



## ■ Features

- US standard input voltage: 90-132 Vac
- IP20
- Protections: Short circuit / Overload / Overvoltage
- Compliance with worldwide safety regulations for lighting
- 5 years warranty



## ■ Description

EV-SE-20-12US/24US is a US standard indoor ultra-thin constant voltage LED driver. Its input voltage range is 90-132Vac, with a maximum conversion efficiency of 85%, working at -20°C to +45°C ambient temperature range, low standby power consumption, all-round protection functions, not only greatly improves the reliability of the product, but also ensures the product life cycle. This series is designed for LED lighting, and applied to indoor bathroom mirror lamps and other lighting lamps.

## ■ Model

Model	Rated output voltage	Rated output current	Max. output power	Output voltage tolerance	Power factor (Typ.)	Efficiency (Typ.)
EV-SE-20-12US	12V	0-1.67A	20W	±5%	0.55	83%
EV-SE-20-24US	24V	0-0.833A	20W	±5%	0.55	85%

**Remark:** All parameters NOT specially mentioned are measured at 120VAC input, full load and 25°C of ambient temperature.

## ■ Input

Parameter	Min. value	Typical value	Max. value	Note
Rated input voltage	100 Vac	-	120Vac	The derating curve is shown in the figure
Input voltage	90Vac	-	132Vac	
Input frequency 47Hz	47Hz	-	63Hz	-
Max. Input current	-	-	0.47A	90Vac, Full Load
	-	-	-	120Vac, Full Load
Input inrush current	-	-	60A	120Vac/60Hz, Cold Start
Power factor	0.5	0.55	-	120Vac, Full Load
Total harmonic input	-	-	-	120Vac, Full Load
Leakage current	-	-	0.7mA	120Vac/60Hz, Full Load
Stand-by power consumption	-	0.3W	0.5W	120Vac/60Hz, No Load

## Output

Parameter	EV-SE-20-12US	EV-SE-20-24US	Note
Rated output voltage	12VDC	24VDC	Max. Output power should compliance to $P_o=V_o \cdot I_o=20W$
The min. output voltage (CC mode)	-	-	-
Rated output current	0-1.67A	0-0.833A	-
Output current ADJ. range	-	-	-
Rated output power	20W	20W	-
Rated output efficiency	83%	85%	120Vac/60HZ
Output current tolerance	-		-
Output voltage ripple (PK-PK)	4%		Full load (Test under 20M bandwidth)
Output current ripple (PK-PK)	-		
Rise time	-		120Vac
Startup time	-		120Vac
Line regulation	±1%		Full load
Load regulation	±2%		-

## Characteristic Curve

Fig. 1 Output load-Temperature curve

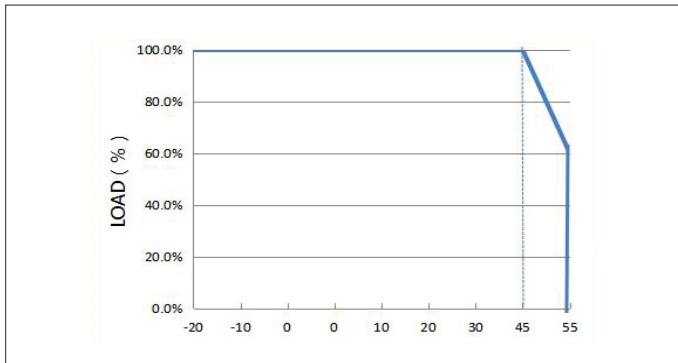


Fig. 2 Static characteristic curve

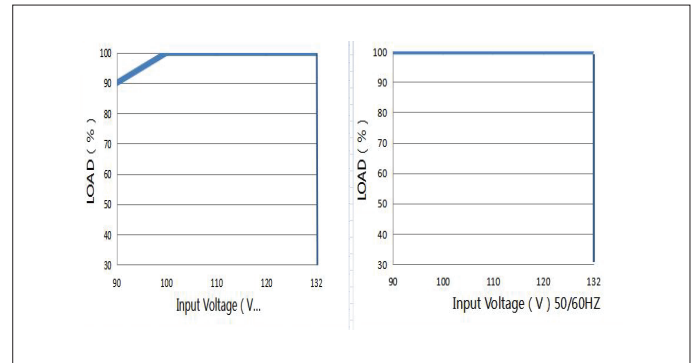


Fig. 3 I-V curve

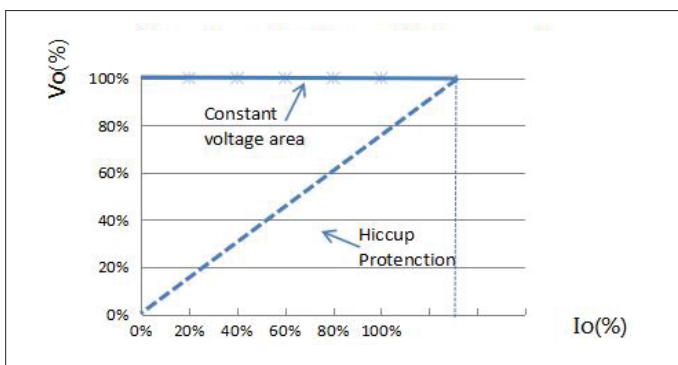
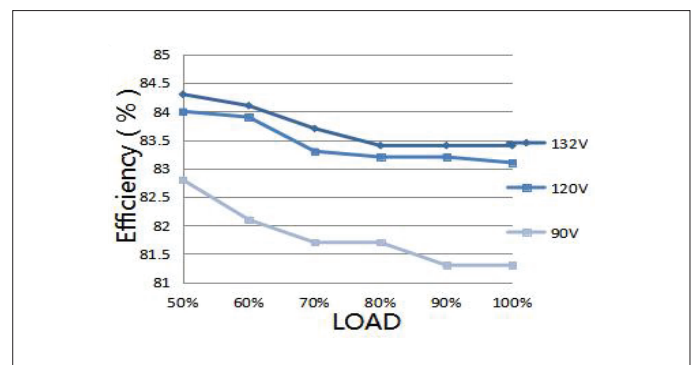


Fig. 4 Power factor characteristic curve



**■ Protection**

Parameter		Conditions	Note
Protection	Over load	1.4 times rated load	Recover automatically when cancel overload
	Short circuit	Short circuit power≤0.4W	Hiccup mode, auto-recovery after short circuit removed.
	Over voltage	1.5 times of rated output voltage	Turn off input voltage and restart
	Over temperature	-	-

**■ Environment Requirement**

Parameter	Min.	Typ.	Max.	Note
Working temp.	-20°C	25°C	+45°C	See Fig.2
Storage temp.	-40°C	25°C	+85°C	-
Working humidity	10%RH	-	90%RH	-
Storage humidity	5%RH	-	95%RH	-
IP grade	-	-	IP20	-
Cooling mode	Natural cooling			-

**Remark:** All parameters NOT specially mentioned are typical values measured at 25°C of ambient temperature.

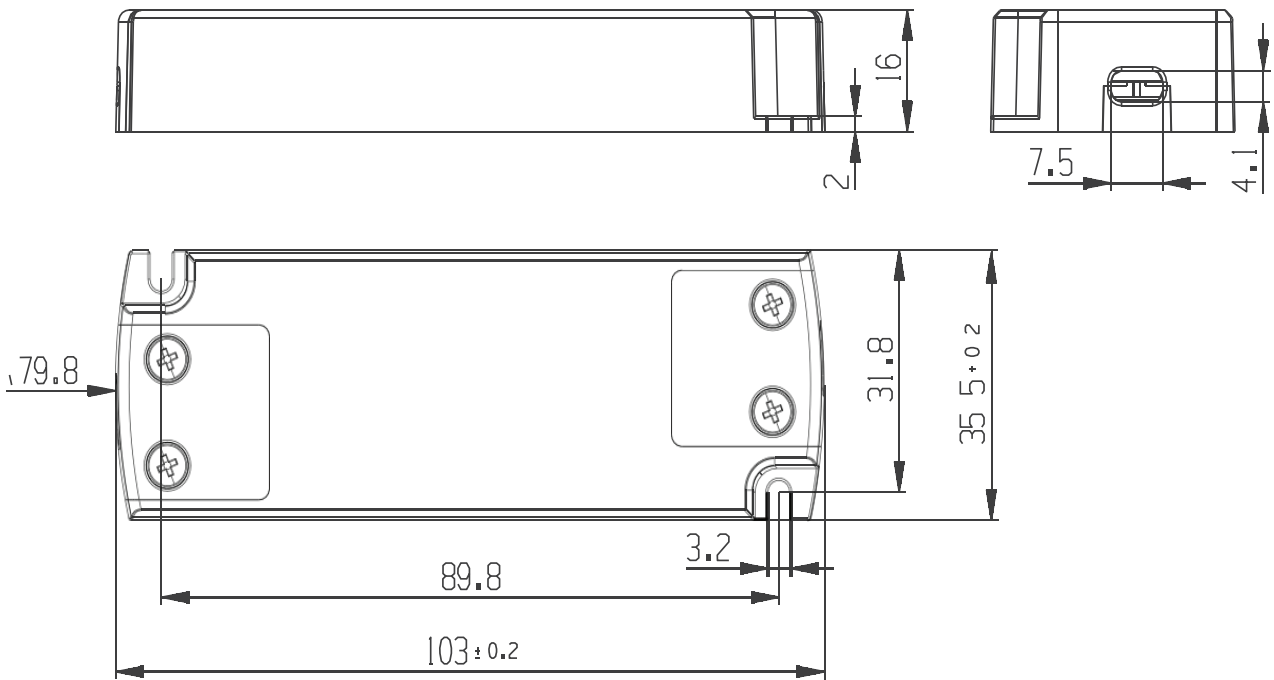
**■ Safety&EMC Standard**

Certificate	Safety standards.	Certification	Note
UL/CUL	UL8750	√	-
Safety test	Technical indexes	Note	
Safety project	UL8750	-	
EMC test	Standard	Criterion	
EMC	FCC PART 15	-	

■ Others

Parameter	Condition	Note
Lifetime	55,000 hours	120Vac, Full load, TC:75°C
MTBF	200,000hours	120Vac, Full load, Ta:25°C (MIL-HDBK-217F)
TC	85°C	-
Warranty	5 years	TC:75°C
Weight	65g	-
Dimensions	103*35.5*16mm	L x W x H

■ Mechanical Specification(Unit : mm)



AC input cable	Terminal, SPT-2 18AWG
DC output cable	Terminal, SPT-2 18AWG