Features

- High Efficiency (Up to 88%)
- Constant Voltage Output
- Active Power Factor Correction (Typical 0.95)
- Input Surge Protection: DM 4kV, CM 6kV
- All-Round Protection: OVP, SCP, OCP, OTP
- IP67
- SELV Output
- 5 Years Warranty

Description

The *EUV-052SxxxSV* series is a 52W, constant-voltage IP67 LED driver that operates from 90~305 Vac input with excellent power factor. It is created for many lighting applications including architectural, decorative, tunnel and street. 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)	Typical Power Factor		Model Number(3)
					120Vac	220Vac	
24 Vdc	90 ~ 305 Vac	0~2170 mA	52 W	86.0%	0.96	0.95	EUV-052S024SV
36 Vdc	90 ~ 305 Vac	0~1450 mA	52 W	86.0%	0.96	0.95	EUV-052S036SV
48 Vdc	90 ~ 305 Vac	0~1080 mA	52 W	88.0%	0.96	0.95	EUV-052S048SV

Notes: (1) Certified input voltage range: 100-240Vac.
(2) Measured at 100% load and 220 Vac input.
(3) SELV output.

Input Specifications

Parameter	Min.	Typ.	Max.	Notes
Input AC Voltage	90 Vac	-	305 Vac	
Input Frequency	47 Hz	-	63 Hz	
Leakage Current	-	-	0.75 mA	IEC 60598-1; 240Vac/60Hz
Input AC Current	-	-	0.8 A	Measured at 100% load and 100 Vac input.
	-	-	0.4 A	Measured at 100% load and 220 Vac input.
Inrush Current	-	-	60 A	At 220Vac input 25℃ Cold Start. Duration=210 μs, 10%Ipk-10%Ipk.
Inrush Current(I^2t)	-	-	0.2 A^2s	

Input Specifications (Continued)

Parameter	Min.	Typ.	Max.	Notes
Power Factor	0.90	-	-	At 100-277Vac, 50-60Hz, 75%-100% Load (39~52W)
THD	-	-	20%	At 100-277Vac, 50-60Hz, 75%-100% Load (39~52W)

Output Specifications

Parameter	Min.	Typ.	Max.	Notes
Output Voltage Tolerance	-5%Vo		5%Vo	
Ripple and Noise(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.
Output Voltage Overshoot / Undershoot	-	-	10%Vo	At 100% load condition.
No Load Output Voltage Vo = 24 V Vo = 36 V Vo = 48 V	 - - -	 - - -	 28V 40V 52V	
Line Regulation	-	-	±2%	
Load Regulation	-	-	±3%	
Turn-on Delay Time	-	0.6 s	1.0 s	Measured at 120Vac input, 75%-100% load
	-	0.3 s	0.5 s	Measured at 220Vac input, 75%-100% load
Temperature coefficient	-	0.2%/°C	-	Case temperature = 0°C~Tc max

General Specifications

Parameter	Min.	Typ.	Max.	Notes
Efficiency at 120 Vac input: Vo = 24 V Vo = 36 V Vo = 48 V	 82.0% 83.0% 84.0%	 84.0% 85.0% 86.0%	 - - -	Measured at 100% load, 120 Vac input, 25℃ ambient temperature, after the unit is thermally stabilized. It will be about 2.5% lower, if measured immediately after startup.
Efficiency at 220 Vac input: Vo = 24 V Vo = 36 V Vo = 48 V	 84.0% 84.0% 86.0%	 86.0% 86.0% 88.0%	 - - -	Measured at 100% load, 120 Vac input, 25℃ ambient temperature, after the unit is thermally stabilized. It will be about 2.5% lower, if measured immediately after startup.
Efficiency at 277 Vac input: Vo = 24 V Vo = 36 V Vo = 48 V	 83.5% 84.0% 86.0%	 85.5% 86.0% 88.0%	 - - -	Measured at 100% load, 120 Vac input, 25℃ ambient temperature, after the unit is thermally stabilized. It will be about 2.5% lower, if measured immediately after startup.
No Load Power Dissipation	-	-	6 W	

General Specifications (Continued)

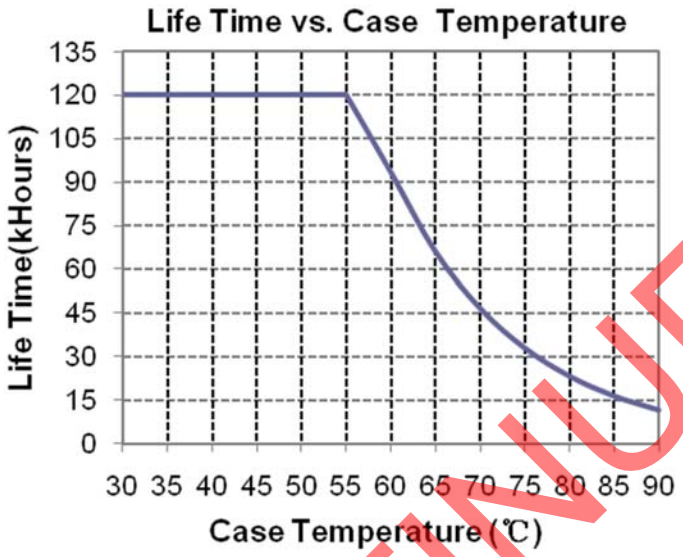
Parameter	Min.	Typ.	Max.	Notes
MTBF	321,000 hours	-	-	Measured at 120Vac input, 80%Load and 25°C ambient temperature (MIL-HDBK-217F)
Lifetime	-	93,300 Hours	-	Measured at 120Vac input, 80%Load, Case temperature=60℃ @ Tc point. See life time vs. Tc curve for the details
Operating Case Temperature for 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 95% RH
Storage Temperature	-40 °C	-	+85 °C	Humidity: 5% RH to 95% RH
Dimensions Inches (L × W × H) Millimeters (L × W × H)	6.77 × 1.77 × 1.38 172 × 45 × 35			With mounting ear 7.60 × 1.77 × 1.38 193 × 45 × 35
Net Weight	-	520 g	-	

Safety & EMC Compliance

Safety Category	Standard
CE	EN 61347-1, EN 61347-2-13
CCC	GB 19510.1, GB 19510.14
PSE	J 61347-1, J 61347-2-13
KS	KS C 7655
EMI Standards	**Notes**
EN 55015/GB/T 17743(1)	Conducted emission Test & Radiated emission Test
EN 61000-3-2/GB 17625.1	Harmonic current emissions
EN 61000-3-3	Voltage fluctuations & flicker
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
EN 61000-4-4	Electrical Fast Transient / Burst-EFT
EN 61000-4-5	Surge Immunity Test: AC Power Line: Differential Mode 4 kV, Common Mode 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

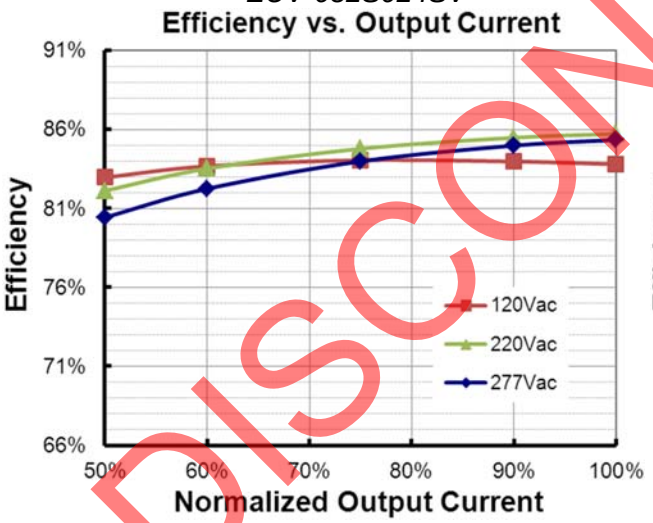
Note: (1) This LED driver meets the EMI specifications above, but EMI performance of a luminaire that contains it depends also on the other devices connected to the driver and on the fixture itself.

Lifetime vs. Case Temperature Curve

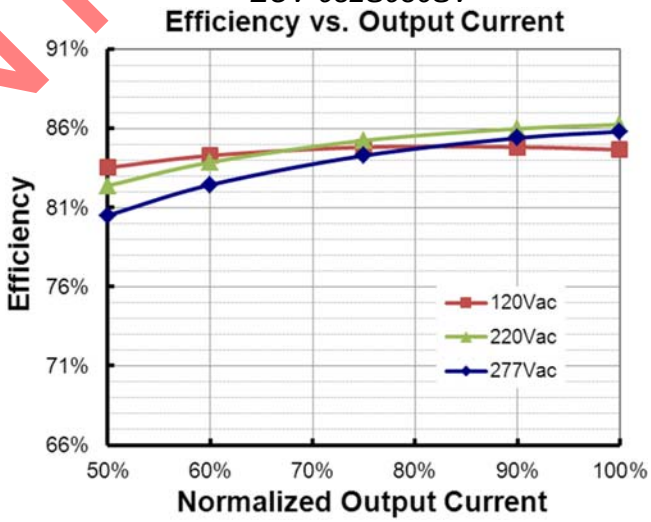


Efficiency vs. Load

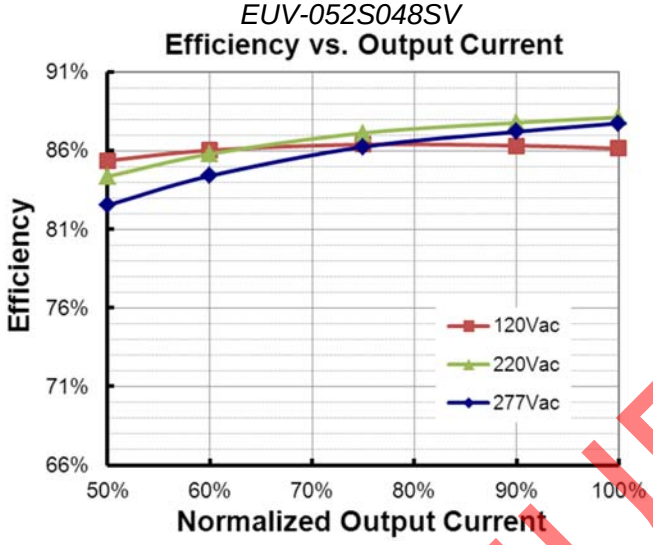
EUV-052S024SV



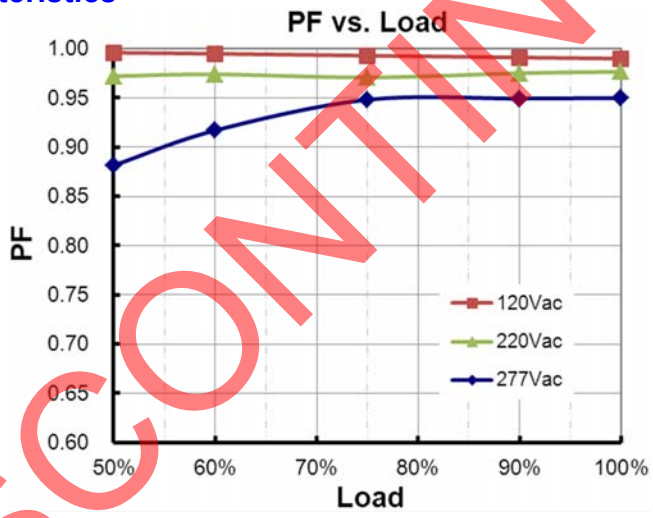
EUV-052S036SV



EUV-052S048SV



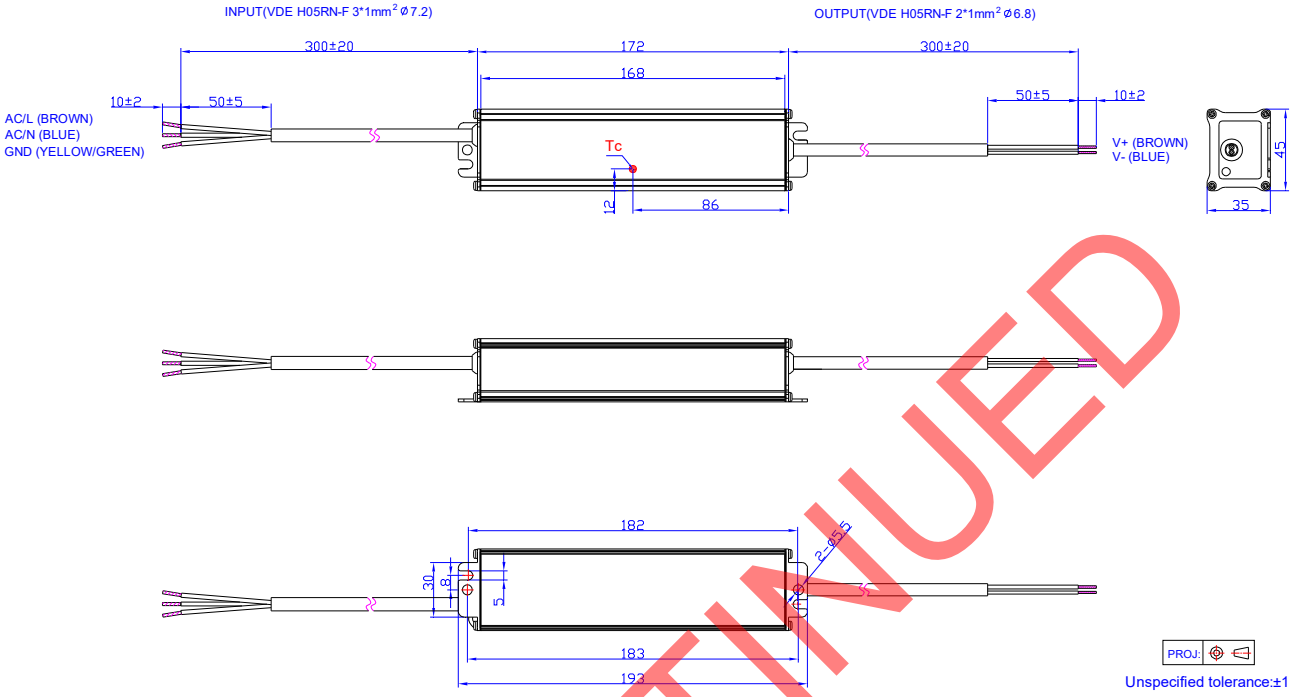
Power Factor Characteristics



Protection Functions

Parameter	Min.	Typ.	Max.	Notes
Over Current Protection	1.1 Io	1.40 Io	1.70 Io	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.			
Over Voltage Protection	Limits output voltage at no load and in case the normal voltage limit fails.			

Mechanical Outline



RoHS Compliance

Our products comply with reference to RoHS Directive (EU) 2015/863 amending 2011/65/EU, 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℃	-40℃
2012-8-16	G	Derating Curve	/	Updated
		Inrush Current(I^2t)	/	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
2017-08-03	I	Features	/	Updated
		Description	/	Updated
		Efficiency at 277 Vac input	/	Added
		Warranty Tc_w	/	Added
		Environmental Specifications	/	Deleted
		CCC certificate	/	Added
		KS certificate	/	Added
		Note of EMI Standard	/	Added
		Derating Curve	/	Deleted
		Power Factor Curve	/	Updated
		Dimensions Inches (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

Revision History (Continued)

Change Date	Rev.	Description of Change		
		Item	From	To
2017-08-03	I	Protection Functions - Over Temperature Protection	/	Updated
		Mechanical Outline	/	Updated
2018-04-12	J	PSE Certificate	/	Added
		Description	/	Updated
2021-09-29	K	Product photograph	/	Updated
		CCC logo	/	Updated
		Models	Typical Efficiency	Updated
		General Specifications	Efficiency at 120 Vac input	Updated
		General Specifications	Efficiency at 220 Vac input	Updated
		General Specifications	Efficiency at 277 Vac input	Updated
		Safety & EMC Compliance	PSE	Added
		Protection Functions	Over Voltage Protection	Added
2022-10-14	L	Product photograph	/	Updated