

## IP20 LED Power Supply



### Features:

- . Compliance to EN IEC 61000-3-2(<25W ) standard.
- . IP20.
- . Short circuit / overload / over-voltage protection.
- . Compliance to worldwide safety regulations for lighting.
- . Lifetime: 30000 hours.



### Description:

SE15-12VF/24VF is an indoor super slim constant voltage LED driver. Its input voltage range is 180-264Vac, with a maximum conversion efficiency of 85%, working at -20 ° C~+45 ° C ambient temperature range, with high power factor and low total harmonic distortion, can pass the EN61000-3-2 harmonic standard, low standby power consumption and all-round protection functions, which 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 lamp and other lighting fixtures.

### Model:

Model	Rated output voltage	Rated output current	Max. output power	Output voltage tolerance	Total harmonic distortion (Typ.)	Power factor (Typ.)	Efficiency (Typ.)
SE15-12VF	12V	0-1.25A	15W	±5%	46%	0.80	83%
SE15-24VF	24V	0-0.625A	15W	±5%	46%	0.80	85%

**Remark:** All parameters NOT specially mentioned are measured at 230VAC input, full load and 25 °C of ambient temperature.



# SNAPPY Optoelectronics Co., Ltd.

## Indoor LED Power Supply

### Input

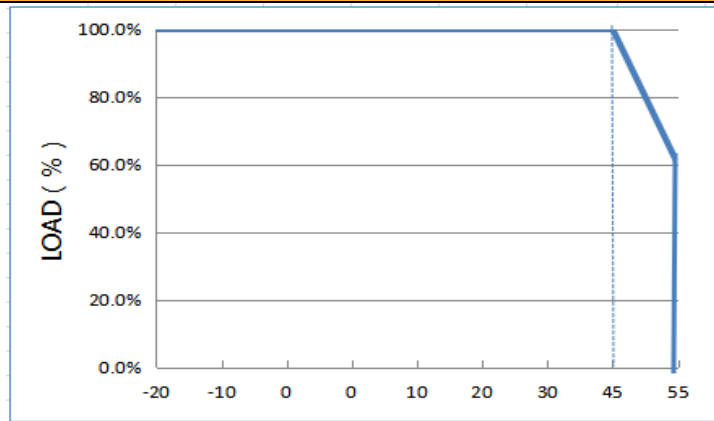
Parameter	Min. value	Typical value	Max. value	Note
Rated input voltage	200 Vac		240Vac	The derating curve is shown in the figure
Input voltage	180 Vac		264Vac	
Input frequency	47Hz		63Hz	
Max. Input current			--	110Vac , Full Load
			0.13A	180Vac , Full Load
Input inrush current			60A	230Vac/50Hz , Cold Start
Power factor	0.75	0.80		230Vac , Full Load
Total harmonic input		46%	50%	230Vac , Full Load
Leakage current			0.7mA	230Vac/50Hz , Full Load
Stand-by power consumption		0.2W	0.5W	230Vac/50Hz , No Load

### Output

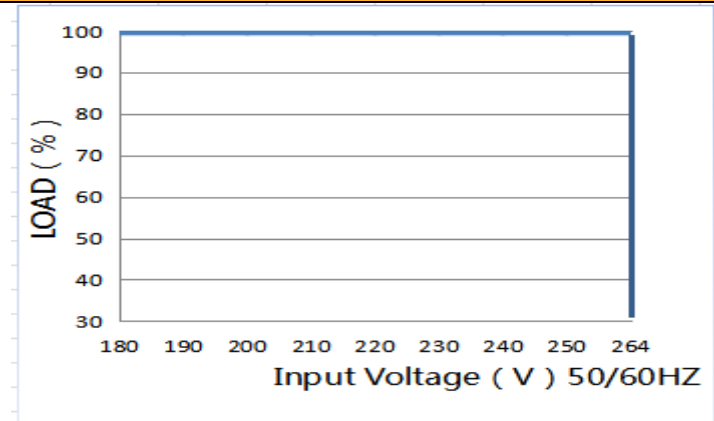
Parameter	SE15-12VF	SE15-24VF	Note
Rated output voltage	12VDC	24VDC	Max. Output power should compliance to $P_o = V_o * I_o = 15W$
The min. output voltage (CC mode)	--	--	
Rated output current	0-1.25A	0-0.625A	
Output current ADJ. range	--	--	
Rated output power	15W	15W	
Rated output efficiency	83%	85%	230Vac
Output current tolerance	--		
Output voltage ripple ( PK-PK )	4%		Full load (Test under 20M bandwidth)
Output current ripple ( PK-PK )	--		
Rise time	100mS		230Vac
Startup time	400mS		230Vac
Line regulation	±1%		Full load
Load regulation	±2%		

### Characteristic curve

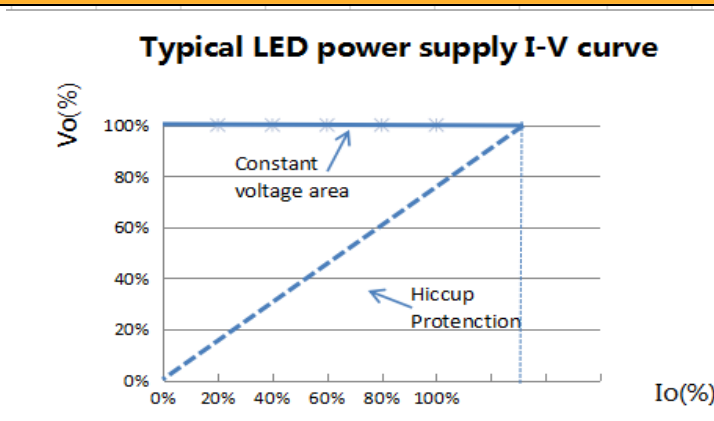
**Fig. 1 Output load-Temperature curve**



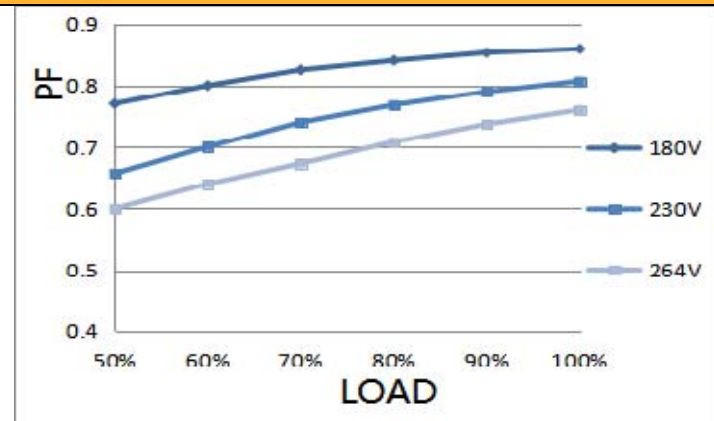
**Fig. 2 Static characteristic curve**



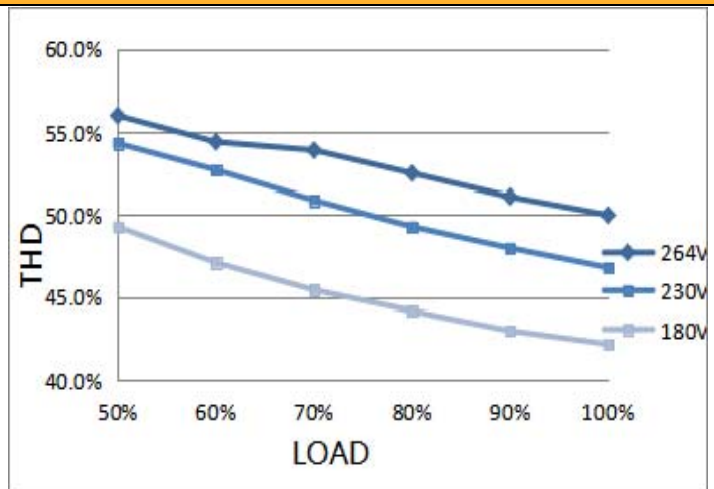
**Fig. 3 I-V curve**



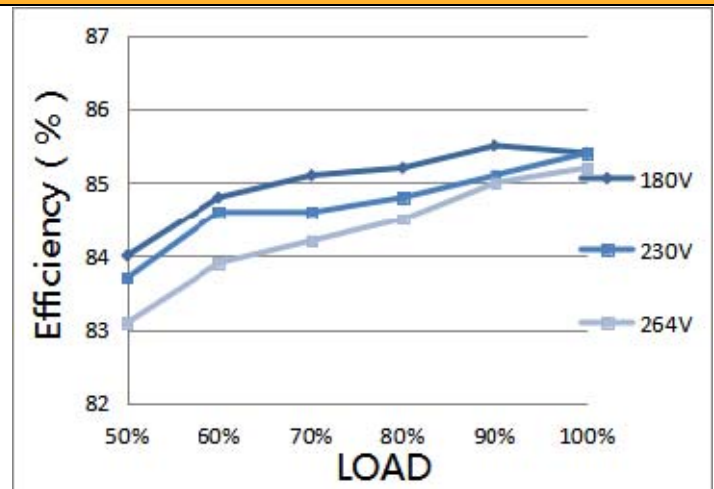
**Pic 4 Power factor characteristic curve**



**Fig.5 Total harmonic distortion curve ( THD )**



**Fig.6 Efficiency-Load curve**



### Protection

Parameter		Conditions	Note
Protection	Over load	1.4 times rated load	Auto-recovery after overload Removed.
	Short circuit	Short circuit power $\leq$ 0.6W	Hiccup mode, auto-recovery after short circuit removed.
	Over voltage	1.5 times of rated output voltage	Auto-recovery after over voltage removed
	Over temperature	--	--

### Environment Requirement

Parameter	Min.	Tep.	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	IP20	
Cooling mode	Natural cooling			

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

### Safety&EMC Standard

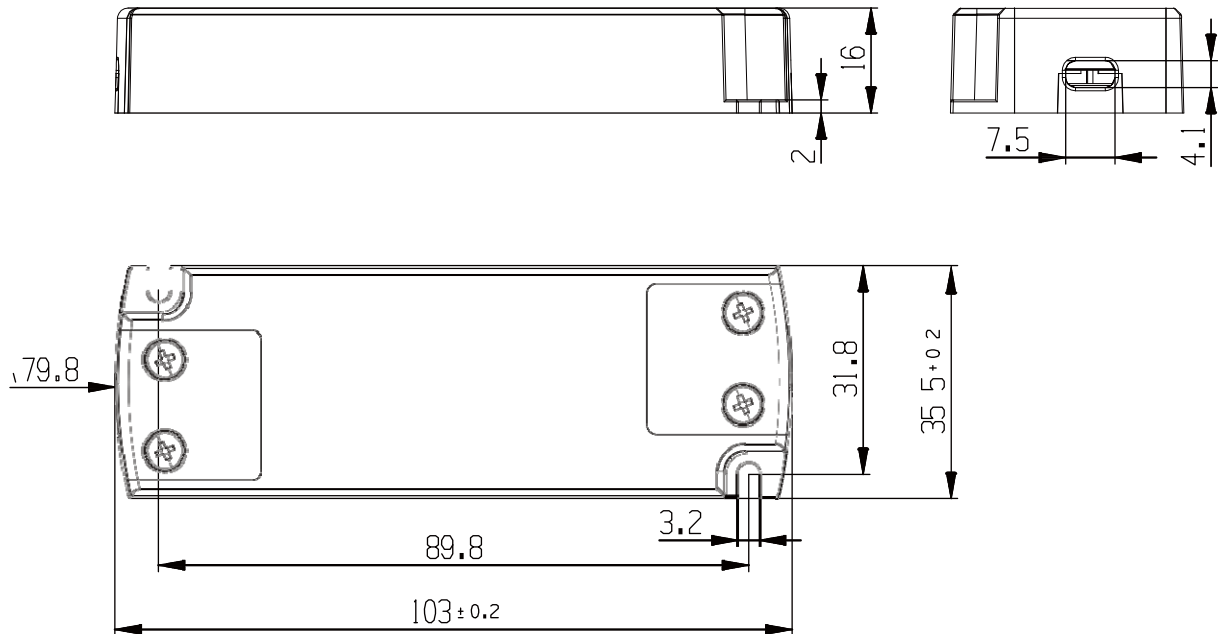
Certificate	Safety standards	Certification	Note
UL/CUL	UL8750		
TUV	EN61347-1:2015 EN 61347-2-13:2014+A1 EN62493:2015		
SAA	AS/NZS 61347.2.13		
CCC	GB 19510.14-2009		
CE	EN 61347-2-13:2014 +A1 EN61347-1:2015		

Safety test		Technical indexes	Note
Dielectric strength	Input to output	3200Vac/5mA Max/60s	Reinforced insulation, no breakdown, no flashover
	Primary to ground	1600Vac/5mA Max/60s	Basic insulation, no breakdown, no flashover
	Secondary to ground	1000Vac/5mA Max/60s	Functional insulation, no breakdown, no flashover
Insulation resistance	Input to output	≥10MΩ	Test voltage : 500Vdc
Ground wires		≤0.1Ω	25A/1min
Leakage current		≤0.75mA	277Vac
EMI/EMS		Standard	Criterion
Conduction CE		EN55015	
Radiation RE		EN55015	
Harmonics		EN IEC 61000-3-2	Class C

## Others

Parameters	Condition	Note
Lifetime	30,000hours	230Vac , Full load , Max Case Temp.:75°C
MTBF	200,000hours	230Vac , Full load , Ta:25°C (MIL-HDBK-217F)
Tc	85°C	
Warranty	3 years	Max Case Temp.: 75°C
Weight	50g	
Dimensions	103*35.5*16mm	L x W x H

### Mechanical Specification ( Unit : mm )



**Remark :**

AC input cable	Terminal , H03VVH2-F 2×0.75mm <sup>2</sup>
DC output cable	Terminal , H03VVH2-F 2×0.75mm <sup>2</sup>