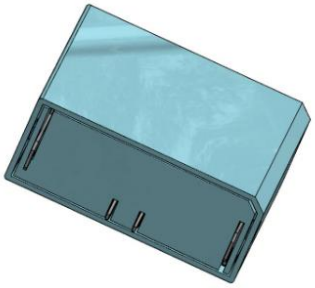
Features

- Size Design34.2×14.3×30.3mm
- High Current Handling Capability20kA @ 8/20μs
- Flame retardant
- Reliable to Protect Surge Voltage
- With overcurrent and overheat protection
- With failure alarm function

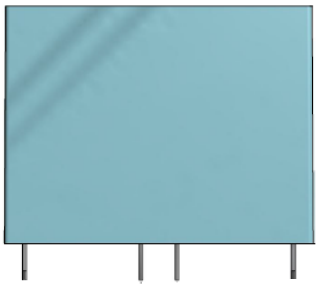
Exterior



Application information

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

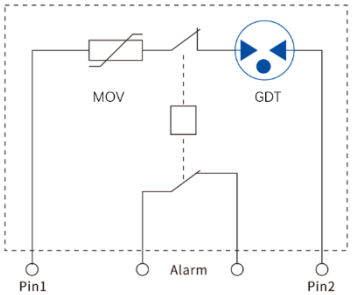
Package (Top View)



Agency Approvals

Icon	Description
RoHS	Compliance with 2011/65/EU
HF	Compliance with IEC61249-2-21:2003
Pb	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）ILNAS-EN 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

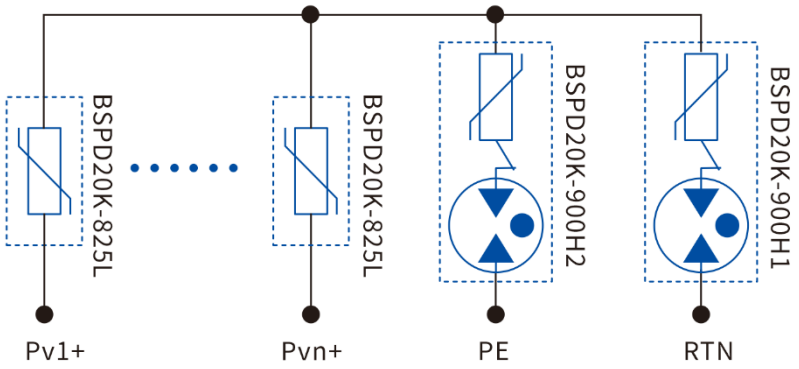
Electrical Parameter

	Items	Technical parameter
SPD module (Pin1-2)	Product Model	BSPDPV20K-900H1
	SPD according to IEC 61643-11:2011	Class-Ⅱ
	SPD according to EN 61643-11:2012	Type 2
	Maximum continuous operating voltage Uc	680VAC/900VDC
	Maximum continuous operating voltage of photovoltaic application Ucpv	900V
	Impulse Spark-over Voltage（1KV/μS）	1.4 kV≤Peak voltage⩽3.2kV
		1.0kV⩽Platform votage≤1.6kV
	Insulation Resistance（DC=100V）	≥0.1GΩ
	Nominal discharge current In（8/20μs）	10KA
	Max discharge current Imax（8/20μs）	20KA
	Voltage protection level Up	Peak voltage⩽4.5kV[1)]
		Platform votage≤2.6kV[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	Function	Normal closed, abnormal open
	Contact current capacity	Max(125Vac&1A,125Vdc&0.2A),Min (5V&1mA)
MOV	MOV Voltage（1mA）	1000V，±10%
	MOV ID(75%)	⩽20μA
GDT	DC breakdown voltage（100V/s）	1900V，±20%
	Impulse breakdown voltage（1KV/μs）	≤3.2KV

1）Refer to GB / T 18802.31-2021

2）Manufacturer claims

Application Principle Chart



Part Numbering System

BSPD	PV	20K	-900	H1
(1)	(2)	(3)	(4)	(5)

(1) BSPD:Bencent SPD

(2) PV:Photovoltaic Module

(3) 20K：Max discharge current Imax（8/20μs）20KA

(4) 900：Maximum continuous operating voltage of photovoltaic application Ucpv900V

(5) H1: [1000V(1mA)MOV+1900V(1mA) GDT]

Applicable environment and safety regulations

Items	Requirement Specification
Operating temperature	-40℃~90℃
Storage temperature	-40℃~90℃
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.	

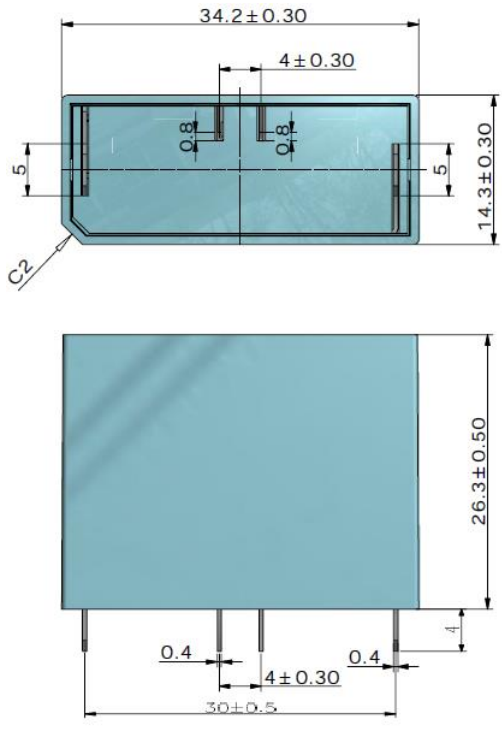
Note: Up-screen program can be specified by customer's request via contacting Bencent service

Solderability test

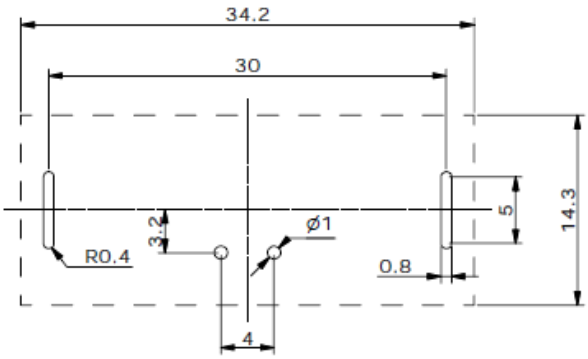
Solderability	Solder Pot Temperature:	245℃±5℃
	Solder Dwell Time:	4-6 seconds

Product Dimensions

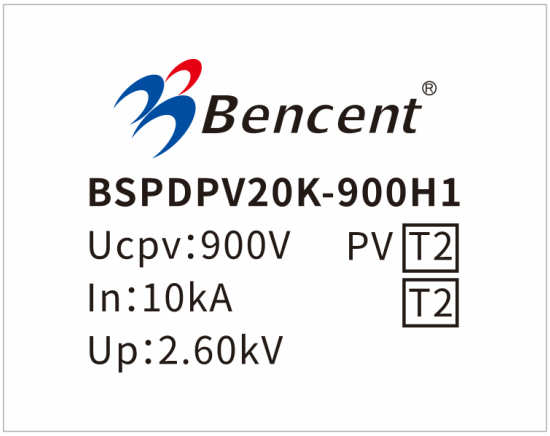
Unit:mm



PCB Top Drilling Layer

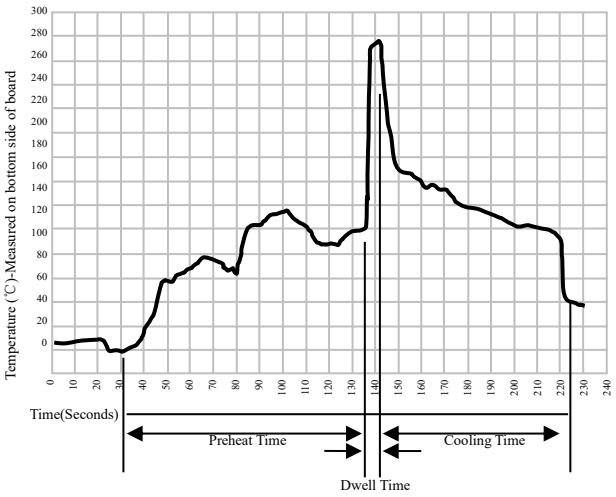


Identification



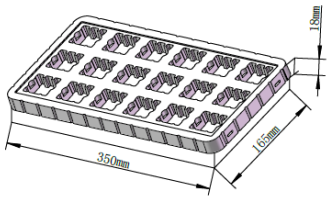
Wave Soldering profile

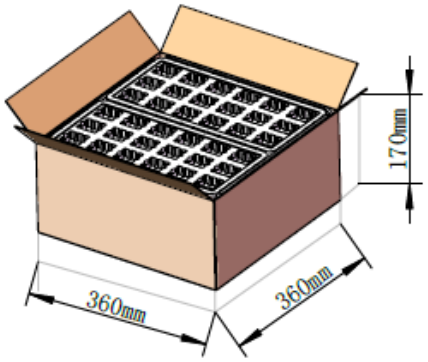
Wave Soldering Condition		Pb-Free assembly
Pre Heat	Temperature Min	100°C
	Temperature Max	150°C
	Time （min to max）	60 – 180 secs
Solder Pot Temperature		265℃ Max
Solder Dwell Time		2-5 seconds



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 ℃± 5 ℃, 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