

Features

- High Efficiency (Up to 88%)
- Constant Voltage Output
- Active Power Factor Correction (Typical 0.95)
- Input Surge Protection: 4kV line-line, 6kV line-earth
- All-Round Protection: OVP, SCP, OCP, OTP
- Waterproof (IP67) and UL Dry / Damp / Wet Location
- Class 2 & SELV Output
- 5 Years Warranty



Description

The EUV-052SxxxST series is a 52W, constant-voltage IP67 LED driver that operates from 90~305 Vac input with excellent power factor. It is created for architecture lighting, decorative lighting, tunnel and street lighting. The high efficiency of these drivers and metal case enable them to run cooler, significantly improving reliability and extending product life. To ensure trouble-free operation, protection is provided against input surge, output over voltage, short circuit, over current, and over temperature.

Models

Output Voltage	Input Voltage Range(1)	Output Current Range	Max. Output Power	Typical Efficiency (2)	Power Factor		Model Number
					120Vac	220Vac	
24 Vdc	90 ~ 305 Vac	0 ~ 2170 mA	52 W	85%	0.96	0.95	EUV-052S024ST ⁽³⁾
36 Vdc	90 ~ 305 Vac	0 ~ 1450 mA	52 W	86%	0.96	0.95	EUV-052S036ST ⁽⁴⁾
48 Vdc	90 ~ 305 Vac	0 ~ 1080 mA	52 W	88%	0.96	0.95	EUV-052S048ST ⁽⁵⁾

Notes: (1) UL, FCC certified input voltage range: 100-277Vac; other certified input voltage range except UL & FCC: 100-240Vac.

(2) Measured at full load and 220 Vac input.

(3) Class 2 output (USR & CNR both) for wet location.

(4) Class 2 output (USR); Class 2 output (CNR only) for wet location.

(5) Class 2 output (USR), Non-Class 2 output (CNR).

Input Specifications

Parameter	Min.	Typ.	Max.	Notes
Input Voltage	90 Vac	-	305 Vac	
Input Frequency	47 Hz	-	63 Hz	
Leakage Current	-	-	0.75 MIU	UL8750; 277Vac/ 60Hz
	-	-	0.75 mA	IEC60598-1; 240Vac/ 60Hz
Input AC Current	-	-	0.8 A	Measured at full load and 100 Vac input.
	-	-	0.4 A	Measured at full load and 220 Vac input.

Input Specifications (Continued)

Parameter	Min.	Typ.	Max.	Notes
Inrush Current	-	-	60 A	At 220Vac input 25°C Cold Start. Duration=210 μs, 10%Ipk-10%Ipk.
Inrush Current(I ² t)	-	-	0.2 A ² s	
Power Factor	0.90	-	-	At 100Vac-277Vac, 50-60Hz, 75%load-100%load(39~52W)
THD	-	-	20%	

Output Specifications

Parameter	Min.	Typ.	Max.	Notes
Output Voltage Tolerance	-5%Vo		5%Vo	
Output Voltage Ripple(pk-pk) Vo = 24 V Vo = 36 V Vo = 48 V	- - -	- - -	3 V 4 V 4 V	Load conditions, Measured by 20 MHz bandwidth oscilloscope and the output paralleled a 0.1 uF ceramic capacitor and a 10 uF electrolytic capacitor.
No Load Output Voltage Vo = 24 V Vo = 36 V Vo = 48 V	- - -	- - -	28V 40V 52V	
Output Voltage Overshoot/ Undershoot	-	-	10%Vo	At full load condition.
Line Regulation	-	-	±2%	At full load condition.
Load Regulation	-	-	±3%	
Turn-on Delay Time	-	0.6 s	1.0 s	Measured at 120Vac input, 75%load-100%load
	-	0.3 s	0.5 s	Measured at 220Vac input, 75%load-100%load
Temperature Coefficient of Vo	-	0.2%/°C	-	Case temperature = 0°C ~Tc max

Note: All specifications are typical at 25°C unless otherwise stated.

General Specifications

Parameter	Min.	Typ.	Max.	Notes
Efficiency at 120 Vac input: Vo = 24 V Vo = 36 V Vo = 48 V	83% 84% 85%	84% 85% 86%	- - -	Measured at full load and steady-state temperature in 25°C ambient.
Efficiency at 220 Vac input: Vo = 24 V Vo = 36 V Vo = 48 V	84% 85% 87%	85% 86% 88%	- - -	Measured at full load and steady-state temperature in 25°C ambient.
Efficiency at 277 Vac input: Vo = 24 V Vo = 36 V Vo = 48 V	84% 85% 87%	85% 86% 88%	- - -	Measured at full load and steady-state temperature in 25°C ambient.

General Specifications (Continued)

Parameter	Min.	Typ.	Max.	Notes
No Load Power Dissipation	-	-	6 W	
MTBF	321,000 hours	-	-	Measured at 120Vac input, 80%Load and 25°C ambient temperature (MIL-HDBK-217F)
Lifetime	-	93,300 Hours	-	Measured at 120Vac input, 80%Load, Case temperature=60°C @ Tc point. See life time vs. Tc curve for the details
Operating Case Temperature for Safety Tc_s	-40 °C	-	+90 °C	
Operating Case Temperature for Warranty Tc_w	-40 °C	-	+70 °C	Case temperature for 5 years warranty. Humidity: 10% RH to 90% RH
Storage Temperature	-40 °C	-	+85 °C	Humidity: 5% RH to 100% RH
Dimensions Inches (L × W × H) Millimeters (L × W × H)	6.77 × 1.77 × 1.38 172 × 45.0 × 35.0			With mounting ear 7.60 × 1.77 × 1.38 193 × 45.0 × 35.0
Net Weight	-	520 g	-	

Note: All specifications are typical at 25°C unless otherwise stated.

Safety & EMC Compliance

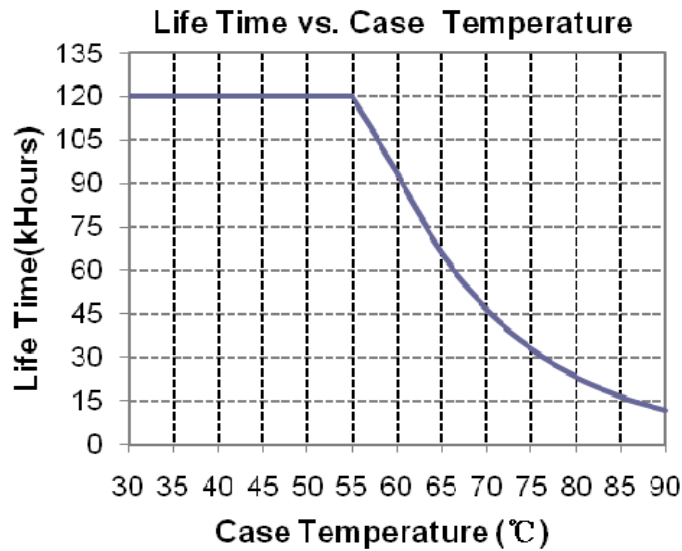
Safety Category	Standard
UL/CUL	UL8750, UL1012, UL1310 Class 2, CSA-C22.2 No. 107.1, CSA C22.2 NO. 223-M91 Class 2
CE	EN 61347-1, EN61347-2-13
KS	KS C 7655
EMI Standards	Notes
EN 55015 ⁽¹⁾	Conducted emission Test & Radiated emission Test
EN 61000-3-2	Harmonic current emissions
EN 61000-3-3	Voltage fluctuations & flicker
FCC Part 15 ⁽¹⁾	ANSI C63.4 Class B
	This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: [1] this device may not cause harmful interference, and [2] this device must accept any interference received, including interference that may cause undesired operation.
EMS Standards	Notes
EN 61000-4-2	Electrostatic Discharge (ESD): 8 kV air discharge, 4 kV contact discharge
EN 61000-4-3	Radio-Frequency Electromagnetic Field Susceptibility Test-RS

Safety & EMC Compliance (Continued)

EMS Standards	Notes
EN 61000-4-4	Electrical Fast Transient / Burst-EFT: Level 3, Criteria A
EN 61000-4-5	Surge Immunity Test: AC Power Line: line to line 4 kV, line to earth 6 kV
EN 61000-4-6	Conducted Radio Frequency Disturbances Test-CS
EN 61000-4-8	Power Frequency Magnetic Field Test
EN 61000-4-11	Voltage Dips
EN 61547	Electromagnetic Immunity Requirements Applies To Lighting Equipment

Note: (1) This LED driver meets the EMI specifications above, but EMI performance of a luminaire that contains it depends also on the other devices connected to the driver and on the fixture itself.

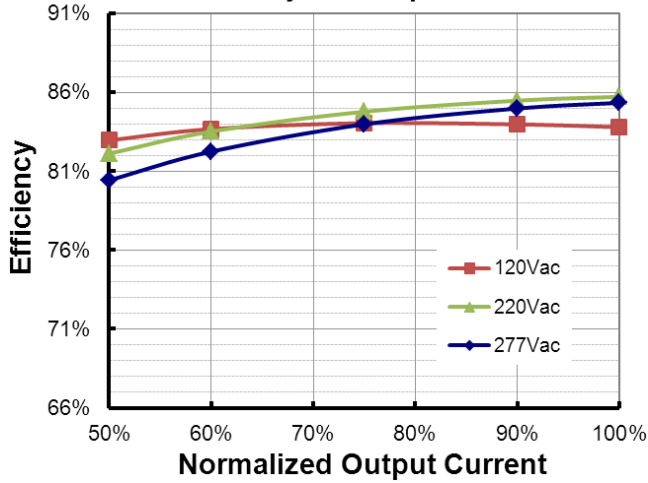
Lifetime vs. Case Temperature



Efficiency vs. Load

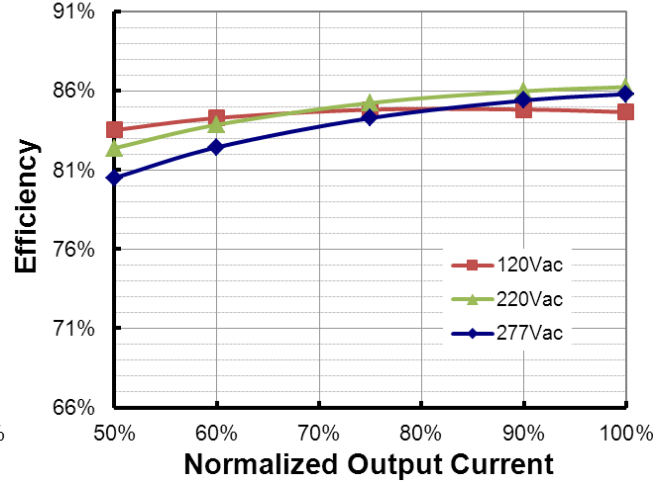
EUV-052S024ST

Efficiency vs. Output Current



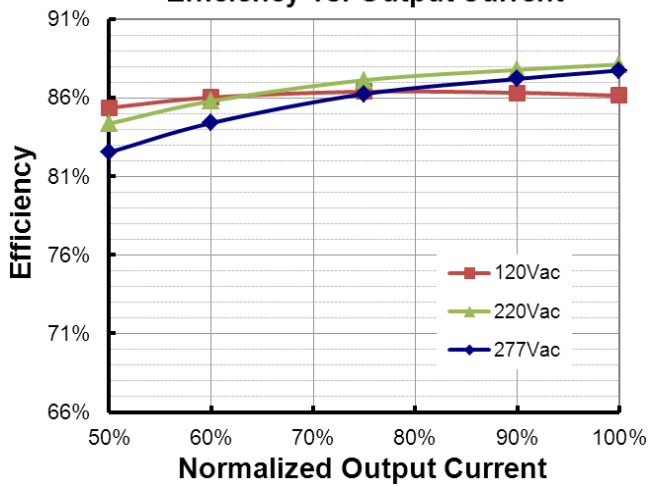
EUV-052S036ST

Efficiency vs. Output Current

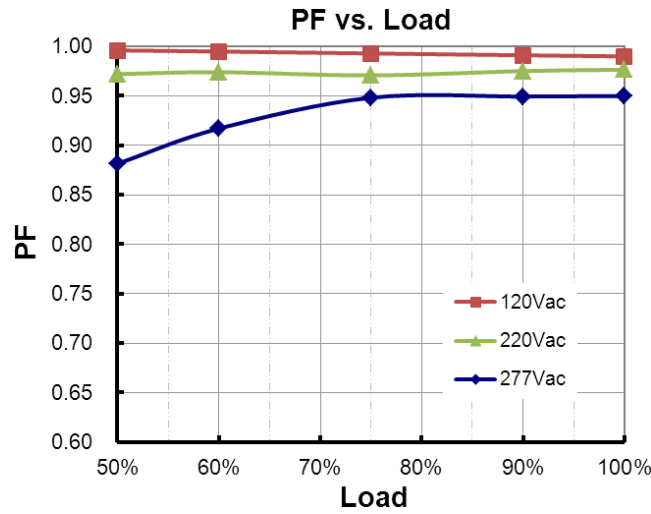


EUV-052S048ST

Efficiency vs. Output Current



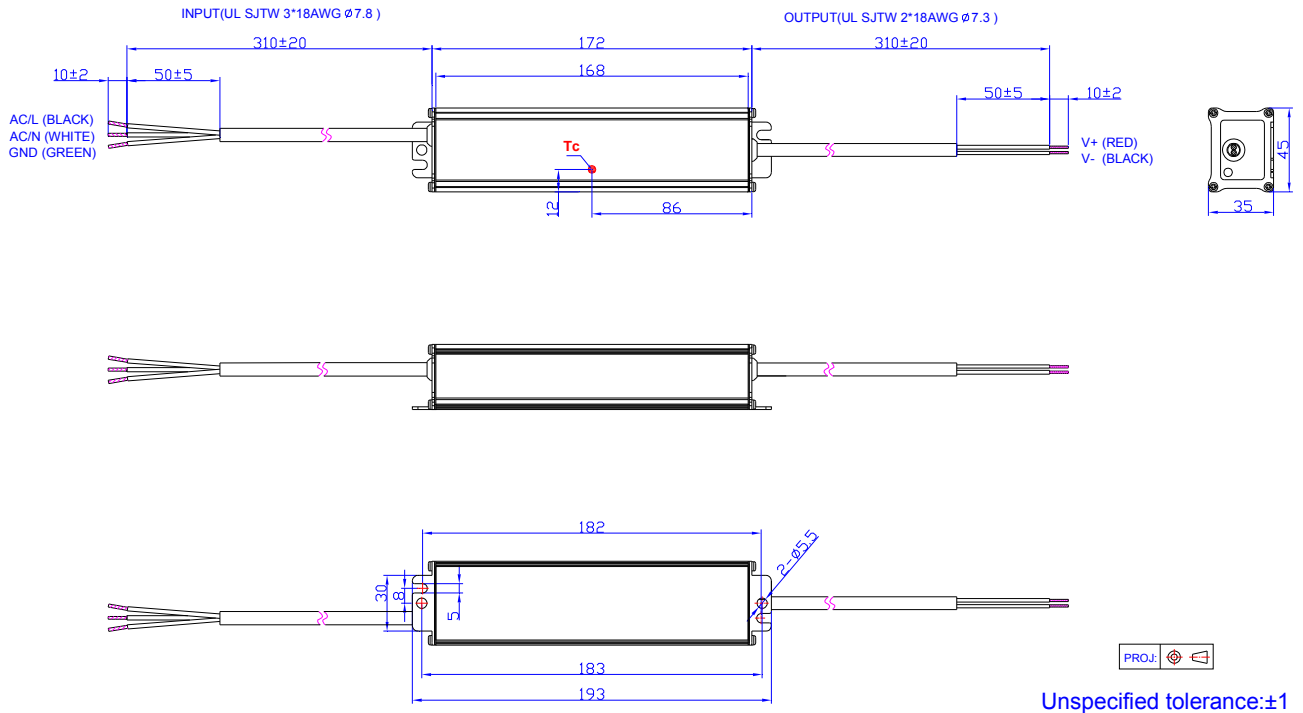
Power Factor



Protection Functions

Parameter	Min.	Typ.	Max.	Notes
Over Current Protection	1.1 I _o	1.40 I _o	1.70 I _o	Hiccup mode. The power supply shall be self-recovery when the fault condition is removed.
Short Circuit Protection	No damage shall occur when any output operating in a short circuit condition. The power supply shall be self-recovery when the fault condition is removed.			
Over Temperature Protection	Auto Recovery. Returning to normal after over temperature is removed.			

Mechanical Outline



RoHS Compliance

Our products comply with the European Directive 2002/95/EC, calling for the elimination of lead and other hazardous substances from electronic products.

Revision History

Change Date	Rev.	Description of Change			
		Item	From	To	
2012-4-24	A	Datasheets Release	/	/	
2012-05-25	B	OTP	/	Added	
2012-06-06	C	Life time vs. Tc Curve	/	Added	
		Notes of life time	/	Updated	
2012-7-2	D	Description of OTP	/	Updated	
2012-7-17	E	Max Case Temperature	/	Updated	
		Mechanical Outline— wire length 320±20mm	/	Corrected	
2012-7-30	F	Min Operating Temperature	-35°C	-40°C	
2012-8-16	G	Derating Curve	/	Updated	
		Inrush Current(I ² t)	/	Added	
		Min PF	/	Added	
		THD Max	/	Added	
		Temperature co-efficient	/	Added	
2012-11-27	H	Life time	Min 50,000hrs	Typical 93,300hrs	
		Life time Curve	/	Updated	
		Mechanical Outline	/	Updated	
2017-04-05	I	Efficiency at 277 Vac input	/	Added	
		Warranty Tc_w	/	Added	
		Environmental Specifications	/	Deleted	
		KS certificate Regulation	/	Added	
		Note of EMI Standard	/	Added	
		Derating Curve	/	Deleted	
		Power Factor Curve	/	Updated	
		Dimensions	Inches (L × W × H) Millimeters (L × W × H)	6.77 × 1.67 × 1.34 172 × 42.4 × 34.0	6.77 × 1.77 × 1.38 172 × 45.0 × 35.0
		Net Weight		480 g	520 g
		Protection Functions - Over Temperature Protection	/	Updated	
		Mechanical Outline	/	Updated	