

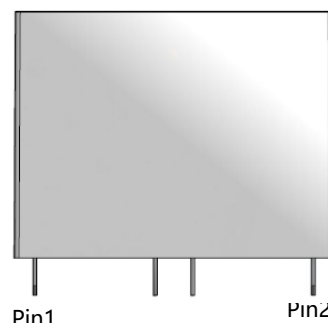
Features

- Size Design $34.2 \times 14.3 \times 30.3\text{mm}$
- High Current Handling Capability $20\text{kA} @ 8/20\mu\text{s}$
- Flame retardant
- Reliable to Protect Surge Voltage
- With overcurrent and overheat protection
- With failure alarm function

Exterior




Package (Top View)



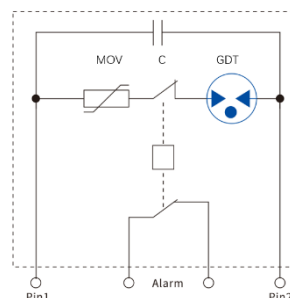
Application information

- 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

Schematics



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

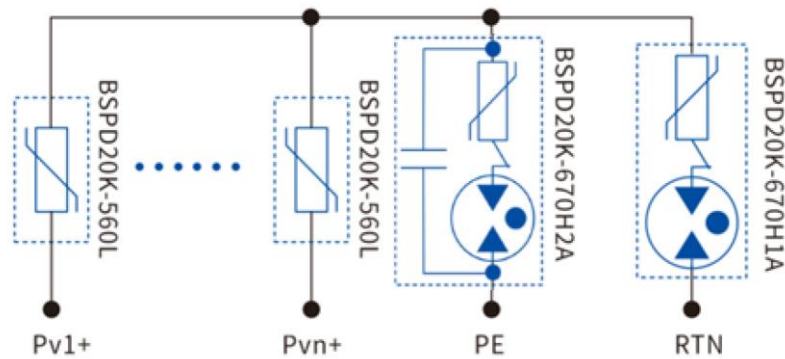
Electrical Parameter

	Items	Technical parameter
SPD module (Pin1-2)	Product Model	BSPDPV20K-670H2A
	SPD according to IEC 61643-11:2011	Class- II
	SPD according to EN 61643-11:2012	Type 2
	Maximum continuous operating voltage U_c	510VAC/670VDC
	Maximum continuous operating voltage of photovoltaic application U_{cpv}	670V
	Impulse Spark-over Voltage (1KV/ μ S)	$1.2kV \leq \text{Peak voltage} \leq 3.0kV$
		$0.7kV \leq \text{Platform vottage} \leq 1.1kV$
	Insulation Resistance (DC=100V)	$\geq 0.1G\Omega$
	Nominal discharge current I_n (8/20 μ s)	10KA
	Max discharge current I_{max} (8/20 μ s)	20KA
	Voltage protection level U_p	Peak voltage $\leq 4.0kV^{(1)}$
		Platform vottage $\leq 1.50kV^{(2)}$
	Rated short-circuit current of photovoltaic application- I_{scpv}	50A
	Operating and storage Temperature	-40 \sim +95 $^{\circ}$ C
	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	White
Warning device	Function	Normal closed, abnormal open
	Contact current capacity	Max(125Vac&1A, 125Vdc&0.2A), Min (5V&1mA)
MOV	MOV Voltage (1mA)	560V(-5 \sim 15%)
	MOV Leakage current I_D (75%)	$\leq 20\mu A$
GDT	DC breakdown voltage (100V/s)	1680V, $\pm 20\%$
	Impulse breakdown voltage (1KV/ μ s)	$\leq 3.0KV$
Capacity	Capacity C (1Vrms, 1MHz)	47pF, $\pm 10\%$
	Rated Voltage	3kV

1) Refer to GB / T 18802.31-2021

2) Manufacturer claims

Application Principle Chart



Part Numbering System

BSPD	PV	20K	-670	H2A
(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 $U_{cpv670V}$
(5) H2A: [560V(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.	

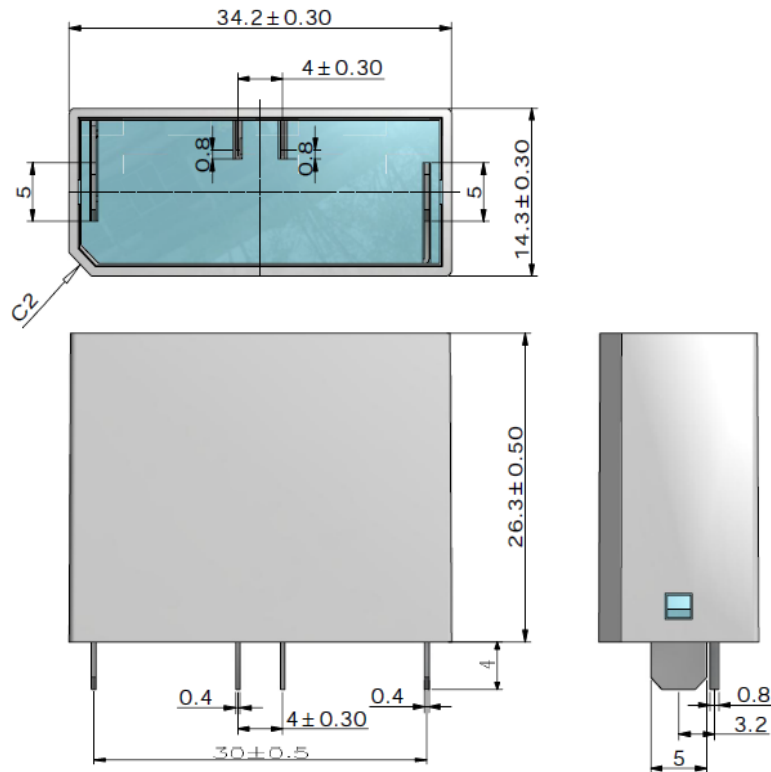
Note: Up-screen program can be specified by customer's request via contacting Bencent service

Solderability test

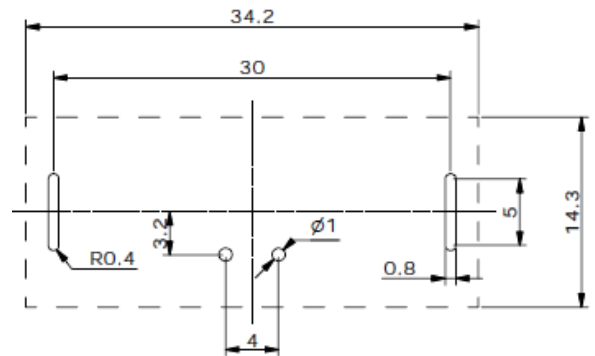
Solderability	Solder Pot Temperature:	245℃±5℃
	Solder Dwell Time:	4-6 seconds

Product Dimensions

Unit:mm



PCB Top Drilling Layer



Identification

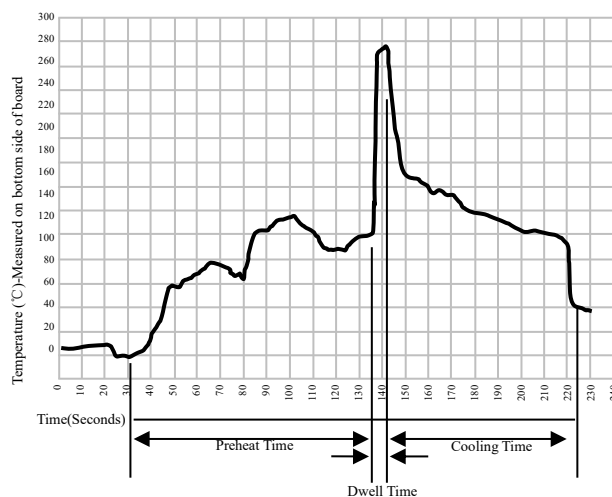

BSPDPV20K-670H2A

Ucpv:670V PV T2

In:10kA T2

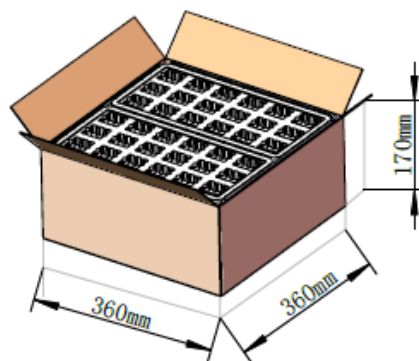
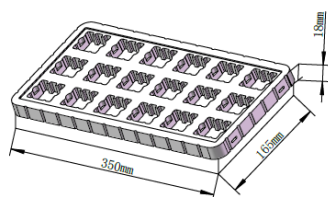
Up:1.50kV

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 Set $420^{\circ}\text{C} \pm 5^{\circ}\text{C}$, 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