



# SOSEN LED Driver, Your Smart Choice

## Specifications

### SS-100L Series LED Driver

Model: SS-100L-XX\*

Description: 100W LED Driver

Rev.: V03

Release Date: 2019-09-07

# SS-100L Series LED Driver

**SOSEN**  
LED DRIVER



LED DRIVER

L Series



## Features:

- Efficiency up to 90%
- Isolated dimming: 1-10V, PWM, Resistor
- Non-isolated dimming: 1-10V, PWM
- Protections: SCP/OTP/OVP/OPP
- Class P
- Class 2
- TYPE HL, suitable for hazardous locations
- Surge protection: L/N-PE: 4kV, L-N: 2kV
- Warranty: 5 years



**RoHS Class P**

## Description :

SS-100L series are 100W LED driver for indoor applications with 108-305Vac input. The compact design, high efficiency and good thermal management enhance the driver's reliability and lifespan with OVP, SCP and OTP.

## Model List:

Model	AC Input Range	Max. Pout	Vout Range	Full Power Vo Range	Iout	THD(Typ.)	PF(Typ.)	Eff.(Typ.)	Max.Tc
SS-100L-36*	108-305Vac	96.1W	28-36V	36V	2.67A	10%	0.98	89%	90°C
SS-100L-42*	108-305Vac	96.6W	30-42V	42V	2.3A	10%	0.98	89%	90°C
SS-100L-48*	108-305Vac	96W	38-48V	48V	2.0A	10%	0.98	90%	90°C
SS-100L-54*	108-305Vac	96.1W	40-54V	54V	1.78A	10%	0.98	90%	90°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);
- Suffix BN for model with 2-in-1 non-isolated dimming (1-10V, PWM)

# SS-100L 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			0.91A	120Vac, Full load
Max Input Power			110W	120Vac, Full load
Max Inrush Current(120Vac)			110A	Cold start
Max Inrush Current(220Vac)			160A	Cold start
Max Inrush Current(277Vac)			170A	Cold start
No Load Power			1W	220Vac/50Hz, No load
Power Factor	0.97	0.98		220Vac/50Hz, Full load
	0.96			120-277Vac/50Hz, 70-100% load
THD		8%	20%	220Vac/50Hz, Full load
			20%	120-277Vac/50Hz, 70-100% load

# SS-100L Series LED Driver

## Output Characteristics(SS-100L-36\*):

Parameter	Min.	Typ.	Max.	Remark
Output Voltage Range	28V		36V	
Rated Output Voltage		36V		
Rated Output Current		2.67A		
No Load Voltage			48V	
Efficiency @120Vac	87.0%	88.0%		Output 36V/2.67A
Efficiency @220Vac	89.0%	90.0%		Output 36V/2.67A
Efficiency @277Vac	89.0%	90.0%		Output 36V/2.67A
Output Current Tolerance	-5%		+5%	
Output Current Ripple(PK-AV)			10%	
Start-up Current Overshoot			10%	Full load
Start-up Time			0.5S	120Vac
			0.5S	220Vac
Line Regulation	-1%		+1%	Full load
Load Regulation	-2%		+2%	
Temperature Coefficient	-0.03%/°C		+0.03%/°C	Tc:0°C~90°C
OTP	90°C	100°C	110°C	Tc, Decreases output current, returning to normal after over temperature is removed.
Short Circuit Protection			10W	Driver will not be damaged, Hiccup mode

# SS-100L Series LED Driver

## Output Characteristics(SS-100L-42\*):

Parameter	Min.	Typ.	Max.	Remark
Output Voltage Range	30V		42V	
Rated Output Voltage		42V		
Rated Output Current		2.3A		
No Load Voltage			48V	
Efficiency @120Vac	87.0%	88.0%		Output 42V/2.3A
Efficiency @220Vac	89.0%	90.0%		Output 42V/2.3A
Efficiency @277Vac	90.0%	91.0%		Output 42V/2.3A
Output Current Tolerance	-5%		+5%	
Output Current Ripple(PK-AV)			10%	
Start-up Current Overshoot			10%	Full load
Start-up Time			0.5S	120Vac
			0.5S	220Vac
Line Regulation	-1%		+1%	Full load
Load Regulation	-2%		+2%	
Temperature Coefficient	-0.03%/°C		+0.03%/°C	Tc:0°C~90°C
OTP	90°C	100°C	110°C	Tc, Decreases output current, returning to normal after over temperature is removed.
Short Circuit Protection			10W	Driver will not be damaged, Hiccup mode

# SS-100L Series LED Driver

## Output Characteristics(SS-100L-48\*):

Parameter	Min.	Typ.	Max.	Remark
Output Voltage Range	38V		48V	
Rated Output Voltage		48V		
Rated Output Current		2.0A		
No Load Voltage			60V	
Efficiency @120Vac	87.0%	88.0%		Output 48V/2.0A
Efficiency @220Vac	89.0%	90.0%		Output 48V/2.0A
Efficiency @277Vac	90.0%	91.0%		Output 48V/2.0A
Output Current Tolerance	-5%		+5%	
Output Current Ripple(PK-AV)			10%	
Start-up Current Overshoot			10%	Full load
Start-up Time			0.5S	120Vac
			0.5S	220Vac
Line Regulation	-1%		+1%	Full load
Load Regulation	-2%		+2%	
Temperature Coefficient	-0.03%/°C		+0.03%/°C	Tc:0°C~90°C
OTP	90°C	100°C	110°C	Tc, Decreases output current, returning to normal after over temperature is removed.
Short Circuit Protection			10W	Driver will not be damaged, Hiccup mode

# SS-100L Series LED Driver

## Output Characteristics(SS-100L-54\*):

Parameter	Min.	Typ.	Max.	Remark
Output Voltage Range	40V		54V	
Rated Output Voltage		54V		
Rated Output Current		1.78A		
No Load Voltage			60V	
Efficiency @120Vac	88.0%	89.0%		Output 54V/1.78A
Efficiency @220Vac	90.0%	91.0%		Output 54V/1.78A
Efficiency @277Vac	90.0%	91.0%		Output 54V/1.78A
Output Current Tolerance	-5%		+5%	
Output Current Ripple(PK-AV)			10%	
Start-up Current Overshoot			10%	Full load
Start-up Time			0.5S	120Vac
			0.5S	220Vac
Line Regulation	-1%		+1%	Full load
Load Regulation	-2%		+2%	
Temperature Coefficient	-0.03%/°C		+0.03%/°C	Tc:0°C~90°C
OTP	90°C	100°C	110°C	Tc, Decreases output current, returning to normal after over temperature is removed.
Short Circuit Protection			10W	Driver will not be damaged, Hiccup mode

# SS-100L Series LED Driver

## Other Characteristics:

Parameter		Min.	Typ.	Max.	Remark
1-10V Dimming (Optional)	Dim Vmax	0V		12V	1. 3-in-1 dimming: 1-10V, PWM and Resistor dimming 2. 2-in-1 dimming: 1-10V, PWM dimming
	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≤75°C)		≥62,000 hours			80% load
MTBF		236,000 hours			220Vac, Full load, Ta=25°C (MIL-HDBK-217F)
Tc		90°C			
Warranty		5 years			Refer to life time drawing
Net Weight		530g			
Dimension		215.2mm*45.5mm*31mm			L x W x H

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



# SS-100L Series LED Driver

## Environmental Requirements

Parameter	Min.	Typ.	Max.	Remark
Operating Temperature(Tcase)	-40°C	25°C	+90°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	EN 61347-2-13:2014 EN61347-1:2008+A1:2011+A2:2013 EN62493:2015	✓	
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	FCC Part15: Subpart A ANSI 63.4:2014	Class A
Radiation Emission	FCC Part15: Subpart A ANSI 63.4:2014	Class A
Harmonic Current Emissions	IEC/EN 61000-3-2	Class C
Surge	IEC/EN61000-4-5	Difference mode 2kV, Common mode 4kV,Criterion B
Ring Wave	IEC/EN 61000-4-12	Difference mode 4kV, Common mode 4kV,Criterion B

# SS-100L Series LED Driver

## Safety Test Items:

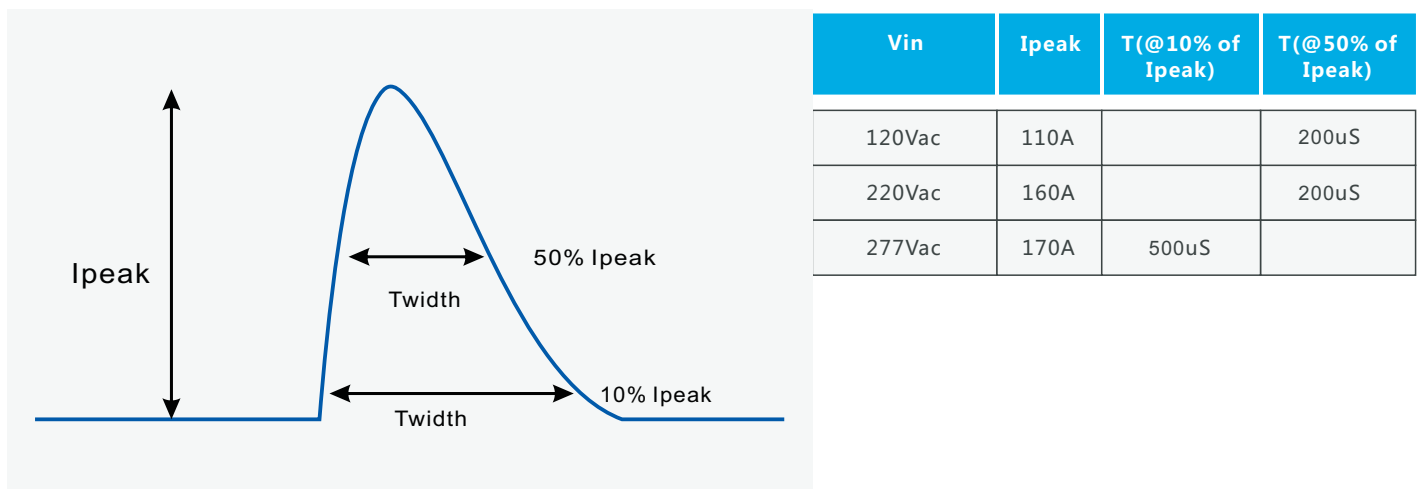
Safety test items	Technical Indicators			Remark
Insulation Requirements	UL Insulation Requirements	TUV Insulation Requirements	CCC Insulation Requirements	
Input-Output	1600Vac	3000Vac	3750Vac	Reinforced insulation
Input-Case	1600Vac	1500Vac	1875Vac	Basic insulation
Input-Dim	1600Vac	3000Vac	3750Vac	Reinforced insulation(Only for -B models)
Input-Dim	1600Vac	1000Vac	1000Vac	Additional insulation(Only for -B models)
Output-Case	500Vac	1000Vac	1000Vac	Function insulation
Dim-Case	500Vac	250Vac	250Vac	(Only for -B models)
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:

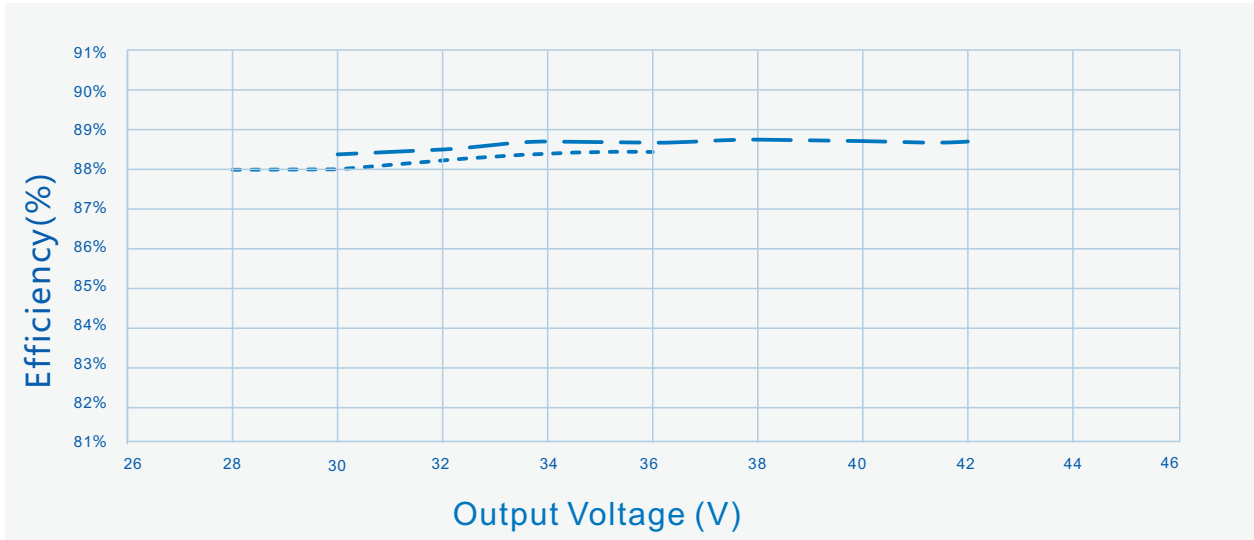
### Input Inrush Current



# SS-100L Series LED Driver

## Performance Curves:

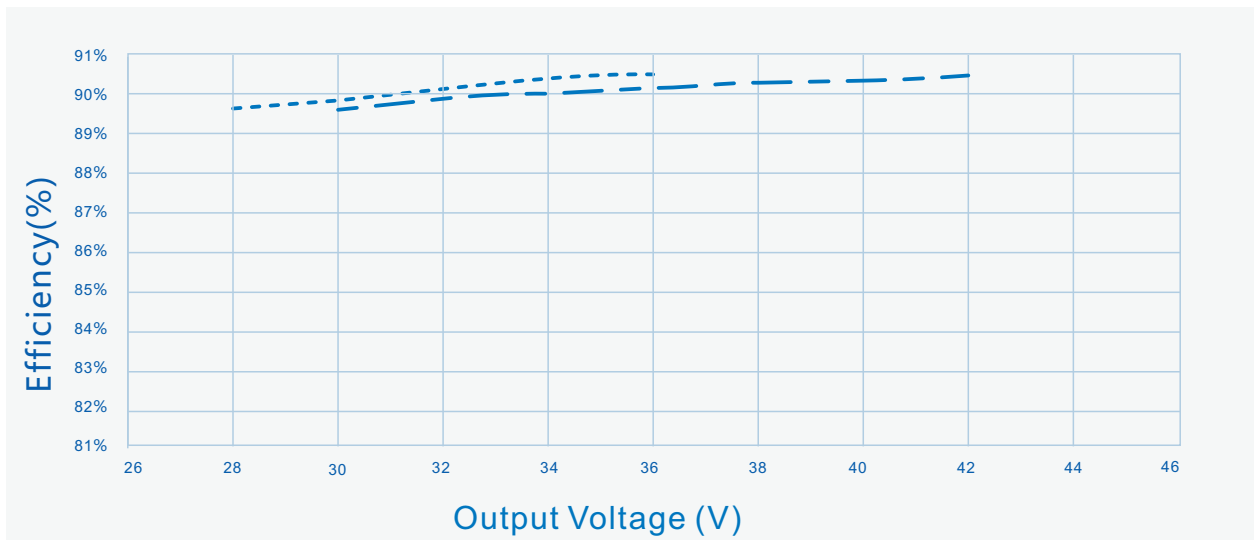
Efficiency Vs. Output Voltage ( $V_{in}=120Vac$ )



----- 36V/2.67A

- . - . - 42V/2.3A

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



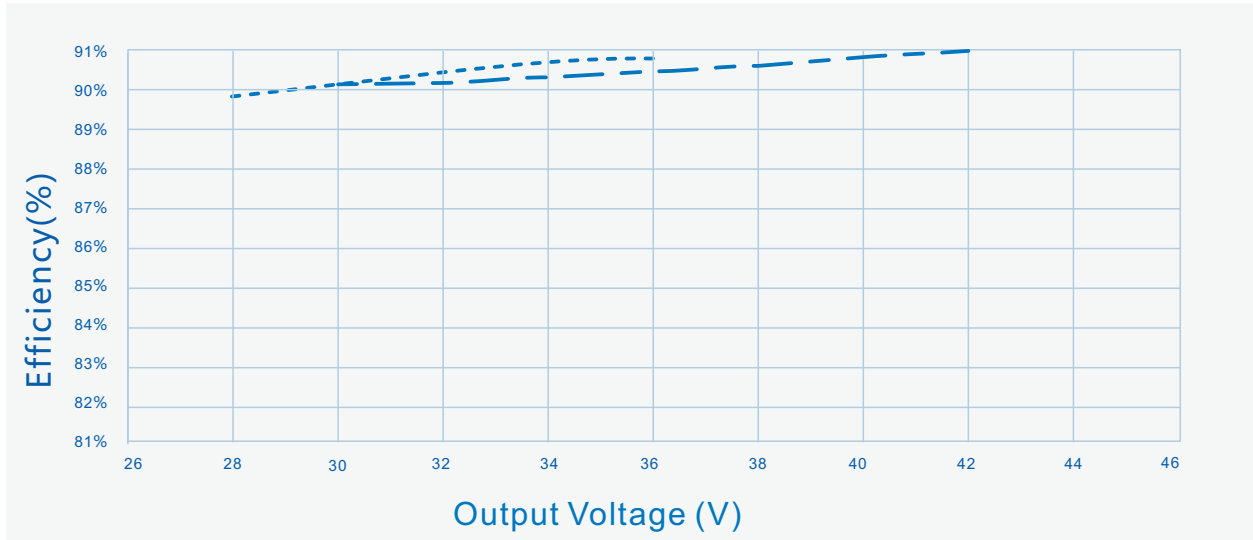
----- 36V/2.67A

- . - . - 42V/2.3A

# SS-100L Series LED Driver

## Performance Curves:

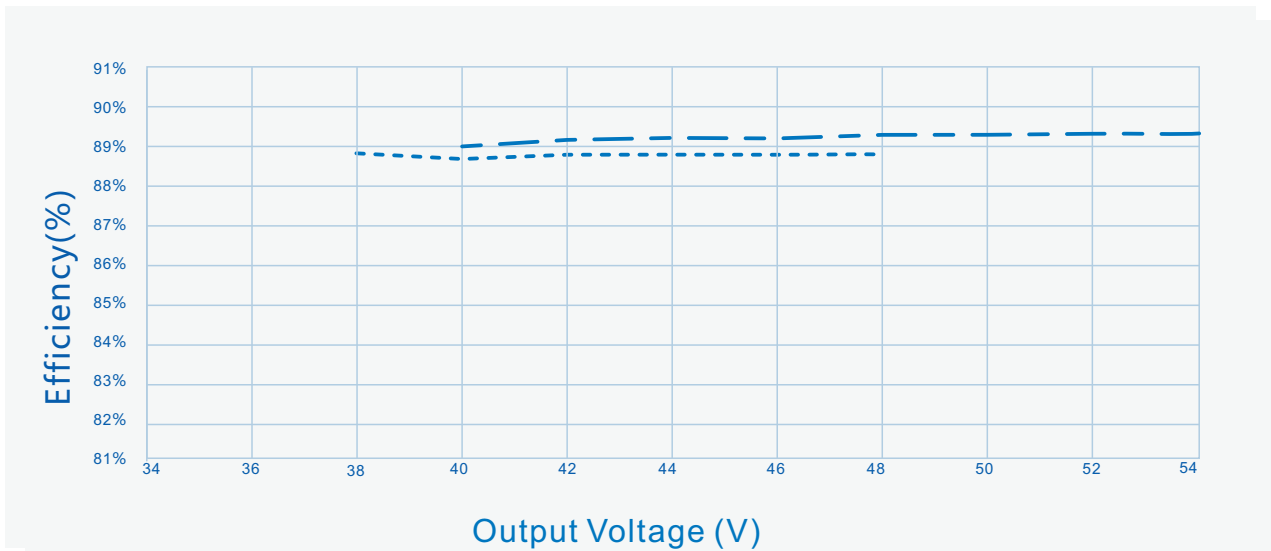
Efficiency Vs. Output Voltage ( $V_{in}=277V_{ac}$ )



----- 36V/2.67A

- . - . - 42V/2.3A

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



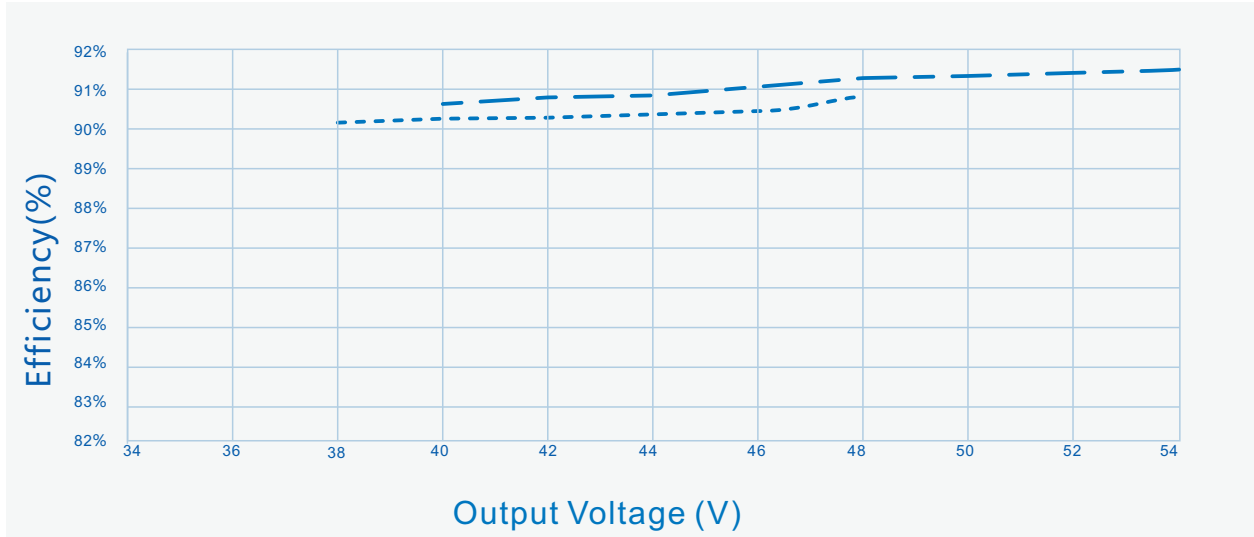
----- 48V/2.0A

- . - . - 54V/1.78A

# SS-100L Series LED Driver

## Performance Curves:

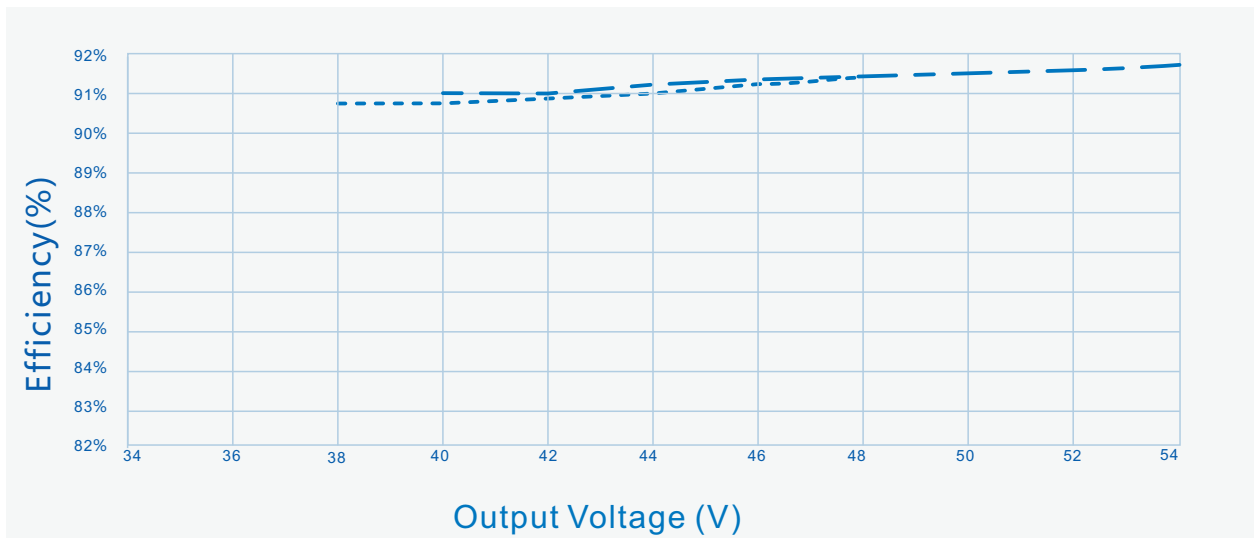
Efficiency Vs. Output Voltage ( $V_{in}=220V_{ac}$ )



----- 48V/2.0A

- . - . - 54V/1.78A

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



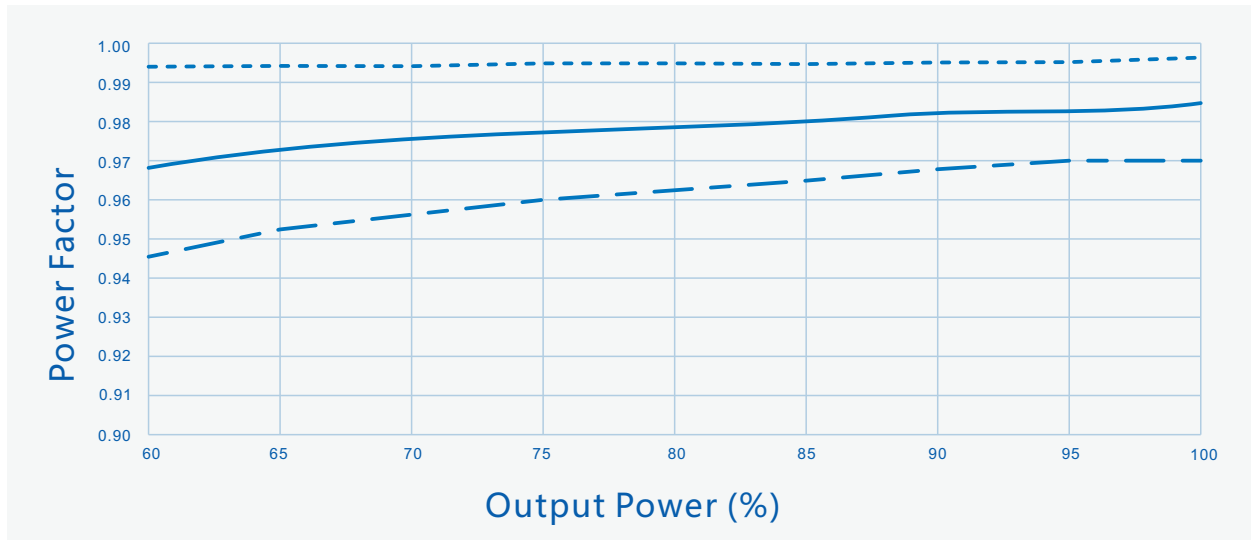
----- 48V/2.0A

- . - . - 54V/1.78A

# SS-100L Series LED Driver

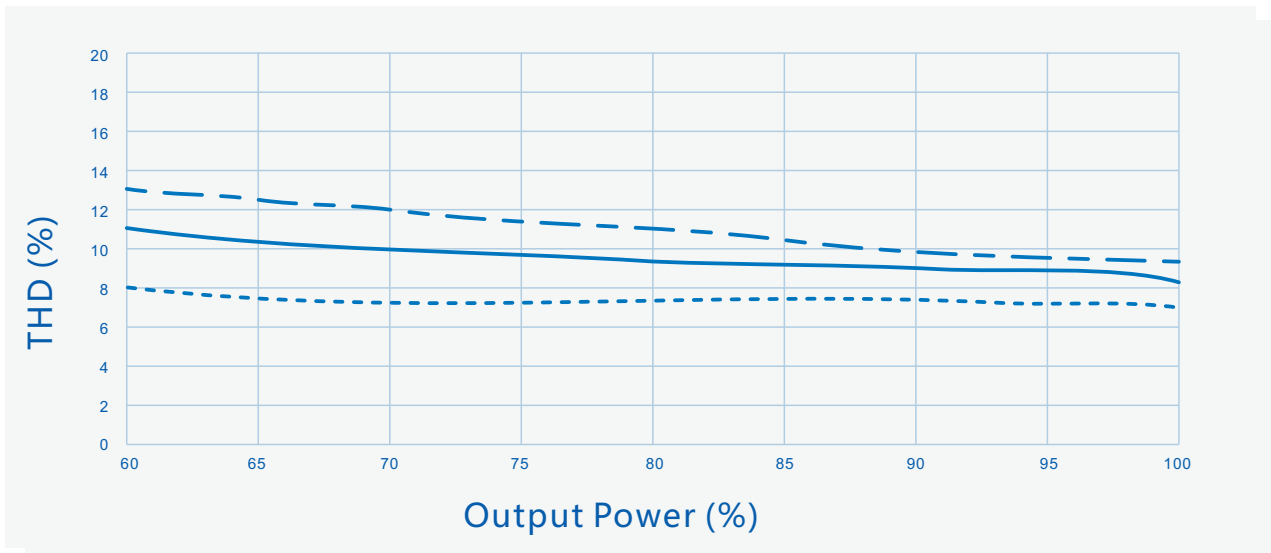
## Performance Curves:

### Power Factor Vs. Output Power



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

### THD Vs. Output Power

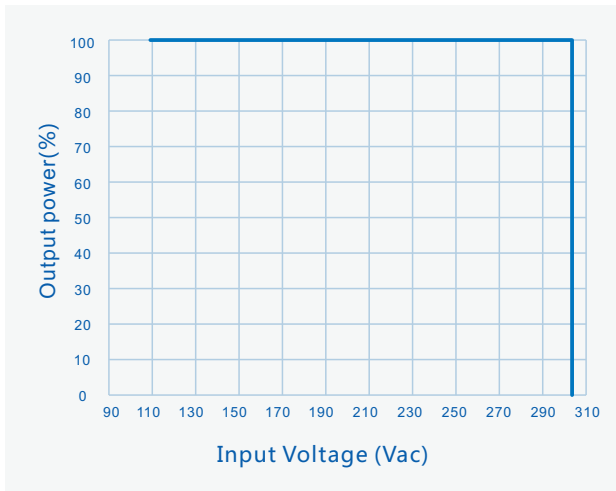


----- Vin=120Vac      ——— Vin=220Vac      - - - Vin=277Vac

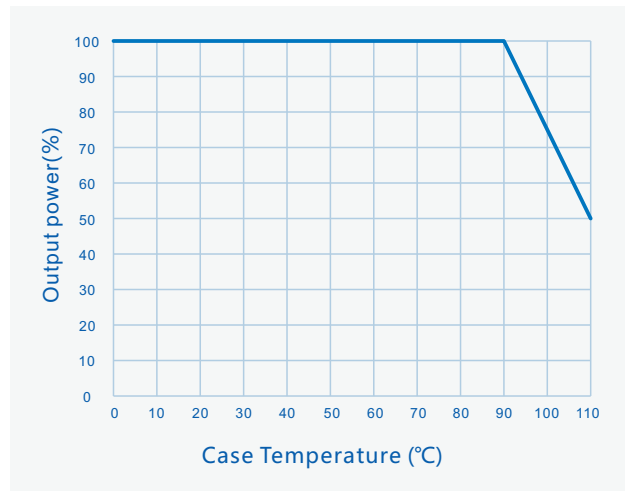
# SS-100L Series LED Driver

## Performance Curves:

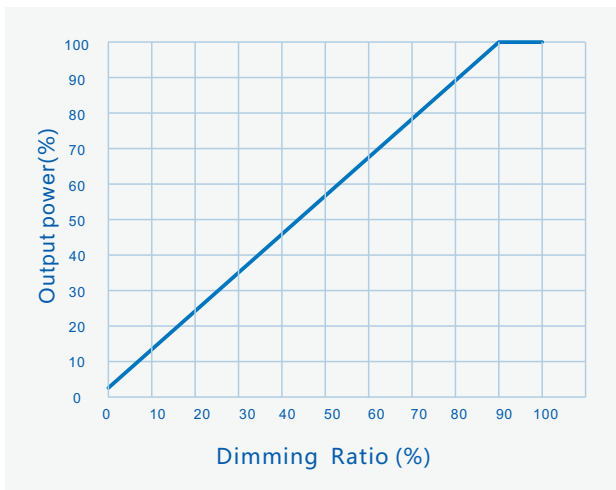
### Output power Vs. Input Voltage (Ta Max.60°C)



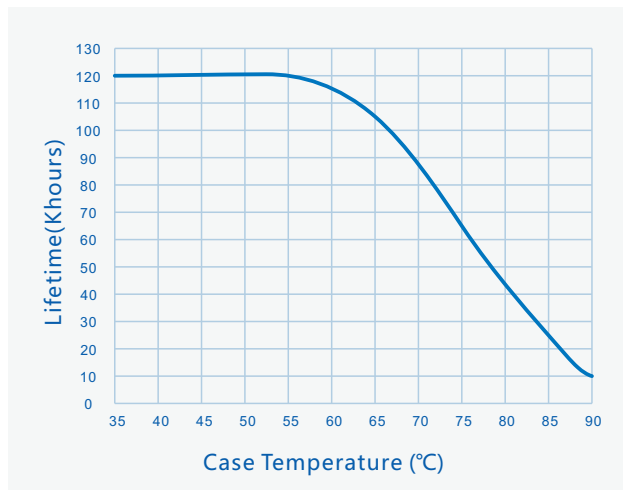
### Output power Vs. Case Temperature



### Output Power Vs. Dimming

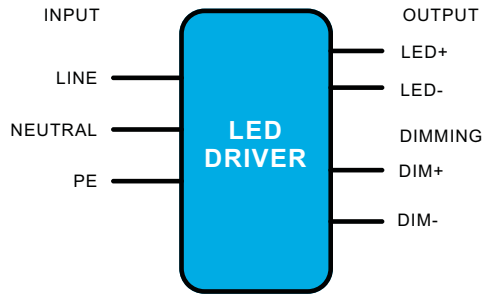


### Lifetime Vs. Case Temperature



# SS-100L Series LED Driver

## Mechanical characteristics(Unit: mm)



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

UL model: 18AWG 105°C 600V,I.D: 1.0mm,O.D: 2.2mm,Electronic line, Black:L, White:N,Green:PE

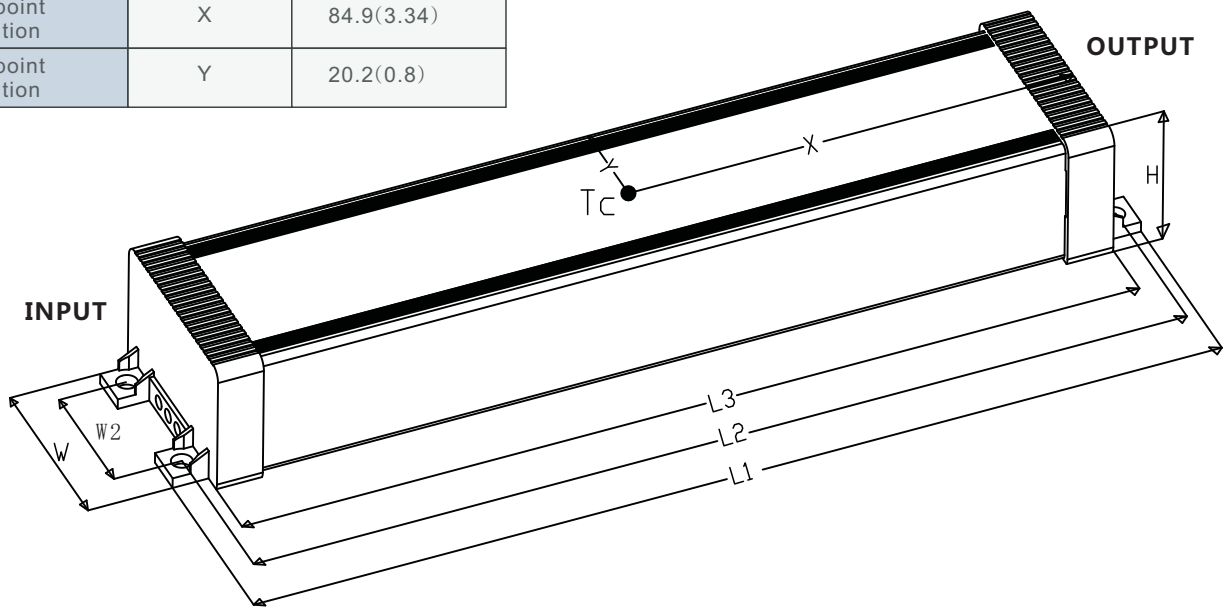
### DC Output Cable(Lead Length outside enclosure 350±10mm):

UL model: 18AWG 105°C 600V,I.D: 1.0mm,O.D: 2.2mm,Electronic line, Red:LED+, Black:LED-

### DIM Cable(Lead Length outside enclosure 250±10mm):

UL model: 18AWG 105°C 600V,I.D: 1.0mm,O.D: 2.2mm,Electronic line, Purple : DIM+, Gray: DIM-

Name Description	Standard Code	mm(In.)
Case Length	L3	199.2(7.84)
Case Width	W1	45.5(1.79)
Case Height	H	31(1.22)
Overall Length	L1	215.2(8.47)
Mounting Hole Length	L2	207.2(8.16)
Mounting Hole Width	W2	28(1.1)
TC point position	X	84.9(3.34)
TC point position	Y	20.2(0.8)





# SS-100L 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 =495mm×385mm×162mm;
- 28PCS/Carton;
- Net weight/PC: 0.53kg;Gross weight/Carton: 16kg;
- 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	2018/12/28	
V01	Change the dimming parameters	2019/03/15	
V02	Update structure diagram	2019/04/04	
V03	Increase TUV certification	2019/09/07	

