

## Boarden Surge Protective Devices

### 描述 Description

BSP10P277 is a power surge protector with two types of installation (lead wire type and on-board type). It is used for surge protection of commercial lighting power sources such as street lighting (Class I, Class II), landscape lighting, and surge protection for power ports such as security, electrical appliances, and sockets. BSP10P277 has a fully sealed enclosure that is fire, water, dust and IP65 rated. The lightning protection device adopts full mode protection, ultra-low protective voltage, and has leakage current<sup>1</sup> and freewheeling<sup>2</sup> interruption function. The product is small and comes with L, N and PE cables for easy installation and application. The product's maximum protection lightning current is 10kA<sup>3</sup>, which can withstand 10kV<sup>4</sup> surge voltage shock.



Note:

1. Leakage current: In this paper, the current flowing through the SPD does not occur when the power is connected. For example, zinc oxide varistor is a device with leakage characteristics.

2. Freewheeling: Current from the connected power source that flows through the SPD during and after the discharge current passes. For example, gas discharge tubes and thyristors are devices with freewheeling characteristics (cited from IEC61643-11).

3. 10kA: refers to the maximum discharge current ( $I_{max}$ ) in the 8/20 $\mu$ s surge waveform test.

4. 10kV: refers to the nominal discharge voltage ( $V_n$ ) in the 1.2/50 $\mu$ s surge waveform test.

### 特征 Features

- 全模保护: L-N, L/N-PE  
Modes of Protection: L - N, L/N - PE
- 标称放电电流: 5kA, 8/20 $\mu$ s  
Nominal discharge current: 5kA, 8/20 $\mu$ s
- 最大放电电流: 10kA, 8/20 $\mu$ s  
Maximum discharge current: 10kA, 8/20 $\mu$ s
- 执行标准: UL14494th  
Executive standard: UL14494th
- 并联SPD设备  
Parallel SPD equipment;
- 超低压保护技术, 保护更加充分  
ultra-low protective voltage, more adequate protection;
- 引线或板载安装  
Lead wire easy connecting or on-board mounting;
- 紧凑外形便于安装: 31.4×20.4×18.2  
Ultra-thin shape: 31.4×20.4×18.2, easy to reset;
- 110~227VAC I类和II类灯具保护  
Installation of Class I and Class II lamps that meet the rated voltage of 110 to 277 VAC;

### 应用 Applications

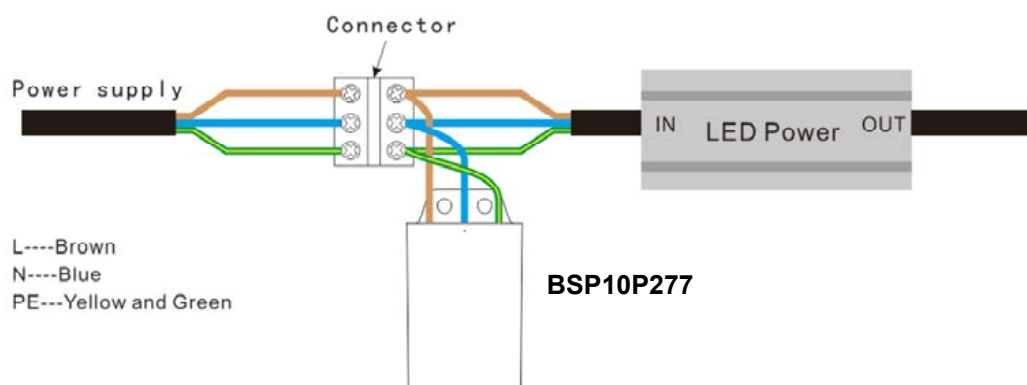
- 户外工业照明  
Outdoor and Commercial LED Lighting
- 铁路照明 Roadway lighting
- 交通照明 Traffic lighting
- 泛光灯 Flood lighting
- 隧道灯 Tunnel lighting
- 安防电源 Security power supply
- 通信电源 Communication power supply
- 单相电机 Single-phase power supply
- 新能源电源 New Energy Power Supply
- 太阳能供电 Solar power supply
- 精密机床 Precision Machine Tools
- 5G基站 5G base station

**规格参数 Specification**

Parameter	Symbol	Condition	Value	Unit
Rated operating voltage <sup>1</sup>	U <sub>0</sub>	50-60Hz AC	277	V
Max. Continuous voltage <sup>2</sup>	U <sub>c</sub>	50-60Hz AC	277	V
Nominal discharge current <sup>3</sup> (8/20μs)	I <sub>n</sub>		5	kA
Max. discharge current <sup>4</sup> (8/20μs)	I <sub>max</sub>		10	kA
Nominal discharge voltage <sup>5</sup> (1.2/50μs)			10	kV
Voltage protection level <sup>6</sup>	U <sub>p</sub>	L-N	950	V
		L-PE	950	V
		N-PE	1600	V
Operating temperature range			-40~80	°C
Ingress Protection			IP65	
Cross-section area (Flexible)			1.0/18	mm <sup>2</sup> /AWG
Enclosure material			ABS765A(94V0)	
Size			31.4×20.4×18.2	mm
Mounting on			Lead wire type On-board type	
Weight (One piece)			25(±3)	g

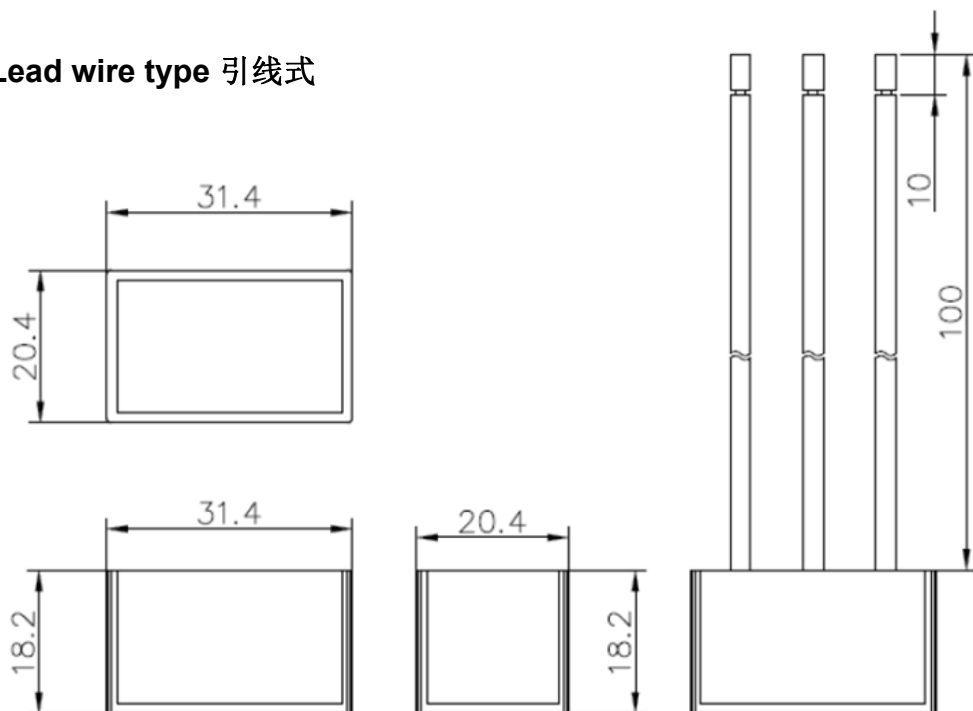
Note:

1. Rated operating voltage: The normal AC mains voltage rating assigned by the manufacturer to the SPD (cited from UI1449).
2. Max. continuous voltage: The maximum rms voltage that can be continuously applied to the SPD (cited from IEC61643-11).
3. Nominal discharge current: The current peak selected by the manufacturer. With SPD, the current waveform is 8/20μs, and the SPD remains functional after 15 surges (from UL1449).
4. Maximum discharge current: The peak value of the SPD current flowing through the 8/20 waveform and the manufacturer's claimed amplitude. Belongs to the T2 test type (quoted from IEC61643-11).
5. Nominal discharge voltage: The discharge open circuit voltage peak with a 1.2/50 μs waveform and flowing through the SPD (this parameter is the BOARDEN laboratory custom parameter, which is equivalent to the open circuit voltage U<sub>oc</sub> defined by the T3 test in IEC61643-11).
6. Voltage protection level: The maximum voltage expected to occur between the two ends of the SPD due to the application of a specified gradient of the impulse voltage and the specified amplitude and the inrush current of the waveform (cited from IEC61643-11)

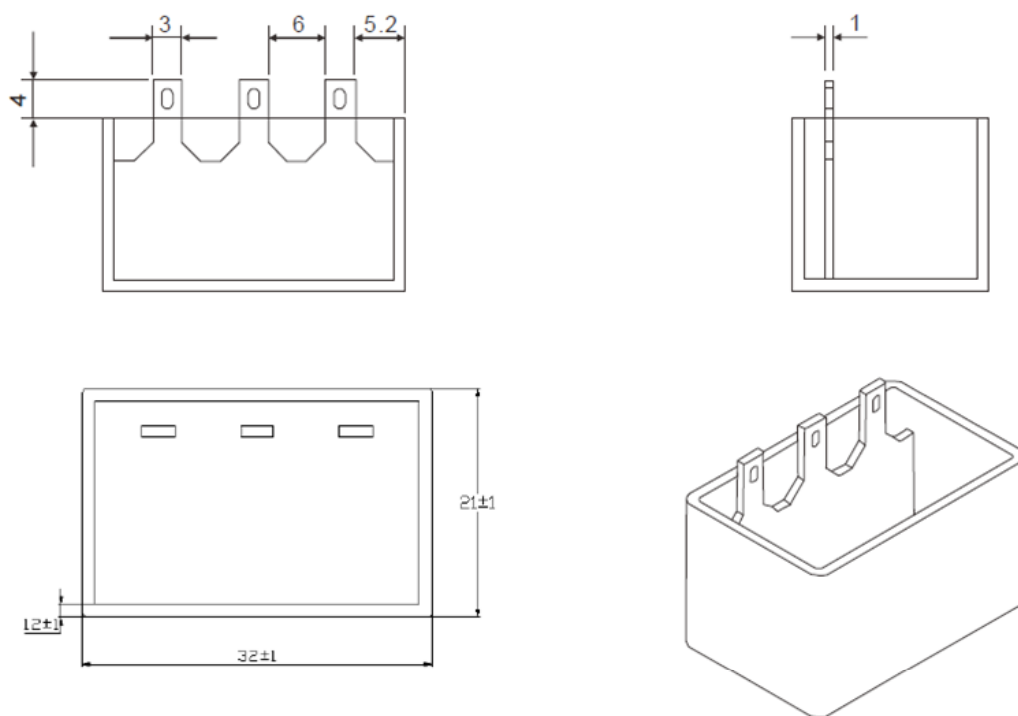
**安装 Application/Installation Schematic**


**尺寸 Dimensions (mm)**

**Lead wire type 引线式**



**On-board type 板载式**



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