



Revision History

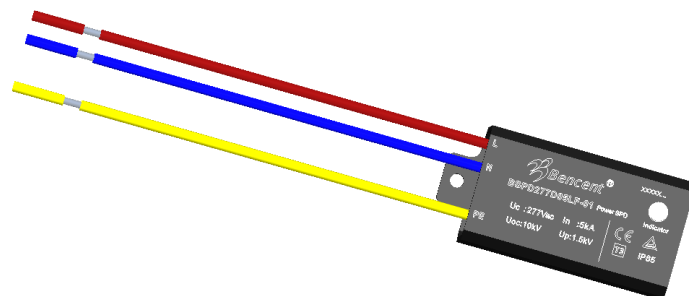
Version	Revision Description	Department	Owner	Date
A0	First edition	R&D	Li Jie	2024/06/05

Issued by		Checked by	RD		Approval	
			QA			
			MD			

## Features and characteristics

- Size Design 69.4mm\*34mm\*21.3mm
- Nominal Discharge Current(In) (8/20  $\mu$ s) 5kA
- Electrical parameters test standards refer to IEC61643-11
- Fast Response and Long Service Life
- Reliable to Protect Surge Voltage
- Possess SPD status indication
- Impulse Test Classification: **T3**
- Meet the RoHS

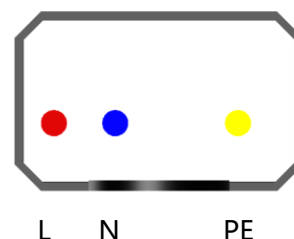
## Exterior



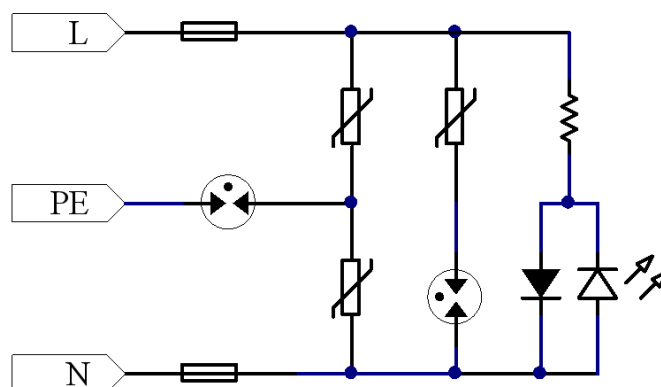
## Application information

- LED driver、LED power.

## Bottom view



## Circuit Diagram



## Definitions

1、1.2/50 voltage impulse

Voltage impulse with a nominal virtual front time of 1.2 $\mu$ s and a nominal time to half-value of 50 $\mu$ s.

2、8/20 current impulse

Current impulse with a nominal virtual front time of 8 $\mu$ s and a nominal time to half-value of 20 $\mu$ s .

3、Maximum Continuous Operating Voltage

Maximum r.m.s. voltage, which may be continuously applied to the SPD's mode of protection.

**Bencent LED SPD**

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**4、Voltage Protection Level ( $U_p$ )**

Maximum voltage to be expected at the SPD terminals due to an impulse stress with defined voltage steepness and an impulse stress with a discharge current with given amplitude and waveshape.

**5、Nominal Discharge Current ( $I_n$ )**

Crest value of the current through the SPD having a current waveshape of 8/20.

**6、mode of protection**

An intended current path between terminals, that contains one or more protective components, for which the manufacturer declares a protection level.

**7、follow current interrupting rating  $I_{fi}$** 

Prospective short-circuit current that an SPD is able to interrupt by itself.

**8、Degrees of protection provided by enclosure (IP code)**

The extent of protection provided by an enclosure against access to hazardous parts, against ingress of solid foreign objects and/or against ingress of water (see IEC 60529).

**Electrical Parameter**

Product specifications	Relevant parameters	Unit
$U_o$	220	V <sub>AC</sub>
$U_c$	277	V <sub>AC</sub>
$I_N$	5	kA
$U_{oc}$	10	kV
$U_p$	1.5	kV
Modes of protection	L-N/L-PE/N-PE	/
Operating State / Fault Indication	Green / Off	
Housing material	UL94V-0	
Dimensions	69.4*34*21.3	mm
Installation mode	Parallel connection	

**Storage and transportation parameters**

Product specifications	Relevant parameters	Unit
Operating and storage Temperature	(-40 ~ +85)	°C
Recommend Long-term Storage Condition	(-10 ~ -40) ≤ 75%	°C RH
Degrees of Protection of enclosure ( IP code )	IP65	/
Altitude	0 ~ 2000	m
Installation location	Indoors/Outdoors	/
Weight(PCS)	≈ 80	g

**Bencent LED SPD**

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**Part Numbering System**

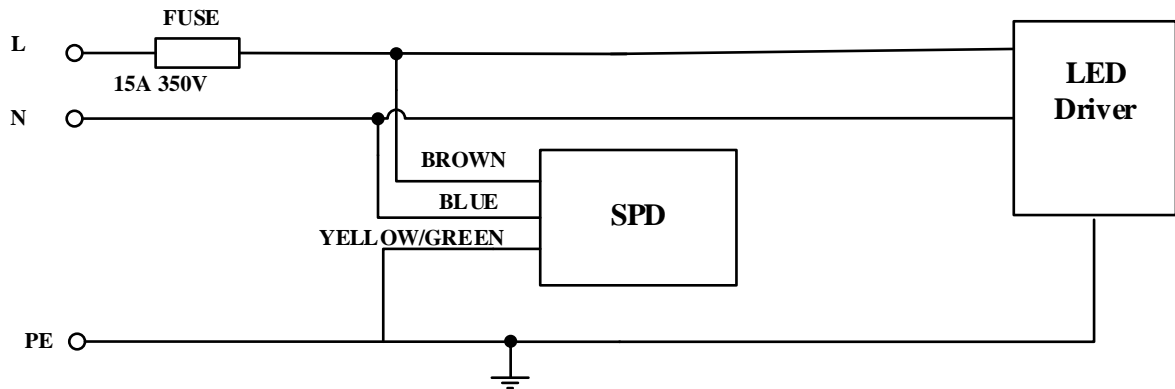
B SPD 277 D 05 L F - 01  
(1) (2) (3) (4) (5) (6) (7) (8)

- (1) Bencent  
(2) Surge Protective Device  
(3) Maximum continuous operating voltage: 277V<sub>AC</sub>  
(4) SPD Classification: D  
(5) Nominal Discharge Current: 5kA  
(6) LED SPD  
(7) Full mode protection  
(8) “01” means the special structure of this type

**Main Material List**

Part Name	Materials
Enclosure	Plastic
Pin material	Cu
Thermal Fuse	Plastic、Cu、Epoxy
GDT	Ceramics、Cu
Filling Material	Epoxy

**Recommended connection method**

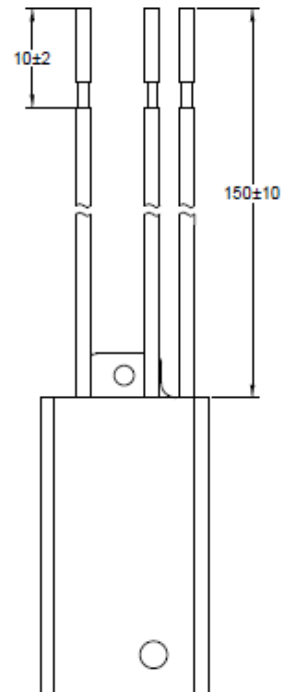
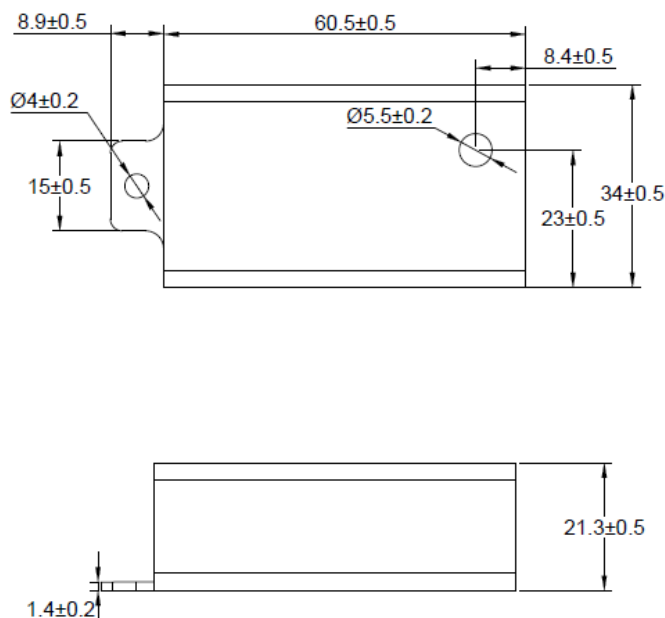


**Environmental Reliability Characteristics**

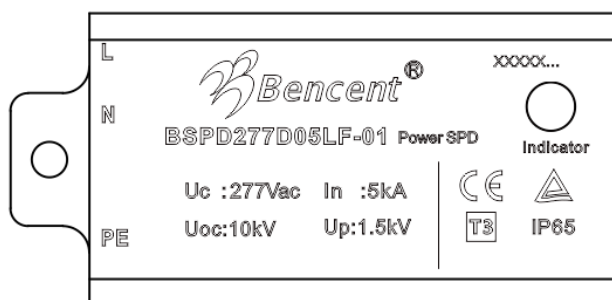
Testing items	Technical standards
High Temperature Storage Test	Temperature: 85°C Time: 2H
Low Temperature Storage Test	Temperature: -40°C Time: 2H
Thermal Cycle	Temperature: -40~85°C    Cycle: 5
Vibration	Frequency: 10Hz~55Hz Acceleration: 20m/s <sup>2</sup> (2g) Direction of vibration: x/y/z Time: 30min

Note: Up-screen program can be specified by customer's request via contacting Bencent service.

## Product Dimensions



## Marking on Product



Remark: xxxxx... A variable-length numeric code that represents the batch code of a product and is used only for information product tracking within the company.

## Package Information

Identification	Laser tag
Packing Case Size	440*235*235mm
The whole case number	198pcs