


Features

- Size Design 34.2 × 14.3 × 30.3mm
- High Current Handling Capability 20kA @ 8/20μs
- Flame retardant
- Reliable to Protect Surge Voltage
- With overcurrent and overheat protection
- With failure alarm function

Application information

- Secondary and tertiary surge protection for low-voltage AC and DC power supply and distribution system and electrical equipment

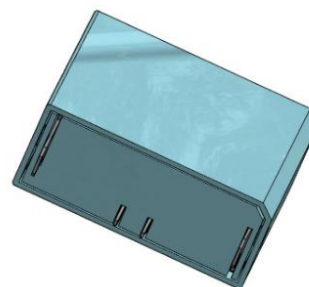
Agency Approvals

Icon	Description
RoHS	Compliance with 2011/65/EU
HF	Compliance with IEC61249-2-21:2003
	Mean lead free

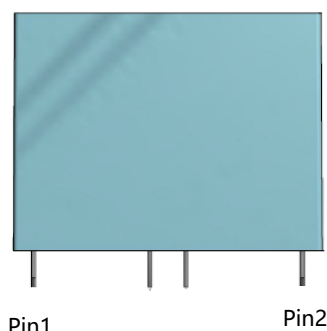
Test reference standards

- 1) GB / T 18802.31-2021: Low-voltage surge protective devices-Part 31: Surge protective devices connected to photovoltaic installations-Requirements and test methods.
- 2) IEC 61643-31:2019 :Low-voltage surge protective devices - Part 31: Requirements and test methods for SPDs for photovoltaic installations
- 3) IEC 61643-1 Edition 1.1 Surge protective devices connected to low-voltage power distribution systems -Part 1: Performance requirements and testing methods

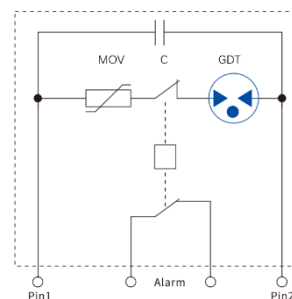
Exterior



Package (Top View)



Schematics



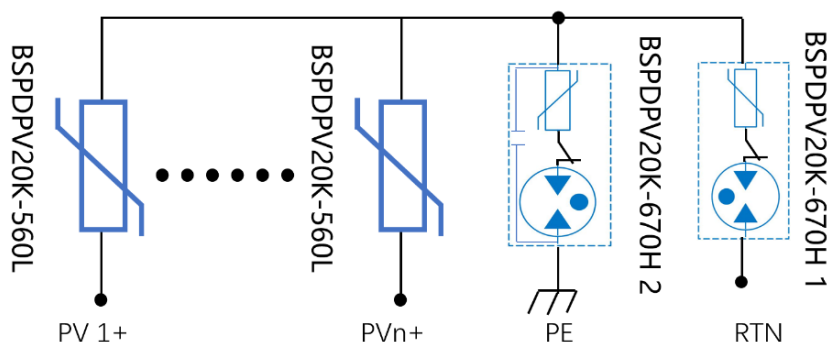
Electrical Parameter

Items	Technical parameter
Product Model	BSPDPV20K-670H2
MOV Voltage (1mA)	600-712V
GDT DC breakdown voltage (1mA)	1680V±20%
GDT Impulse breakdown voltage (1KV/μs)	≤3.0KV
Capacity C	47pF
SPD according to IEC 61643-11:2011	Class- II
SPD according to EN 61643-11:2012	Type 2
Maximum continuous operating voltage Uc	510VAC/670VDC
Maximum continuous operating voltage of photovoltaic application Ucpv	670V
Nominal discharge current In (8/20μs)	10KA
Max discharge current Imax (8/20μs)	20KA
Voltage protection level Up	Peak voltage≤4.0KV ¹⁾
	Platform voltage≤1.80KV ²⁾
Rated short-circuit current of photovoltaic application-Iscpv	50A
Operating and storage Temperature	-40~+95℃
Modes of protection	Refer to Application Principle Chart
IP Code of enclosure	IP20
Flame retardant grade of enclosure	UL94 V0
Housing material	PA66+25wt%glass fiber
Appearance color	Blue
Warning device	Normal closed, abnormal open

1) Refer to GB / T 18802.31-2021

2) Manufacturer claims

Application Principle Chart



Part Numbering System

BSPD PV 20K -670 H2
(1) (2) (3) (4) (5)

- (1) BSPD:Bencent SPD
(2) PV:Photovoltaic Module
(3) 20K: Max discharge current I_{max} (8/20 μ s) 20KA
(4) 670: Maximum continuous operating voltage of photovoltaic application $U_{cpv640V}$
(5) H2: [680V(1mA)MOV+1680V(1mA) GDT]&C(47pF)

Applicable environment and safety regulations

Items	Requirement Specification
Operating temperature	-40℃~95℃
Storage temperature	-40℃~95℃
relative humidity	5%~95%
Applicable altitude	≤5000m
The alarm circuit of this lightning protection module complies with the requirements of EN60950-1 for enhanced insulation, and the remote signaling alarm interface and main circuit. The insulation withstand voltage is 3750Vrms.	

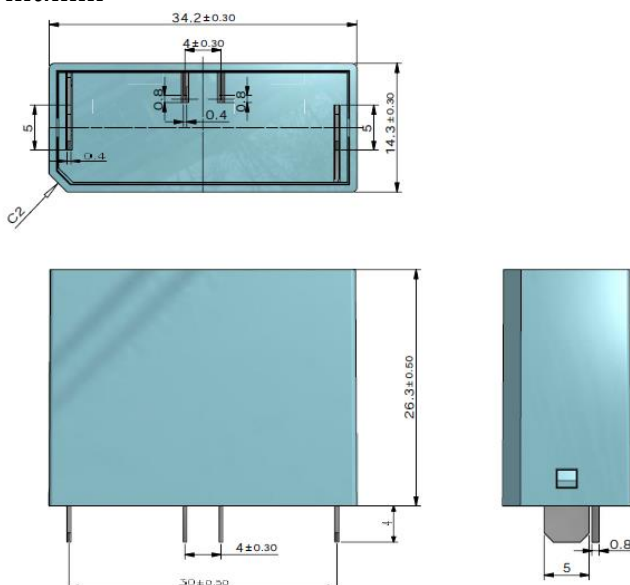
Note: Up-screen program can be specified by customer's request via contacting Bencent service

Solderability test

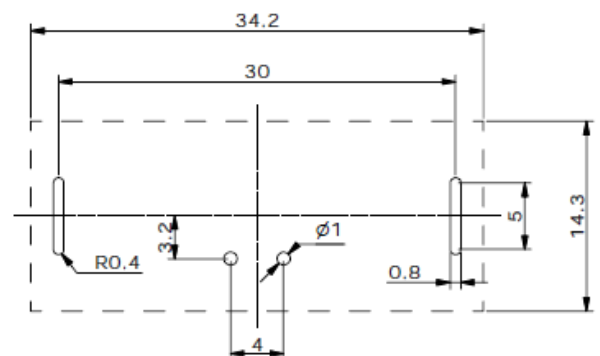
Solderability	Solder Pot Temperature:	245℃±5℃
	Solder Dwell Time:	4-6 seconds

Product Dimensions

Unit:mm



PCB Top Drilling Layer




BSPDPV20K-670H2

Ucpv:670V PV T2

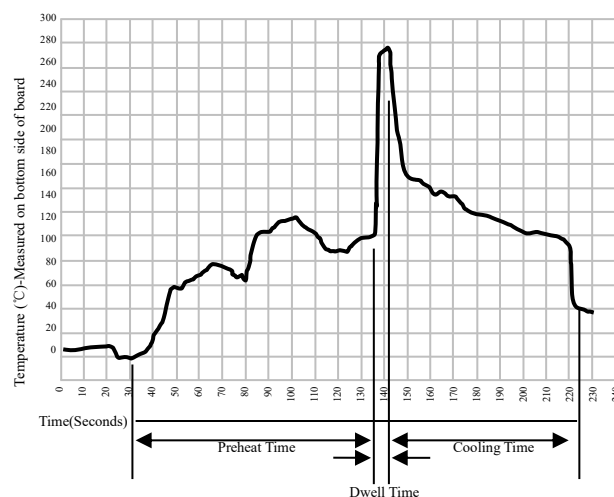
In:10kA T2

Up:1.80kV

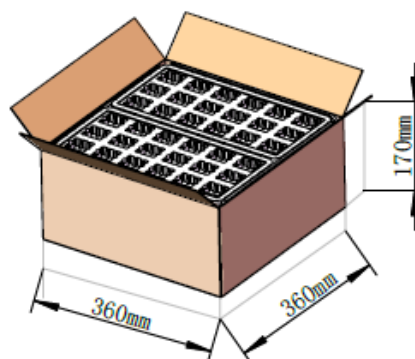
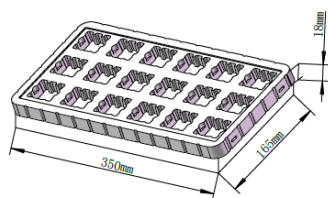
Wave Soldering profile

Wave Soldering Condition		Pb-Free assembly
Pre Heat	Temperature Min	100°C
	Temperature Max	150°C
	Time (min to max)	60 – 180 secs
Solder Pot Temperature		265°C Max
Solder Dwell Time		2-5 seconds

Products can be welded manually or using wave soldering;
It is recommended to use a thermostatic soldering iron of 100W
at a temperature of $420\text{ }^{\circ}\text{C} \pm 5\text{ }^{\circ}\text{C}$, and the welding time
is 1-3 seconds. It is recommended to use normal temperature
solder wire for soldering.



Package Information



Outline	Per Dish (PCS)	Per Carton (PCS)	Carton Size(mm)		
			L	W	H
Skin packing	18	324	360	360	170