



SOSEN LED Driver, Your Smart Choice

Specifications

SS-100CP Series LED Driver

Model: SS-100CP-54*

Description: 100W LED Driver

Rev.: V03

Release Date: 2019-09-09

SS-100CP Series LED Driver

SOSEN
LED DRIVER



LED DRIVER

CP Series



Features:

- Efficiency up to 91%
- Isolated dimming: 1-10V, PWM, Resistor
- IP65
- Protections: SCP/OTP/OVP/OPP
- Surge protection: L/N-PE: 4kV, L-N: 4kV
- Warranty: 5 years



IS15885(Part 2/Sec 13)



IP65

R-41041440
www.bis.gov.in

Description :

SS-100CP series is 100W constant current LED driver which operates from 108-305Vac with high power factor up to 97%. It is specifically designed for highbays with isolated dimming and surge circuit. Compact metal housing and good thermal management which greatly enhance the reliability and lifespan. SS-100CP is equipped with comprehensive protections, such as SCP, OTP, OVP and OPP, so as to provide indispensable function for LED lighting system.

Model List:

Model	AC Input Range	Max. Pout	Vout Range	Full Power Vo Range	Iout	THD(Typ.)	PF(Typ.)	Eff.(Typ.)	Max.Tc
SS-100CP-54*	108-305Vac	100W	28-54V	33-54V	1.5-3.0A	8%	0.97	90%	85°C

1.Default tested at 220Vac, full load, Ta 25°C.

2.“*”Optional B or space in the place of * means additional function.

- Space is the base model without any optional function;

- Suffix B for model with 3-in-1 dimming (1-10V, PWM, Resistor);

SS-100CP Series LED Driver

Input Characteristics:

Parameter	Min.	Typ.	Max.	Remark
Rated AC Input Range	120Vac		277Vac	
AC Input Range	108Vac		305Vac	
Input Frequency Range	47Hz	50/60Hz	63Hz	
Max Input Current			1.4A	108Vac, Full load
Max Input Power			117W	108Vac, Full load
Max Inrush Current(120Vac)			40A	Cold start
Max Inrush Current(220Vac)			60A	Cold start
Max Inrush Current(277Vac)			90A	Cold start
No Load Power			2W	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

SS-100CP Series LED Driver

Output Characteristics:

Parameter	Min.	Typ.	Max.	Remark
Output Voltage Range	28V		54V	Power derated @28-33V
Rated Output Voltage	33V		54V	$P_o=V_o \cdot I_o=100W$, Full load
Rated Output Current	1.85A		3.0A	3.0A for 33V, 1.85A for 54V
Current Adjustable Range(AOC)	1.5A		3.0A	
No Load Voltage			60V	
Efficiency @120Vac	85.0%	87.0%		Output 54V/1.85A
Efficiency @220Vac	88.0%	90.0%		Output 54V/1.85A
Efficiency @277Vac	88.0%	90.0%		Output 54V/1.85A
Output Current Tolerance	-5%		+5%	
Output Current Ripple(PK-AV)		5%	10%	Full load
Start-up Current Overshoot			10%	Full load
Start-up Time			0.75S	120Vac
			0.5S	220Vac
Line Regulation	-2%		+2%	Full load
Load Regulation	-2%		+2%	
Temperature Coefficient	-0.03%/°C		+0.03%/°C	Tc:0°C~85°C
OTP	90°C	100°C	110°C	Tc, Decreases output current, returning to normal after over temperature is removed.
Short Circuit Protection			5W	Driver will not be damaged, Hiccup mode

SS-100CP Series LED Driver

Other Characteristics:

Parameter	Min.	Typ.	Max.	Remark
1-10V Dimming (Optional)	Dim Vmax	0V		12V
	Dim Range	10%Iomax		100%Ioset
	Rec.Dim Range	1V		10V
PWM Dimming (Optional)	PWM High	9.8V		10.2V
	PWM Low	0V		0.3V
	Frequency	1KHz		2KHz
	PWM Duty	10%		100%
Resistor Dimming (Optional)	Resistance	10Kohm		100Kohm
	Dim Range	10%Iomax		100%Ioset
Lifetime(Tc≤65°C)	100,000 hours			
Lifetime(Tc≤75°C)	50,000 hours			
MTBF	238,000 hours			220Vac,Full load, Ta=25°C (MIL-HDBK-217F)
IP Grade	IP65			
Tc	85°C			
Warranty	5 years			Tc : 75°C
Net Weight	1200g			
Dimension	Φ132mm*71mm			D x H

NOTE: All the parameters above are tested Ta 25°C, unless specified.

SS-100CP Series LED Driver

Environmental Requirements

Parameter	Min.	Typ.	Max.	Remark
Operating Temperature(Tcase)	-40°C	25°C	+85°C	
Storage Temperature	-40°C	25°C	+85°C	
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	EN61347-2-13:2014 EN61347-1:2008+A1:2011+A2:2013 EN62493:2015	✓	
RCM	AS/NZS61347.2.13	✓	
BIS	IS15885:2012 Part 2 Sec 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	Difference mode 4kV, Common mode 4kV,Criterion B
Ring Wave	IEC/EN 61000-4-12	Difference mode 6kV, Common mode 6kV,Criterion B

SS-100CP Series LED Driver

Safety Test Items:

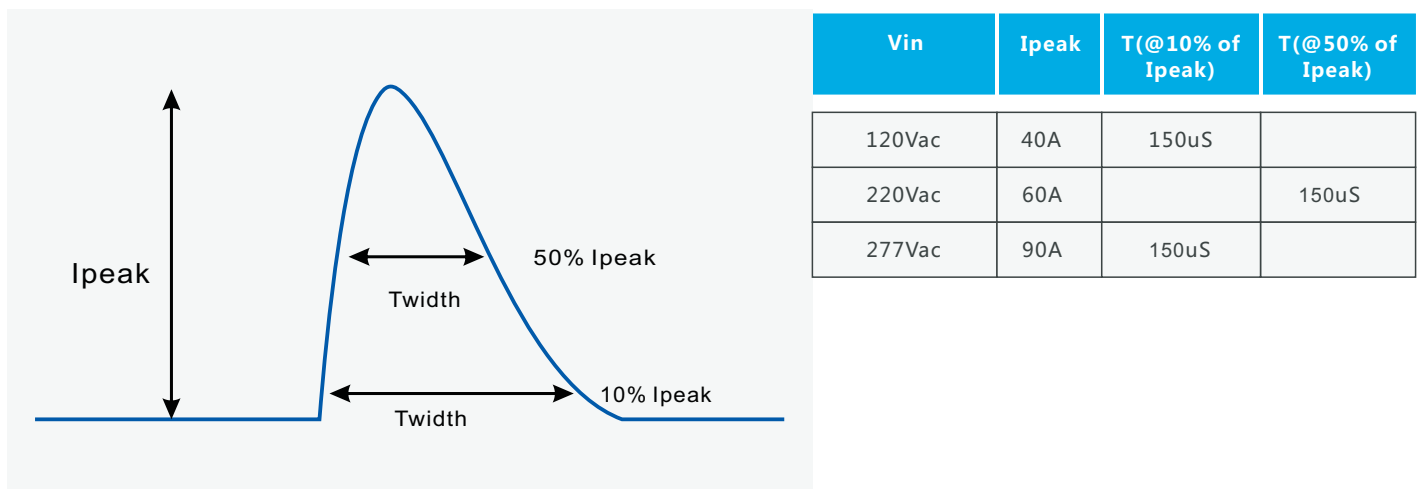
Safety test items	Technical Indicators			Remark
Insulation Requirements	UL Insulation Requirements	TUV Insulation Requirements	CCC Insulation Requirements	
Input-Output	1600Vac	3000Vac	3750Vac	Reinforced insulation
Input-Case	1600Vac	1500Vac	1875Vac	Basic insulation
Input-Dim	1600Vac	3000Vac	3750Vac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

NOTE:

1. SOSEN warrants the LED Driver itself meets with EMC standard. However, LED Driver's EMC should be re-checked when integrated into lighting systems due to unexpected interference as component.
2. Please short Line and Neutral, LED+ and LED-, 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:

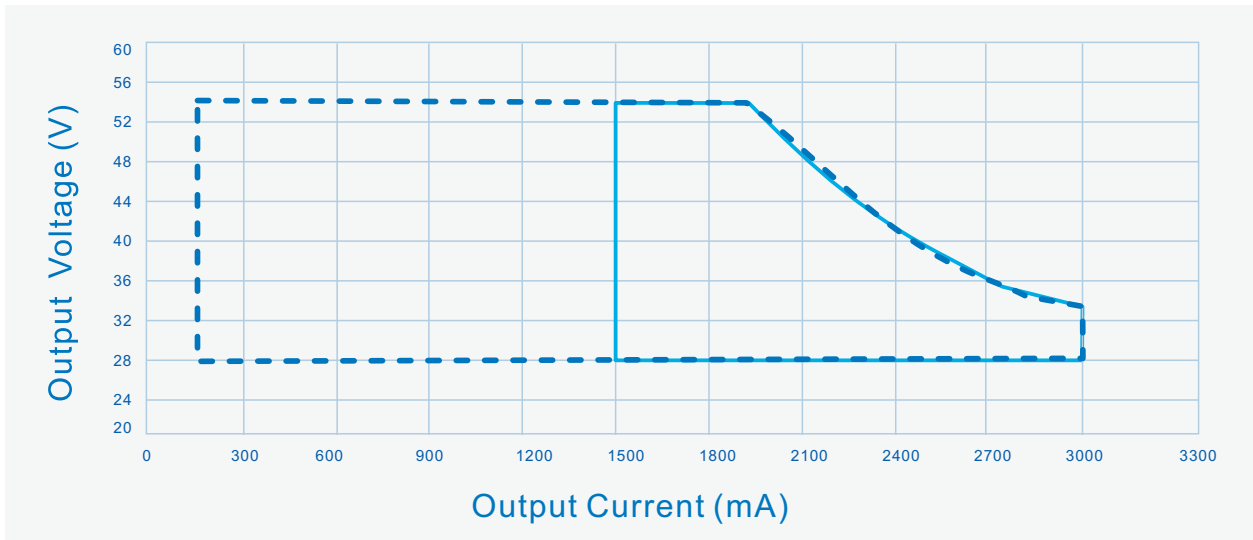
Input Inrush Current



SS-100CP Series LED Driver

Performance Curves:

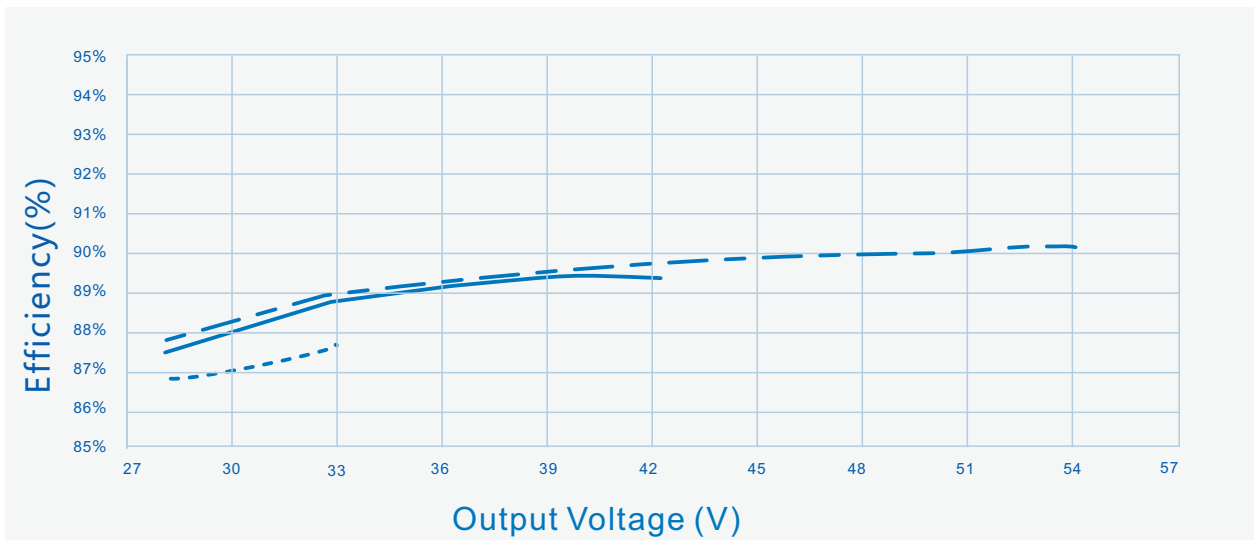
Output Voltage Vs. Output Current(Dim/AOC Window)



----- Dimming Window

————— AOC Window

Efficiency Vs. Output Voltage ($V_{in}=120V_{ac}$)



----- $I_o=3300mA$

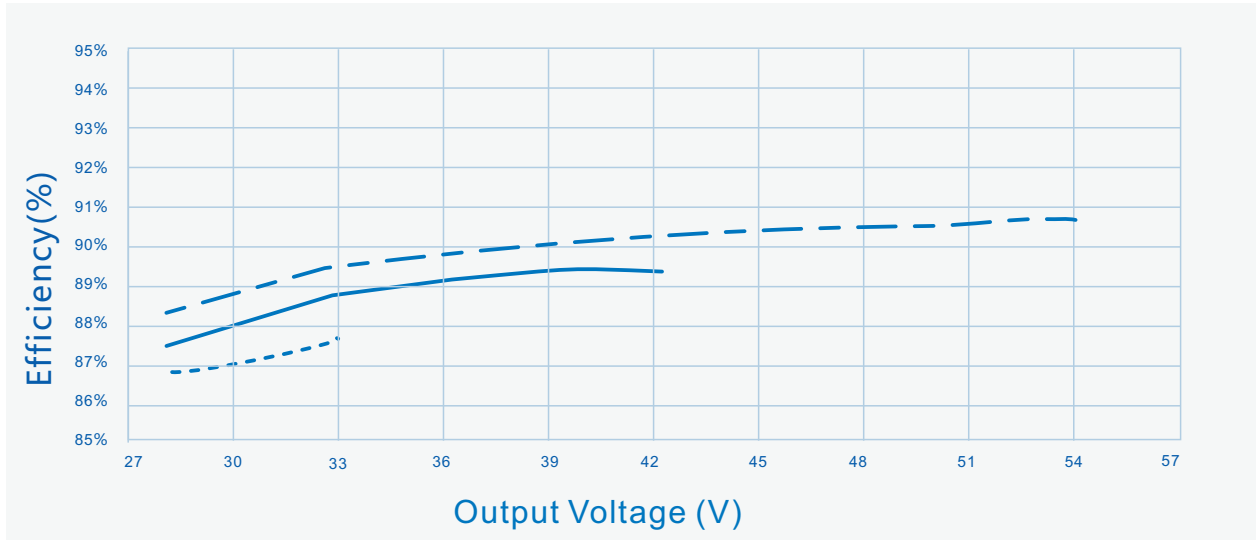
————— $I_o=2400mA$

- - - - $I_o=1850mA$

SS-100CP Series LED Driver

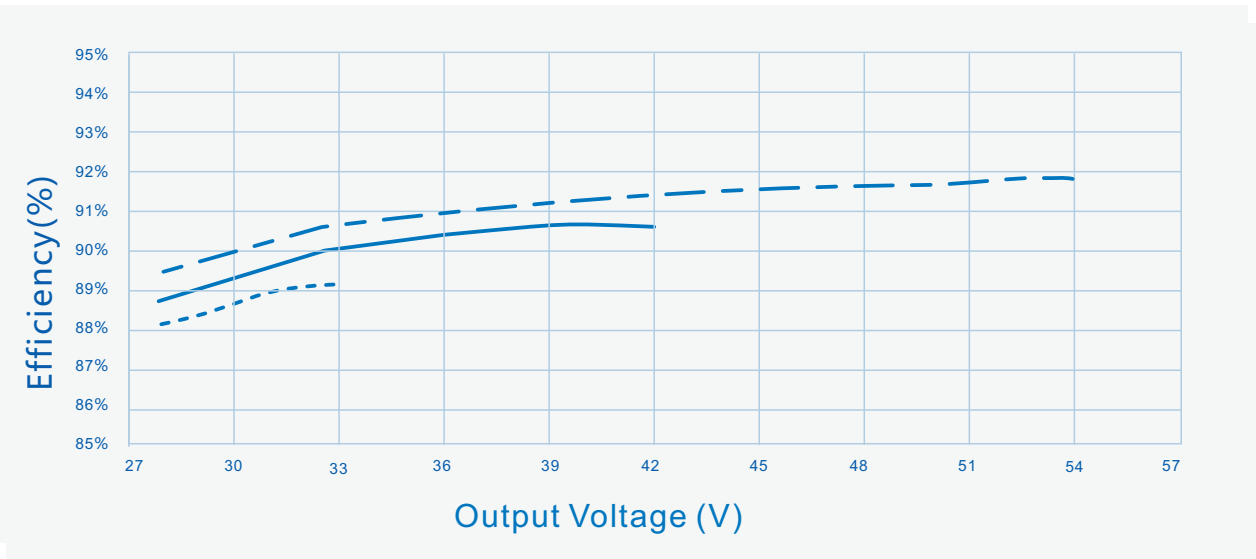
Performance Curves:

Efficiency Vs. Output Voltage ($V_{in}=220V_{ac}$)



----- $I_o=3300mA$ _____ $I_o=2400mA$ - - - - $I_o=1850mA$

Efficiency Vs. Output Voltage ($V_{in}=277V_{ac}$)

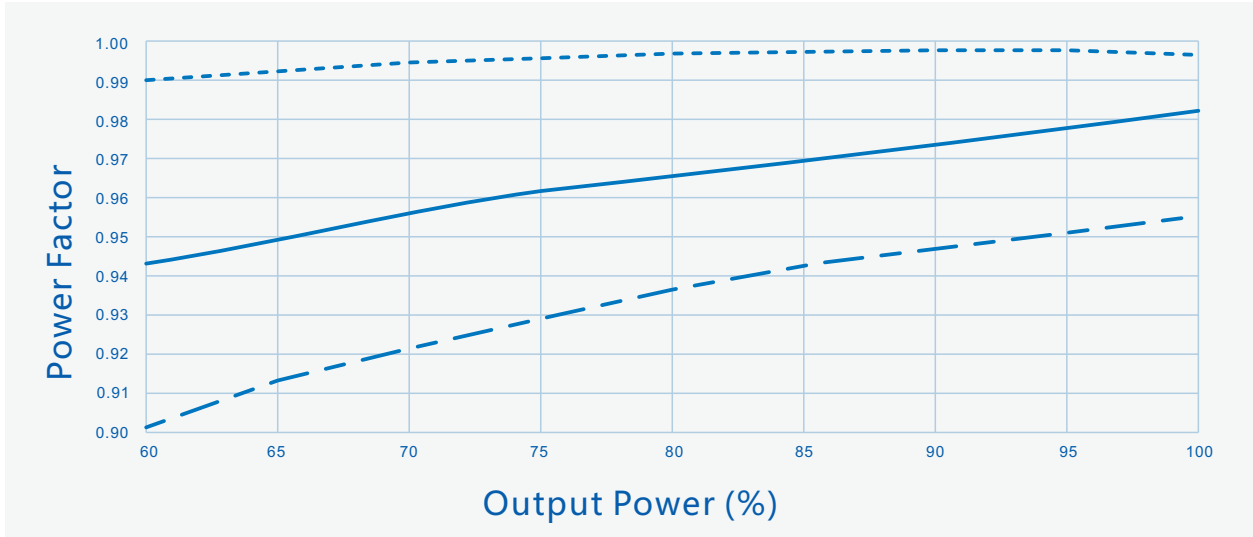


----- $I_o=3300mA$ _____ $I_o=2400mA$ - - - - $I_o=1850mA$

SS-100CP Series LED Driver

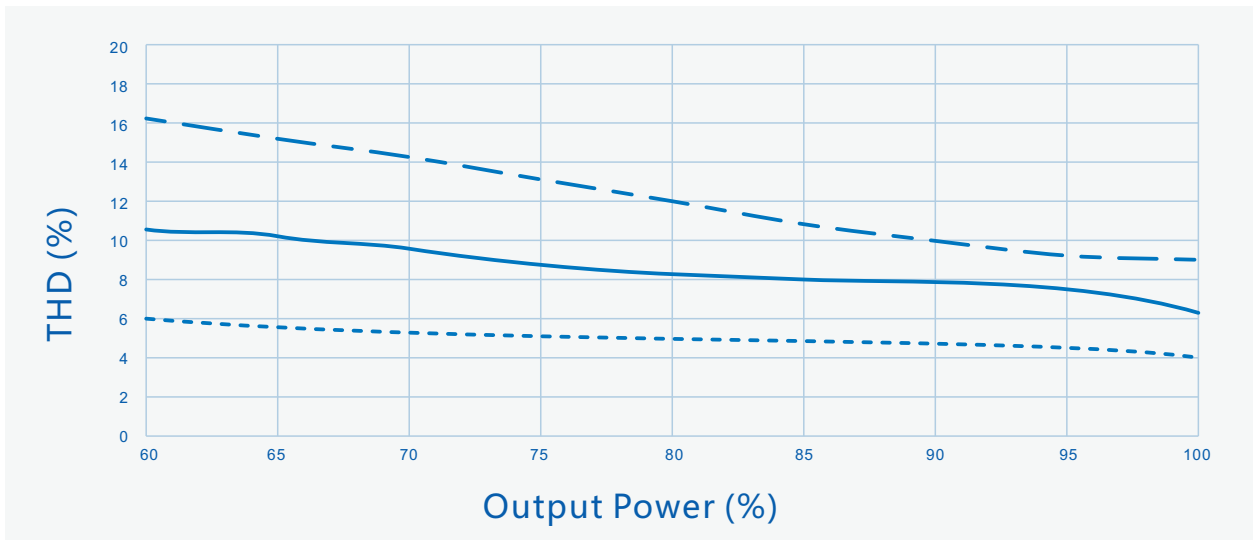
Performance Curves:

Power Factor Vs. Output Power



----- Vin=120Vac ——— Vin=220Vac - - - Vin=277Vac

THD Vs. Output Power

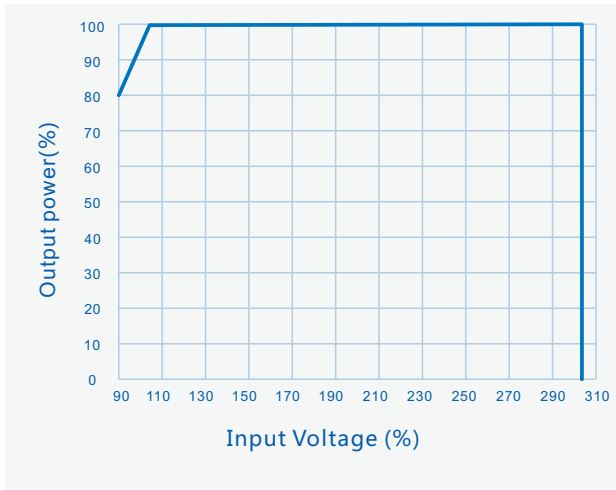


----- Vin=120Vac ——— Vin=220Vac - - - Vin=277Vac

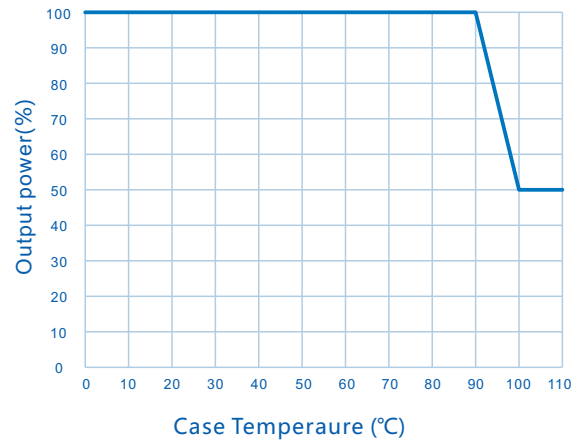
SS-100CP Series LED Driver

Performance Curves:

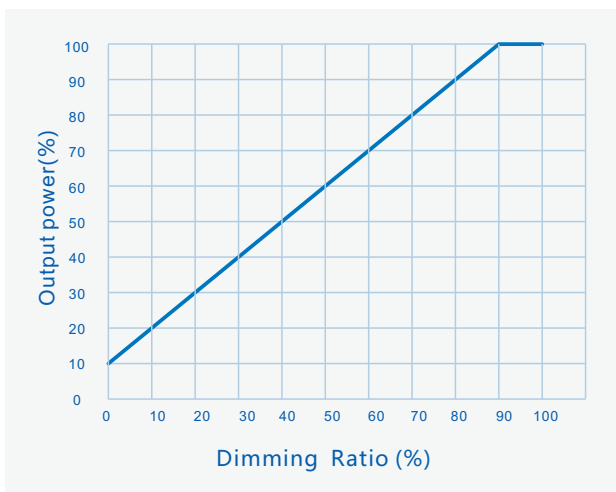
Output power Vs. Input Voltage
(Ta Max.60°C)



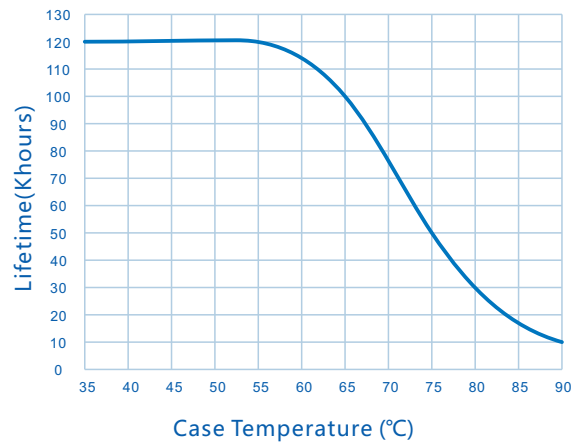
Output power Vs. Case Temperature



Output Power Vs. Dimming

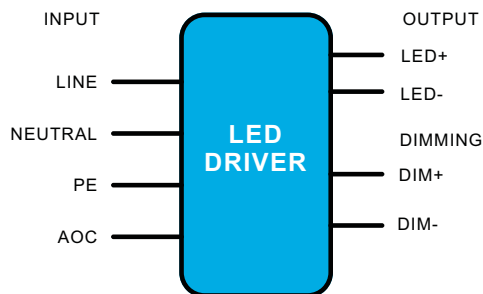


Lifetime Vs. Case Temperature



SS-100CP Series LED Driver

Mechanical characteristics(Unit: mm)



AC Input Cable(Lead Length outside enclosure 350±10mm):

UL model: SJTW,3*0.824mm²,O.D: 7.8mm,Black:L,White:N,Green:PE
 Euro model: H05RN-F,3*1.0mm², O.D:7.4mm,Brown:L, Blue:N, Yellow/Green:PE
 Global model: SJOW,3*1.04mm², O.D:8.0mm,Brown:L, Blue:N, Yellow/Green:PE

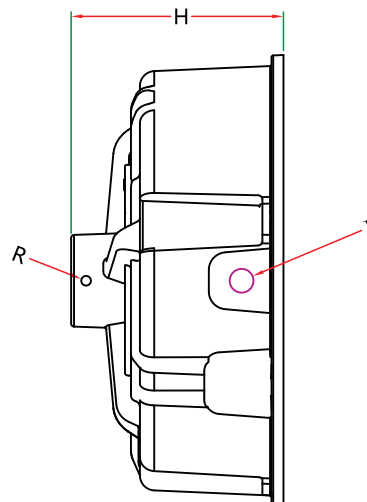
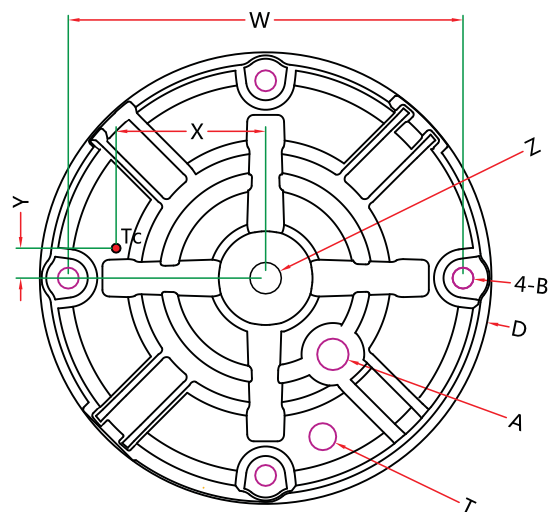
DC Output Cable(Lead Length outside enclosure 250±10mm):

UL model: SJTW,2*0.824mm²,O.D: 7.6mm,Red:LED+, Black:LED-
 Euro model: H05RN-F,2*1.0mm², O.D:7.0mm, Brown:LED+, Blue:LED-
 Global model: SJOW,2*1.0mm², O.D:7.7mm, Brown:LED+, Blue:LED-

DIM Cable(Lead Length outside enclosure 220±10mm):

UL/Euro/Global model: UL 2733, 2*0.34mm², O.D: 6.0mm, Purple : DIM+, Gray: DIM-

Name Description	Standard code	mm(In.)
PG Size	A	M12*1.5
Fixed Screw Diameter	4-B	Φ7.0(0.28)
Case Diameter	D	Φ132.0(5.2)
Height	H	71.5(2.82)
ADJ Hole	I	ADJ./IO
Ring Hole	Z	M10*1.5(Depth 18mm) G1/2(Depth 17mm)
Ring Fixed Hole	R	M4*0.7
Dim cable hole	T	Optional
Fixed Size	W	113.0(4.45)
Case temperature	TC	85°C
TC point position	X	33(1.3)
TC point position	Y	8(0.31)



SS-100CP Series LED Driver



Installation Tips

1. Highly recommended to seal the adjustable hole with silicon glue(#704 preferred) after adjusting the driver's output current. Torsion with proper strength to avoid permanent damage to the potentiometer inside.
2. Dimming leads should be capped if not in use to avoid dimming circuit damage caused by external signals.

Package

- Outside carton dimension: L×W×H =500mm×390mm×170mm;
- 10PCS/Carton;
- Net weight/PC: 1.2kg;Gross weight/Carton: 13kg;
- Please refer to the product name, model number, manufacturer identification, quality inspection certificate, manufacturing date Etc. on the package. and LED power supply instruction manual in the package.

Transportation

Packaging is designed suitable for transportation by trucks, vessels and flights. The products should be shielded from direct sunshine, loaded/unloaded with caution.

Storage

The product storage meets the standard of the GB 3873 - 83.
Products should be rechecked if stock for over 1 year before installation.

RoHS

Products comply with European directive 2011/65/EC.

REVISION HISTORY

Version	Description of Change	Changed Date	Remark
V00	Original release	2018/10/18	
V01	Update structure diagram	2019/04/25	
V02	Update structure diagram	2019/06/17	
V03	Update wire description	2019/09/09	

