Features

- High Efficiency (Up to 92.5%)
- Constant Voltage Output
- Input Surge Protection: 4kV line-line, 6kV line-earth
- All-Around Protection: OVP, OCP, SCP, OTP
- Waterproof (IP67) and UL Dry / Damp / Wet Location
- SELV
- TYPE HL, for use in a Class I, Division 2 hazardous (Classified) location
- 5 Years Warranty

E328335

Description

The *EUV-200SxxxST* series is a 200W, constant-Voltage LED driver that operates from 90-305 Vac input with excellent power factor. It is created for high bay, high mast, arena and roadway lights. The high efficiency of these drivers and compact metal case enables 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, over current, short circuit, and over temperature.

Models

Output Voltage	Input Voltage Range(1)	Output Current Range	Max. Output Power	Typical Efficiency (2)	Power Factor		Model Number (3)
					120Vac	220Vac	
12 Vdc	90 ~ 305 Vac	0~15.0 A	180 W	91.0%	0.99	0.97	EUV-200S012ST
24 Vdc	90 ~ 305 Vac	0~8.33 A	200 W	92.0%	0.99	0.97	EUV-200S024ST
36 Vdc	90 ~ 305 Vac	0~5.56 A	200 W	92.0%	0.99	0.97	EUV-200S036ST
42 Vdc	90 ~ 305 Vac	0~4.76 A	200 W	92.5%	0.99	0.97	EUV-200S042ST
48 Vdc	90 ~ 305 Vac	0~4.17 A	200 W	92.5%	0.99	0.97	EUV-200S048ST
54 Vdc	90 ~ 305 Vac	0~3.70 A	200 W	92.5%	0.99	0.97	EUV-200S054ST

Notes: (1) UL Certified input voltage range: 100-277Vac; otherwise 100-240Vac (except KS).
(2) Measured at full load and 220 Vac input.
(3) SELV output

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, grounding effectively
			0.70 mA	IEC60598-1; 240Vac/ 60Hz, grounding effectively

Input Specifications (Continued)

Parameter	Min.	Typ.	Max.	Notes
Input AC Current	-	-	2.5 A	Measured at full load and 100 Vac input.
	-	-	1.1 A	Measured at full load and 220 Vac input.
Inrush Current(I^2t)	-	-	1.5 A^2s	At 220Vac input 25℃ Cold Start, duration=1.2 ms, 10%Ipk-10%Ipk
PF	0.90	-	-	At 100-277Vac, 50-60Hz, 100% Load;
THD	-	-	20%	

Output Specifications

Parameter		Min.	Typ.	Max.	Notes
Output Voltage Tolerance		-2.5%		2.5%	EUV-200S042ST. At full load condition.
		-5%	-	5%	Others. At full load condition.
Ripple and Noise (pk-pk)		-	-	2% V_O	Measured by 20 MHz bandwidth oscilloscope and the output paralleled a 0.1 uF ceramic capacitor and a 10 uF electrolytic capacitor.
Output Overshoot / Undershoot		-	-	10%	When power on or off.
Line Regulation		-	-	±1%	At full load condition.
Load Regulation		-	-	±2%	
Turn-on Delay Time		-	0.9 s	1.5 s	Measured at 110Vac input, 100% Load
		-	0.5 s	1.0 s	Measured at 220Vac input, 100% Load
Load Dynamic Response	Output Deviation	-	-	5% V_O	R/S: 1 A/uS Load: 25% ~ 75% full load.
	Settling Time	-	-	10 mS	
Temperature coefficient		-	0.05%/°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 110 Vac input:				Measured at full load and steady-state temperature in 25°C ambient; (Efficiency will be about 1.0% lower if measured immediately after startup.)
V_O = 12 V	88.0%	89.0%	-	
V_O = 24 V	89.0%	90.0%	-	
V_O = 36 V	89.0%	90.0%	-	
V_O = 42 V	89.5%	90.5%	-	
V_O = 48 V	89.5%	90.5%	-	
V_O = 54 V	89.5%	90.5%	-	

General Specifications (Continued)

Parameter	Min.	Typ.	Max.	Notes
Efficiency at 220 Vac input: V_O = 12 V V_O = 24 V V_O = 36 V V_O = 42 V V_O = 48 V V_O = 54 V	 90.0% 91.0% 91.0% 91.5% 91.5% 91.5%	 91.0% 92.0% 92.0% 92.5% 92.5% 92.5%	 - - - - - -	Measured at full load and steady-state temperature in 25°C ambient; (Efficiency will be about 1.0% lower if measured immediately after startup.)
Parameter	**Min.**	**Typ.**	**Max.**	**Notes**
No Load Power Dissipation	-	-	3 W	
MTBF	-	276,000 hours	-	Measured at 110Vac input, 80%Load and 25°C ambient temperature (MIL-HDBK-217F)
Lifetime	-	95,200 hours	-	Measured at 220Vac input, 80%Load and 60°C case temperature; See life time vs. Tc curve for the details
Operating Case Temperature for Safety Tc_s	-35 °C	-	+88.2 ºC	@90-305 Vac
	-40 °C	-	+88.2 ºC	@198-305 Vac
Operating Case Temperature for Warranty Tc_w	-35 °C	-	+70 ºC	@90-305 Vac, Case temperature for 5 years warranty
	-40 °C	-	+70 ºC	@198-305 Vac, Case temperature for 5 years warranty
Storage Temperature	-40 °C	-	+85 °C	Humidity: 5%RH to 100%RH
Dimensions Inches (L × W × H) Millimeters (L × W × H)	7.83 × 2.66 × 1.56 199 × 67.5 × 39.5			With mounting ear 8.90 × 2.66 × 1.56 226 × 67.5 × 39.5
Net Weight	-	1080 g	-	

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

Safety & EMC Compliance

Safety Category	Standard
UL/CUL	UL 8750, CAN/CSA-C22.2 No. 250.13
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
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

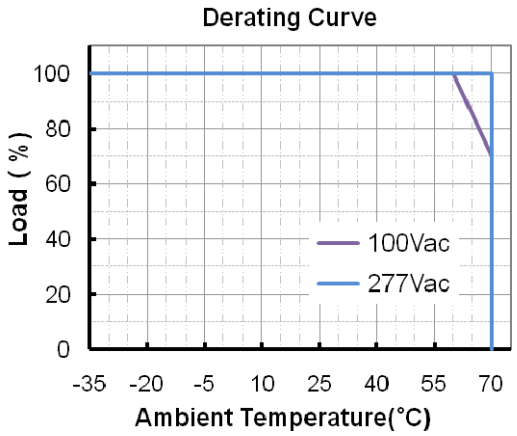
Safety & EMC Compliance

EMS Standards	Notes
EN 61000-4-4	Electrical Fast Transient / Burst-EFT
EN 61000-4-5	Surge Immunity Test: AC Power Line: line to line 4 kV, line to earth 6 kV(2)
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

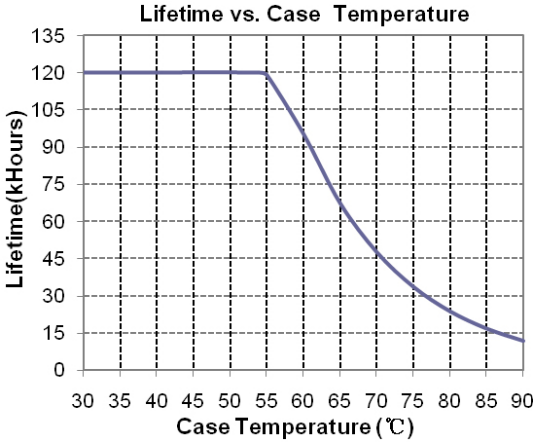
Note: (1) This LED driver meets the EMI specifications above, but EMI performance of a luminaire that contains it depends also on the other devices connected to the driver and on the fixture itself.

(2) To perform electric strength (hi-pot) testing, the "GDT ground disconnect" (nut and metal lock sheet) on the driver end-cap should be removed temporarily to prevent the internal gas discharge tube from conducting (as allowed by IEC 60598-1 Clause 10.2). After testing is completed, these items must be reinstalled to restore line-to-earth surge protection and secure the end cap.

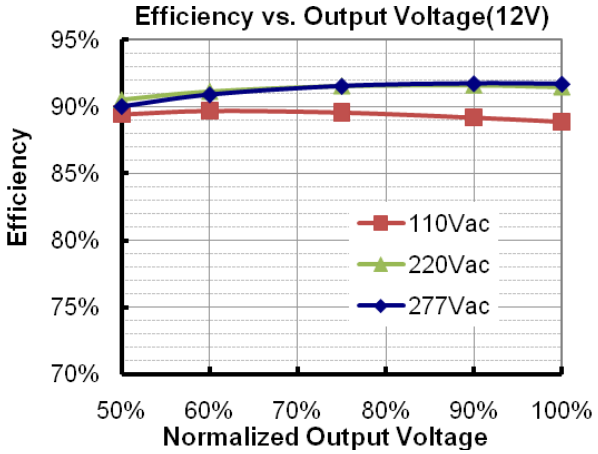
Derating Curve

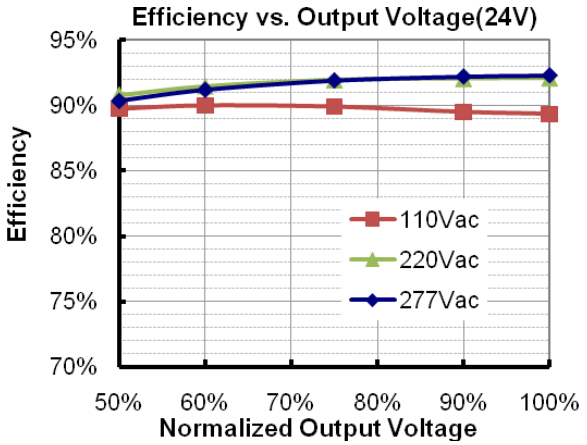


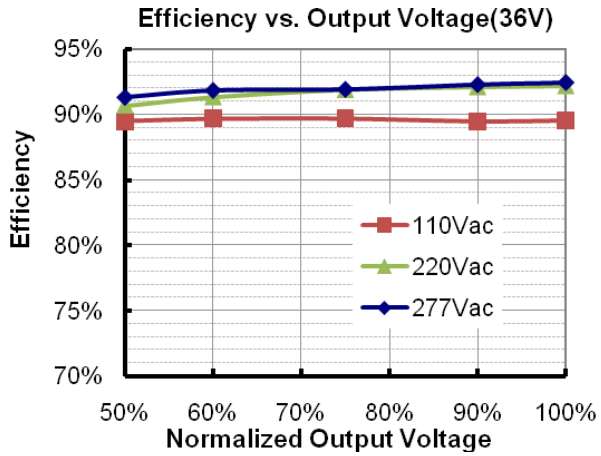
Lifetime vs. Case Temperature Curve

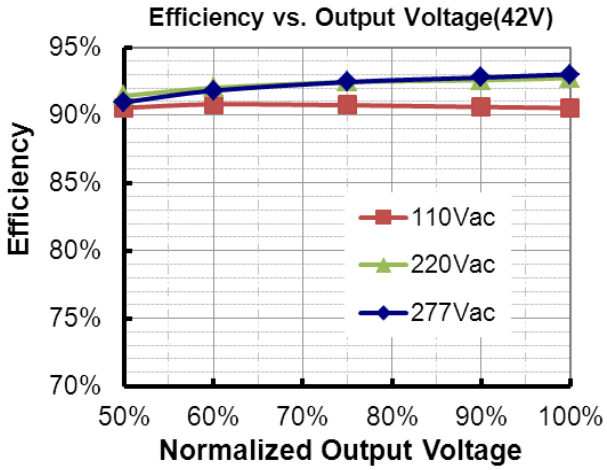


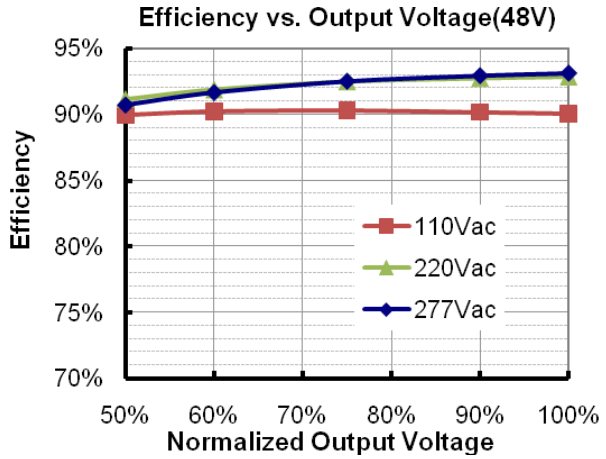
Efficiency vs. Load

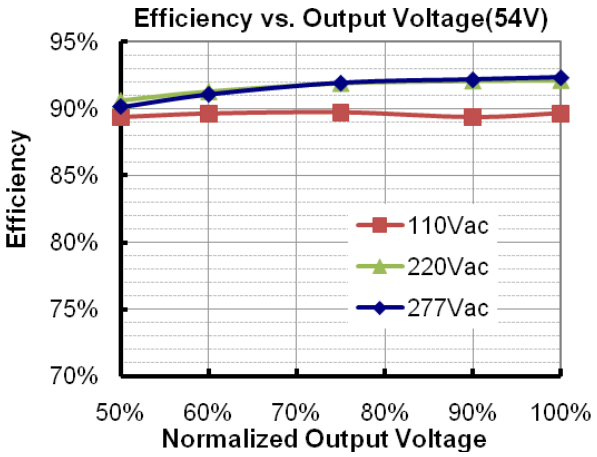












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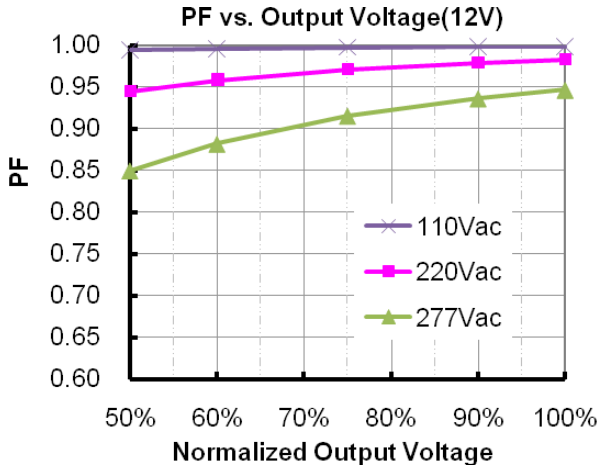
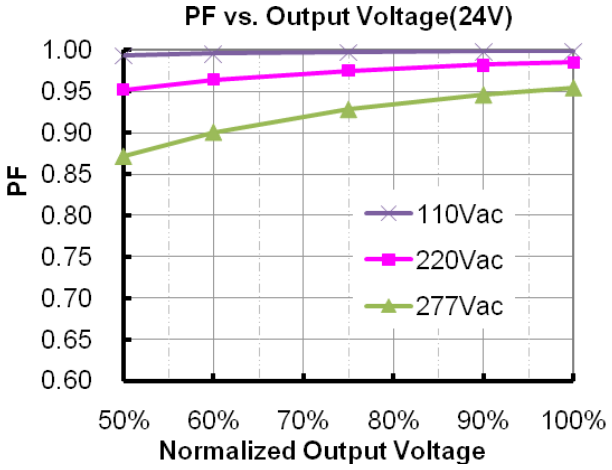
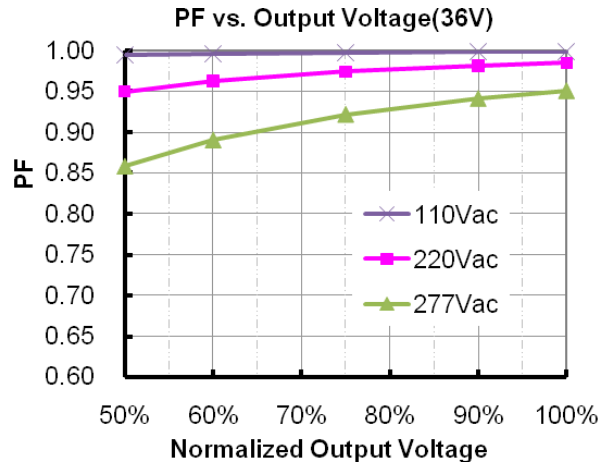
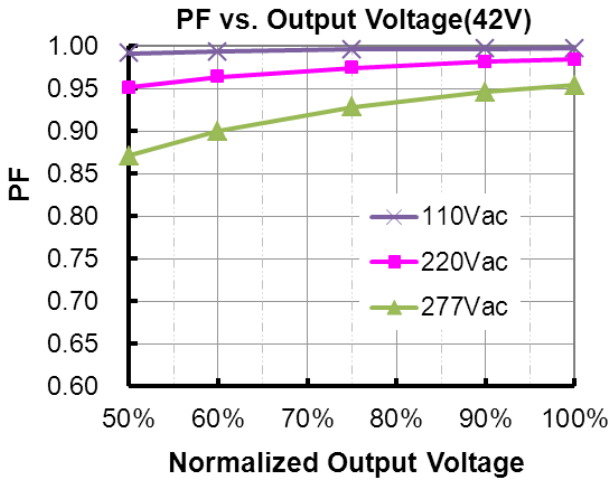
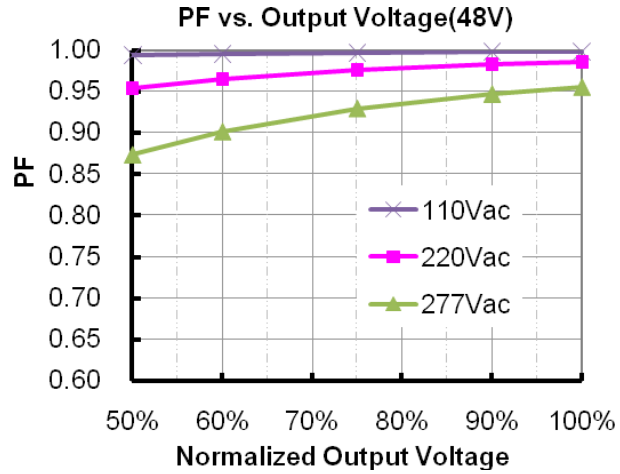
Power Factor Characteristics

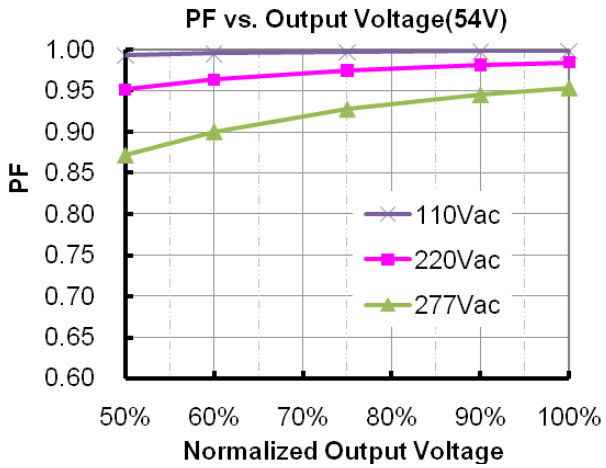




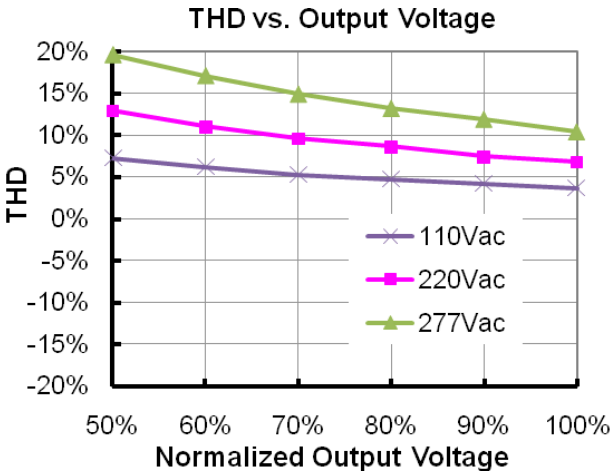








Total Harmonic Distortion Curve (24V)

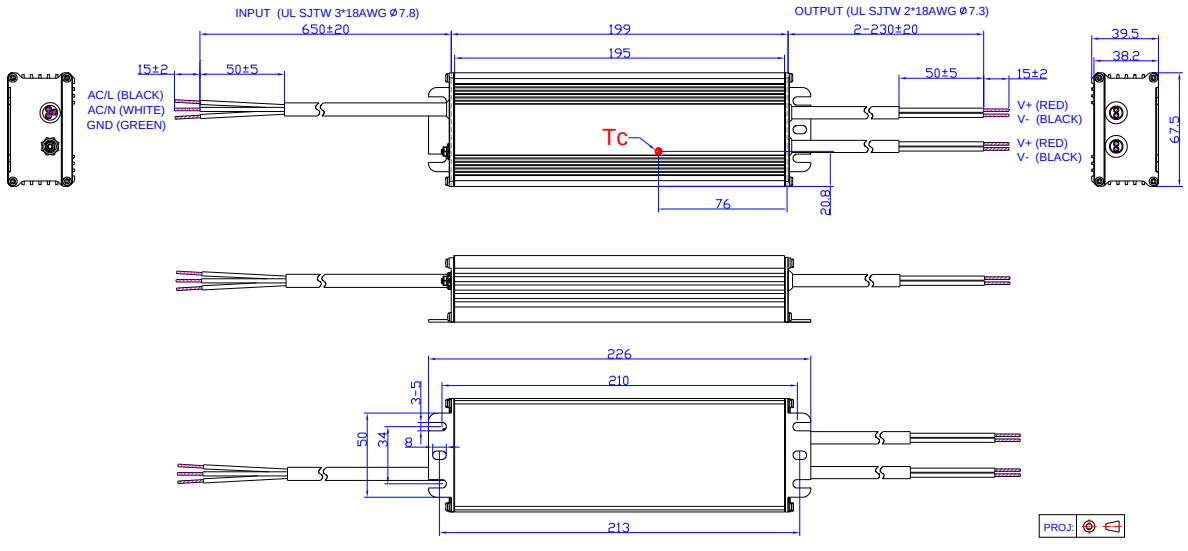


Protection Functions

Parameter	Min.	Typ.	Max.	Notes
Over Current Protection	120% I_O	140% I_O	200% I_O	Hiccup mode. 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.			
Short Circuit Protection	No damage will occur when any output is short circuited. The output shall return to normal when the fault condition is removed.			
Over Voltage Protection	Limits output voltage at no load and in case the normal voltage limit fails.			

Mechanical Outline

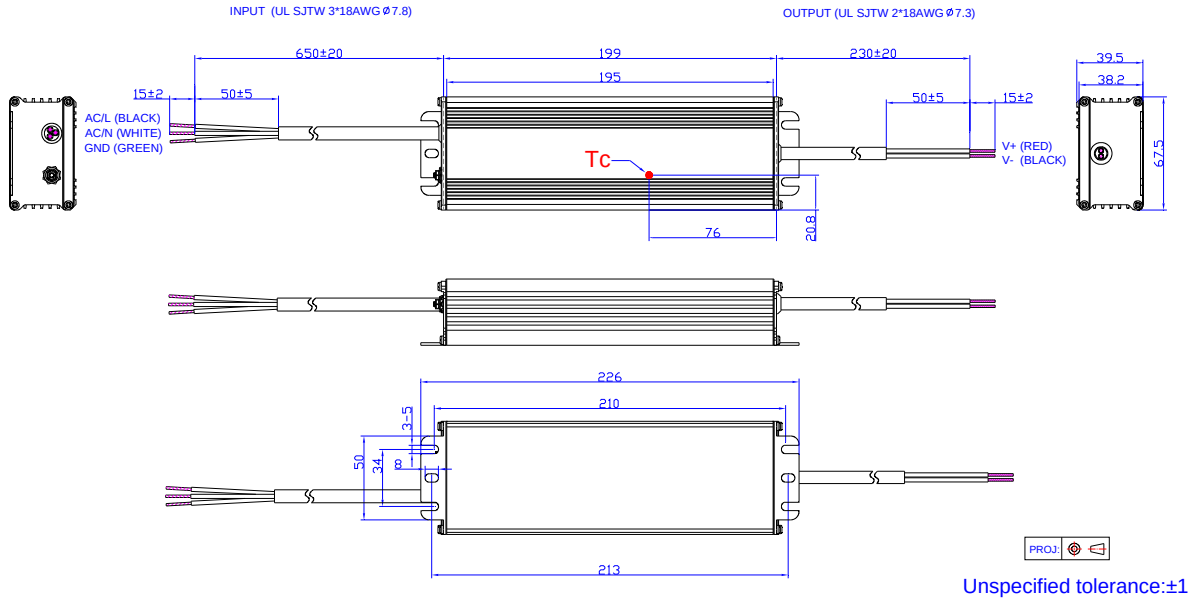
EUV-200S012ST



Unspecified tolerance:±1

Note: The 2 DC output cables are connected in parallel internally because one AWG #18 wire can only carry 10A. Please connect the 2 red wires together and 2 black wires together in application, or ensure each cable carries same current.

Others



Unspecified tolerance:±1

RoHS Compliance

Our products comply with the European Directive 2011/65/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	
2009-12-03	A	Change the Max. output current/power and efficiency of 12V. Update the Ambient Temperature Derating Curve				
2009-12-16	B	Add note for mechanical outline.				
2010-05-31	C	Add star rank for recommended models	/		☆: Popular model.	
		Add Leakage Current in Input Specifications	/		Max. 0.75 mA At 277Vac 50Hz input	
		Standardize the tolerance in Mechanical Outline	/		/	
2012-06-12	D	42V,50V,52V, 81V, 105V Models	/		Deleted	
		Turn-on delay time	0.7 s	1.0 s	0.9 s	1.5 s
			0.3 s	0.5 s	0.5 s	1.0 s
		Efficiency of EUV-200S054ST @ 110 Vac	/		1 % lower	
		Life Time Curve	/		Added	
		Mechanical Outline	/		Updated	
2012-7-17	E	Max Case Temperature	/		Updated	
2012-8-14	F	Efficiency of 54V Model @220 Vac	/		0.5% Lower	
		Efficiency of 36V Model	/		0.5% Lower	
		OCP	Typ 1.3Io	Max 1.7Io	Typ 1.4Io	Max 1.8Io
		MTBF, life time Typical	/		Added	
		Min PF	/		Added	
		Max THD	/		Added	
		Temperature Coefficient	/		Added	
		Life time Curve	/		Updated	
		EN61000-4-5	line to line 2 kV, line to earth 4 kV		line to line 4 kV, line to earth 6 kV	
		Inrush Current(I^2t)	/		Added	
2012-12-6	G	No Load Power Dissipation	2 W		3 W	
2012-12-28	H	Derating Curve	/		Updated	
		Efficiency Curve of all models	/		Added	
		PF Curve of all models	/		Added	
		THD Curve of 24V Model	/		Added	
2013-11-26	I	Input Specifications--Load Range of PF & THD	75%load-100%load		100%load	

Revision History

Change Date	Rev.	Description of Change		
		Item	From	To
2015-09-11	M	Format	/	Update
		External Grounding Screw Solution	/	/
		Features	/	Update
		Description	/	Update
		Models	EUV-150S042SV	Added
		General Specifications	Case Temperature	Operating Case Temperature for Safety Tc_s
		General Specifications	Operating Case Temperature for Warranty Tc_w	Added
		General Specifications	Storage Temperature	Added
		Environmental Specifications	/	Delete
		Safety & EMC Compliance	/	Update
		Protection Functions	/	Update
		Mechanical Outline	/	Update
2016-04-05	N	KS	/	Added
		Models	/	Update
		General Specifications	With mounting ear	Added
		General Specifications	Net Weight	Update
		Safety & EMC Compliance	/	Update
2017-11-14	O	Features	5 years warranty	Added
		Input Specifications	Leakage Current	Updated
		PF/THD	Notes	Updated
		Turn-on Delay Time	Notes	Updated
		Temperature coefficient	Max 0.05%/°C	Typ 0.05%/°C
		General Specifications	Operating Case Temperature for Safety Tc_s	Updated
		General Specifications	Operating Case Temperature for Warranty Tc_w	Updated
		Mechanical Outline	/	Updated