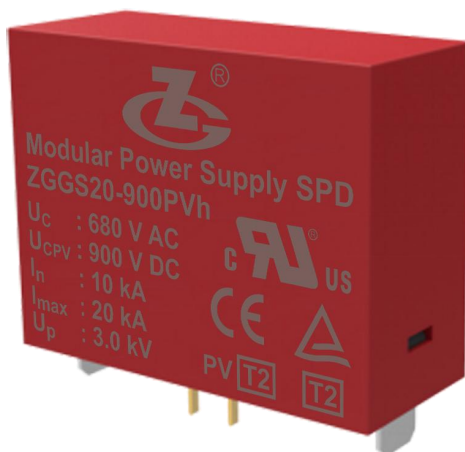


ZGGS20-900PVh Modular Power Supply SPD

Product Specification



General

ZGGS20-900PVh Modular Power Supply Surge Protective Device is mainly composed of the MOV, flame-retardant casing and metal components. It has built-in safety tripping device, which has flame retardant, overcurrent and overheat protection, and is applied to AC system. It has the functions of flame retardant, overcurrent & overheat protection and remote signaling alarm. Based on the PCB onboard installation method, it is mainly used for the secondary and tertiary surge protection of low-voltage AC/DC power supply and distribution system and electrical equipment

Features

Small volume, high discharge capacity, and fast response, without any follow current;

Technical Data

Operating Environment

Environment temperature	-40℃～85℃
Relative humidity	5%～95%
Altitude	-500m～4000m

Technical Parameters

SPD according to EN 50539-11:2013	Type 2
Number of ports	One
Maximum continuous operating voltage U_{cpv}	900 V DC
Rated short circuit current I_{scpv}	1000 A
Nominal discharge current I_n (8/20 μ s)	10 kA
Maximum discharge current I_{max} (8/20 μ s)	20 kA
Voltage protection level U_p	3.0 kV
Response time t_A	≤ 25 ns
Remote signaling alarm	Normal: closed; failed: open-circuited
Contact strength of remote signaling alarm port	30V DC, 0.1A; 125V AC, 1A
Connection mode	PCB onboard parallel
Application scenario	Indoors
Protection mode	+ — -, +/- —PE
Application system	Photovoltaic
Failure mode	Open-circuited
Degrees of protection provided by enclosures	IP20
Enclosure material	UL94V-0
Way to install	Onboard

Circuit Diagram

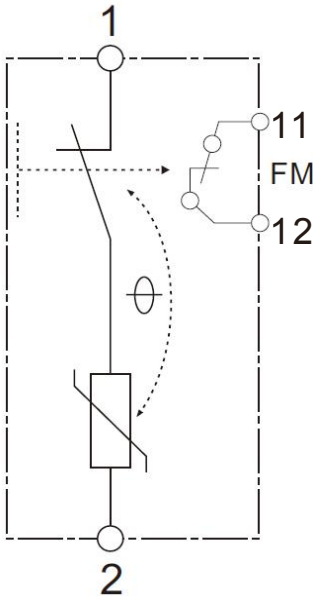


Fig. 1 Circuit diagram

Configuration

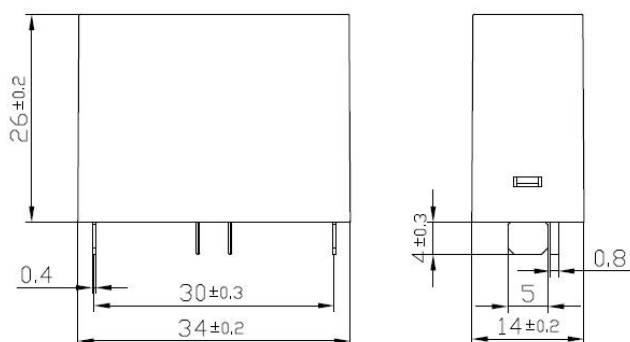
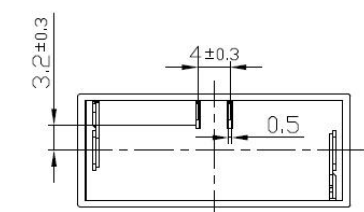


Fig. 2 Structural dimensions drawing

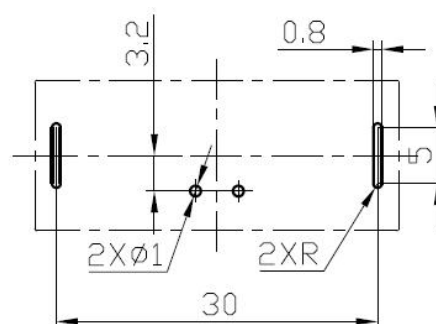


Fig. 3 Reference diagram of PCB opening

Standards Complied

UL1449 Ed.4	Standard for safety for surge protective devices
EN 50539-11: 2013	Low-voltage surge protective devices – Surge protective devices for specific application including d.c. – Part 11: Requirements and tests for SPDs in photovoltaic applications

Certificates/Approval

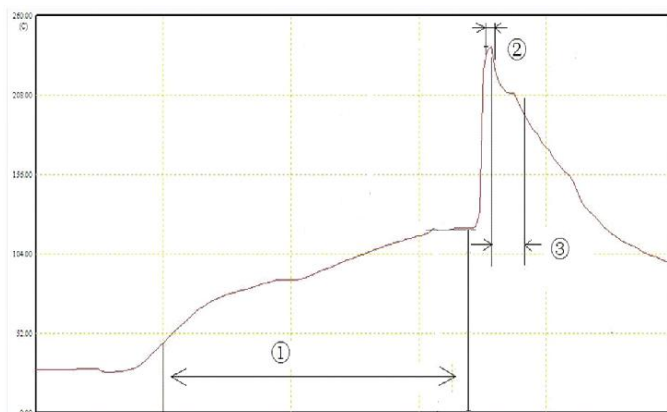


Type Approved
Safety
Regular Production
Surveillance

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Installation



①: Preheating zone ②: Soldering zone ③: Cooldown zone

Wave soldering:

Rate of preheating	$\leq 2^{\circ}\text{C/s}$
Preheating temperature	$120^{\circ}\text{C}\sim 150^{\circ}\text{C}$
Soldering temperature	$245^{\circ}\text{C}\sim 265^{\circ}\text{C}$
Soldering time	4~7s

Manual soldering:

Soldering temperature	420°C
Soldering time	4~7s

Note: There are temperature sensitive devices in this module, so please do not apply reflow soldering.

Usage and Maintenance

- Check whether the SPD is intact before use. If there is damage or the remote signal is open-circuited, it means that it is no longer usable.
- The SPD needs to be soldered reliably. There must be no pseudo soldering at the solder joints; otherwise, the solder joints of the pins will be damaged during lightning strikes, and the SPD will not be able to effectively protect the power equipment.
- It is necessary to periodically check whether the remote alarm system of the SPD is in the normally closed state. If the remote signal is open-circuited, the SPD has failed, which should be replaced immediately by professionals.
- To meet the impact requirements of the 8/20 μ s waveform $I_n=10\text{kA}$ and $I_{\text{max}}=20\text{kA}$ in *IEC61643-11:2011*, the PCB layout is recommended as follows: copper foil thickness 70 μm ; wiring width not less than 5mm (for the double layer)/10mm (for the single layer).

Package, Transportation and Storage

Package

The product packaging should be moisture-proof and vibration-proof.

Transportation

There should be coverings during transportation. No strong shocks and impacts are allowed.

Storage

The product storage temperature is $-40^{\circ}\text{C}\sim 85^{\circ}\text{C}$, and the relative humidity is not more than 96%. The warehouse should be airy, dry on the ground, and free from corrosive gases. Products with a shelf life of more than 6 months should be re-inspected and used only after passing the test.

Contact

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