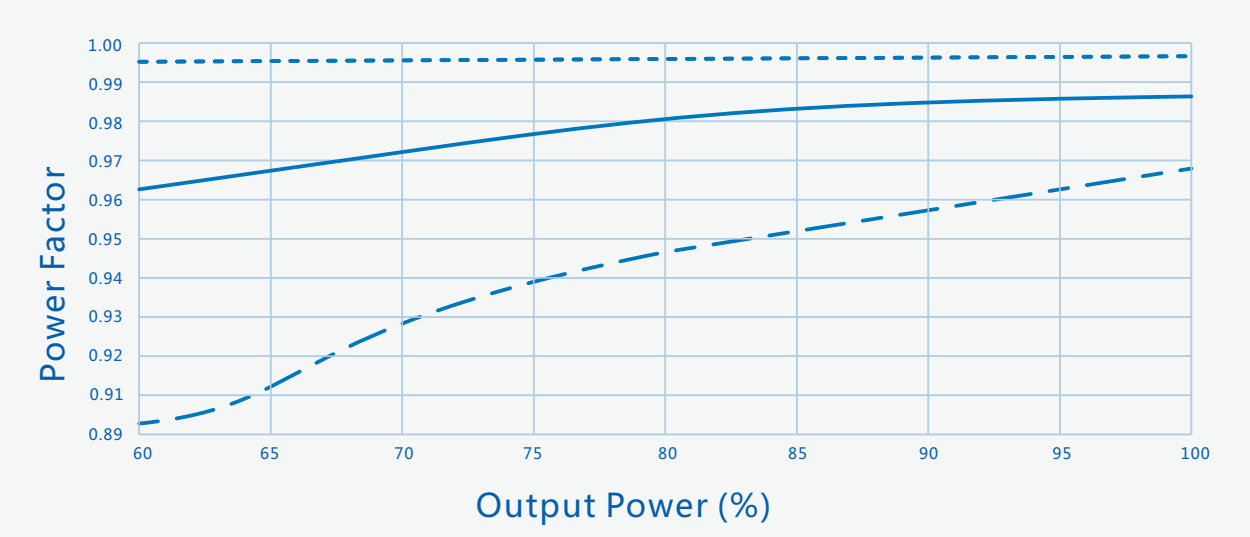
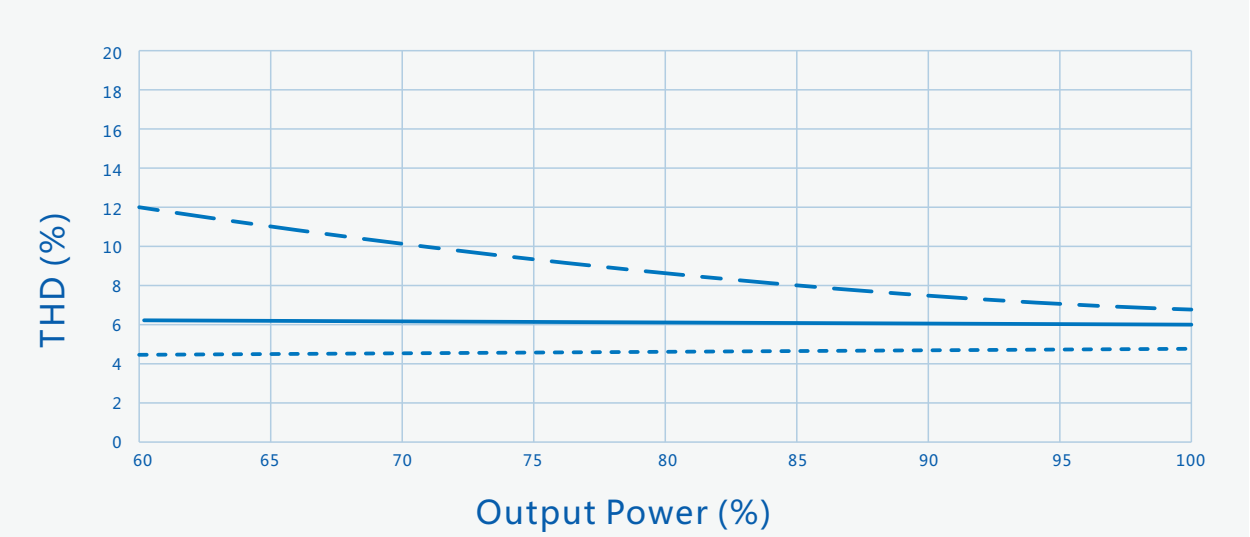
Performance Curves:

Power Factor Vs. O/P Power



Vin=120Vac Vin=220Vac Vin=277Vac

THD Vs. O/P Power



Vin=120Vac Vin=220Vac Vin=277Vac

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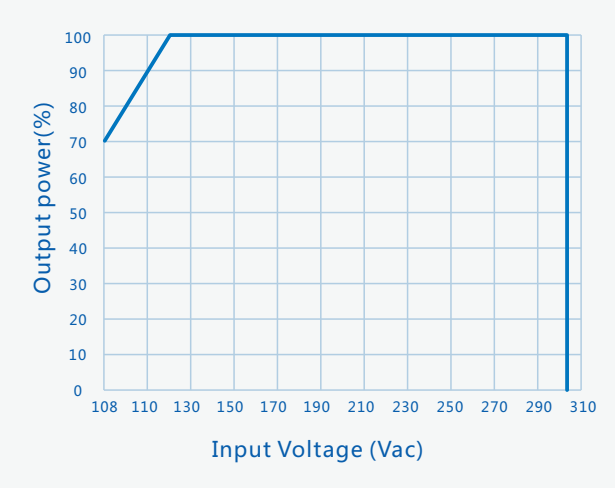
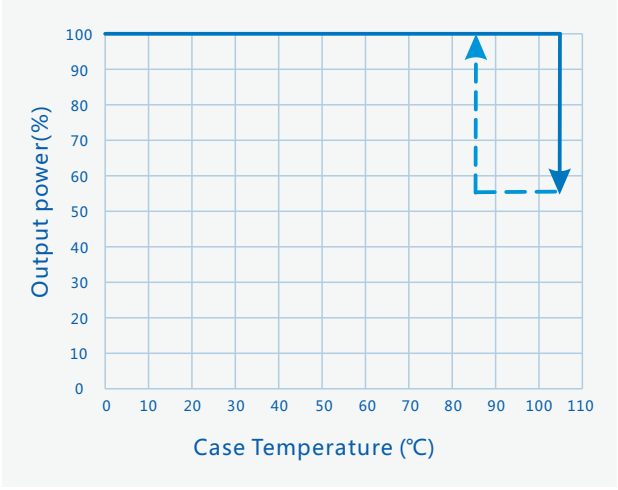
Performance Curves:

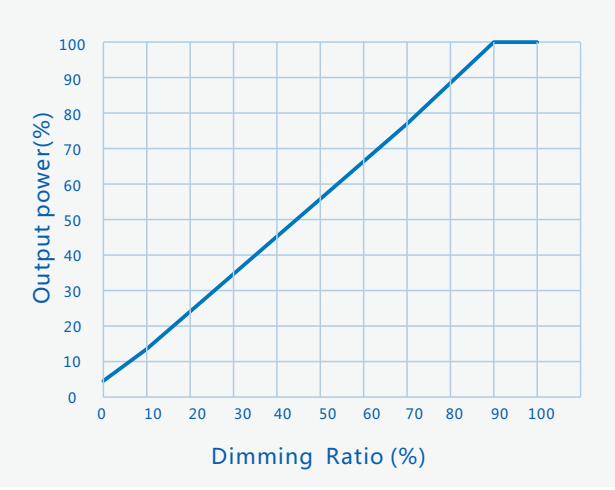
O/P Power Vs. Input Voltage (Ta Max.60℃)



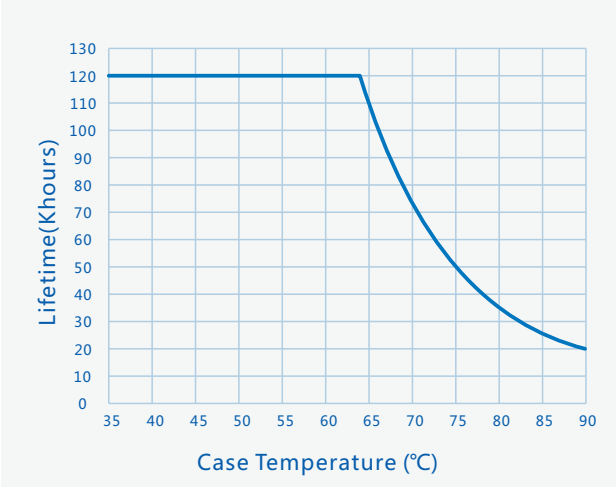
O/P Power Vs. Case Temperature



O/P Power Vs. Dimming



Lifetime Vs. Case Temperature



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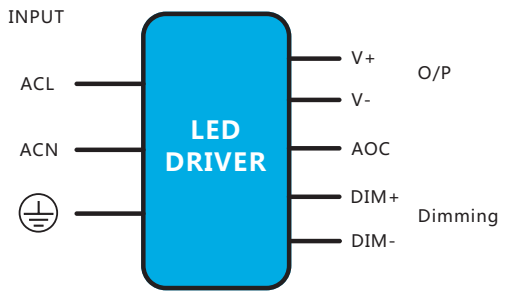
SS-200EP-56B LED Driver

Mechanical Characteristics



AC Input Cable(Exposed Length 300±10mm):

UL model: 1672,18AWG , O.D: 2.7mm,Black:L,White:N
1015,18AWG , O.D: 2.7mm,Green:⏚

DC O/P Cable(Exposed Length 300±10mm):

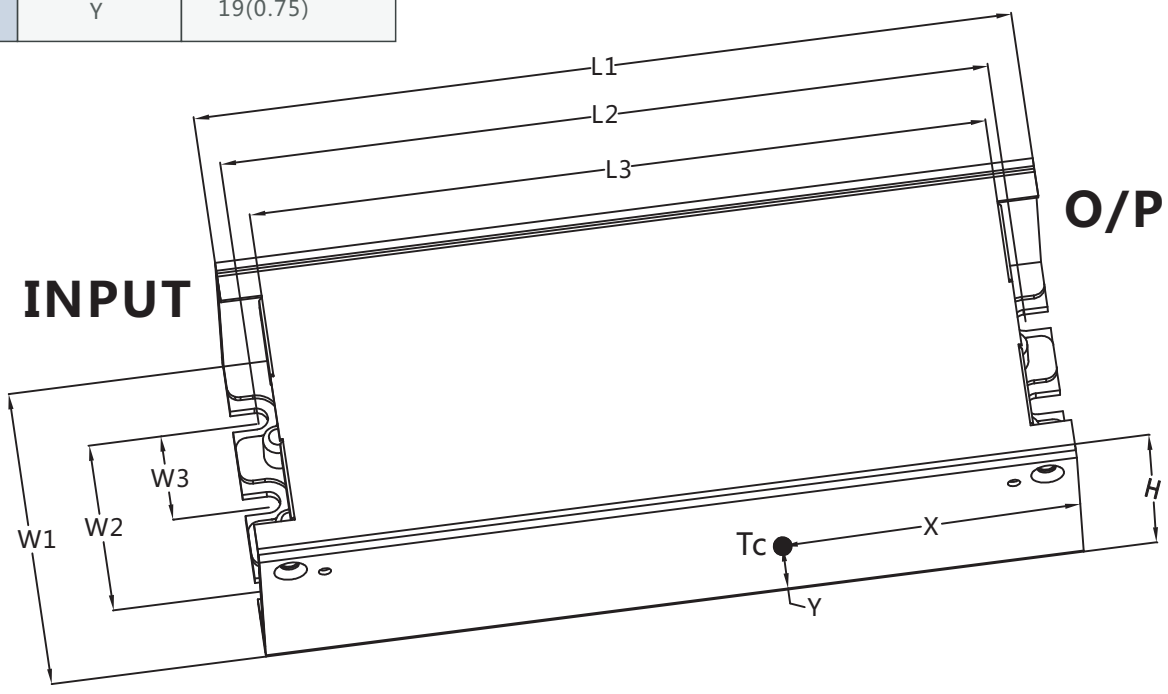
UL model: 1015,18AWG , O.D: 2.7mm,Red:V+ , Black:V-

DIM Power Cable(Exposed Length 220±10mm):

UL model: 1015,18AWG,O.D: 2.7mm , Purple : DIM+, Pink: DIM-

Name Description	Standard Code	mm(In.)
Case Width	W1	63.5(2.5)
Case Height	H	37(1.46)
Overall Length	L1	183 (7.20)
Mounting Hole Length	L2	175(6.89)
Case Length	L3	163.5(6.44)
Mounting Hole Width	W2	32(1.26)
Mounting Hole Width	W3	16(0.63)
TC Point Position	X	67(2.64)
TC Point Position	Y	19(0.75)

Note :
1,Please follow the "LED Driver User Manual" obtained from SOSEN's official website for assembly.
2,AC Input Cable,DC O/P Cable,DIM/AUX Power/Programming Cable: Tinned length of wire:10±2mm



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SS-200EP-56B LED Driver

Assembly Tips

1. Highly recommended to seal the adjustable hole with silicon glue(#704 preferred) after adjusting the Driver's O/P current. Avoid permanent damage to adjust the potentiometer with suitable strength.
2. Dimming tinned connectors should be capped if not used to avoid dimming parts damage from external signals.
3. In order to meet the requirements of the power derating and the maximum ambient temperature of 60°, an auxiliary heat sink must be added to the SS-200EP. It is recommended that the heat sink has a heat dissipation area of 750cm² and volume of 225cm³.Thermal grease should be applied between led driver and the auxiliary heat sink to ensure the bottom of housing is in close contact with the heat sink.

Package

- Outside carton dimension: L×W×H =495mm×385mm×162mm;
- 20PCS/Carton;
- Net weight/Piece: 0.85kg;Gross weight/Carton: 18.5kg;
- Please refer to the product name, model number, manufacturer identification, QC PASS, manufacturing date on the package.

Transportation

Packaging is designed suitable for transportation by trucks, vessels and flights. The products should be avoided direct sunlight and rain, loaded/unloaded with caution.

Storage

The product storage meets the standard of the GB 3873 - 83.

Products should be rechecked if stored for over 1 year before assembly.

RoHS

Products comply with RoHS Directive (2011/65/EU) and amendment 2015/863/EU.

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Revision History

Version	Description of Update	Updated Date	Remark
V00	Original Release	2020/06/18	
V01	Increase Default Current	2020/10/10	
V02	Update DIM Cable Color	2021/09/02	

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