BS0060U-2G-2

Order Code: BS0060U-2G-2

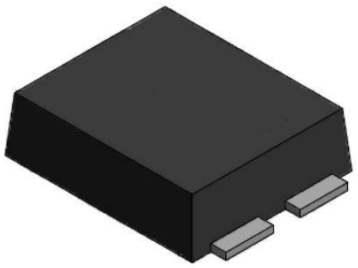
Thyristor Surge Suppresser

Version: A2 2023/02/17

Features

- Excellent capability of absorbing transient surge
- Quick response to surge voltage (nS Level)
- Eliminates overvoltage caused by fast rising transients
- Moisture sensitivity level: level 1
- Non degenerative
- Weight: 360mg
- Bi-directional

Exterior



SMC-T

Application Information

- RS485

Package (top view)

2

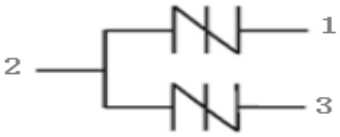
1

3

Agency Approvals

Icon	Description
RoHS	Compliance with 2011/65/EU
HF	Compliance withIEC61249-2-21:2003

Schematic Symbol



Part Number and Electrical Parameter

Part Number	IDRM@VDRM		VS①@ IS		VT@ IT		IH	CO②	IPP	IPP@90℃
	μA	V	V	mA	V	A	mA	pF	KA	KA
	MAX	Pin1,3-2	Pin1,3-2		MAX		MIN	MAX	MAX	MAX
BS0060U-2G-2	5	6	25	800	4	2.2	50	700	3	2.4

Absolute maximum ratings measured at T_A= 25ºC RH = 45%-75% (unless otherwise noted).

①Vs is measured at 100KV/S

② Off-state Capacitance is measured at V_{DC}=2V, V_{RMS}=1V, f=1MHz

③Surge Waveform: 8/20μS (PIN1 or 3 to 2)

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Part Numbering System

BS 0060 U - 2 G - 2
(1) (2) (3) (4) (5) (6)

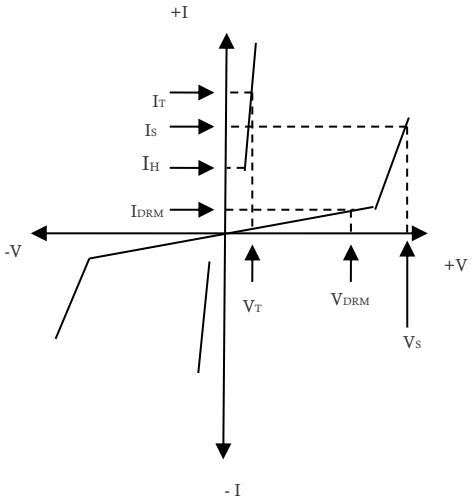
(1) Bencent Semiconductor Surge Arrester
(2) Off state Voltage=6V.
(3) Package: SMC-T
(4) 2 Lines Protection
(5) Rating Surge Voltage: 3KA (8/20μS)
(6) Internal Contorl

Mark

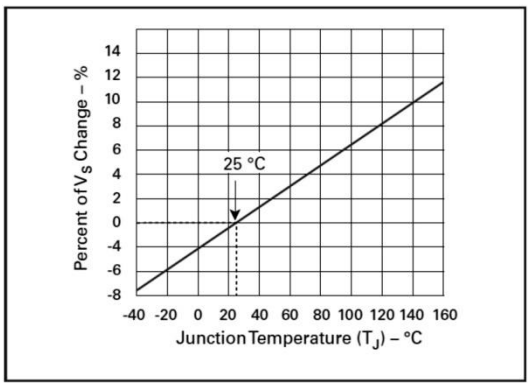
B006U2G1: Part Number
2007: july, 2020

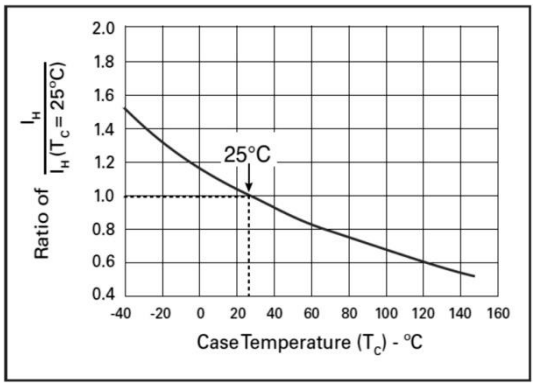
V-I Curve

Parameters	Definition
V_{DRM}	Peak Off-state Voltage
I_{DRM}	Off-state Current
V_S	Switching Voltage
I_S	Switching Current
I_H	Holding Current
V_T	On-state Voltage
I_T	On-state Current
C_O	Off-state Capacitance



Typical Characteristics





Surge Ratings

Current Waveform	8/20μs
Voltage Waveform	1.2/50μs
Ipp	3KA

-Peak pulse current rating (I_{PP}) is repetitive and guaranteed for the life of the product;

Thermal Considerations

Symbol	Parameter	Value	Unit
T_J	Operating Junction Temperature Range	-40 to +125	℃
T_S	Storage Temperature Range	-40 to +125	℃

Physical Characteristics

Lead Material	Copper Alloy
Body Material	UL recognized epoxy meeting flammability classification 94V-0
Terminal Finish	100% Matte-Tin Plated

Environmental Characteristics

Testing Items	Technical Standards
High Temperature Reverse Bias Test	Temperature: 125±3℃, Bias=80%V_{DRM} Time: 168H
High Temperature Life Test	Temperature: 125℃ Time: 168H
High-low Temperature Cycle Test	Temperature: From -40℃ to125℃ Dwell time: 30min, 100 cycles
High Temperature &High Humidity Test	Temperature: 85℃Humidity:85% Test time: 168H
Pressure Cooker Test	Temperature: 121℃, 2atm. Humidity: 100% Test time: 24H
Resistance of Soldering Heat	Temperature: 260±5℃ Time of dip soldering: 10s, 3times

Note: The above testing items can be specified by customers by contacting Bencent service

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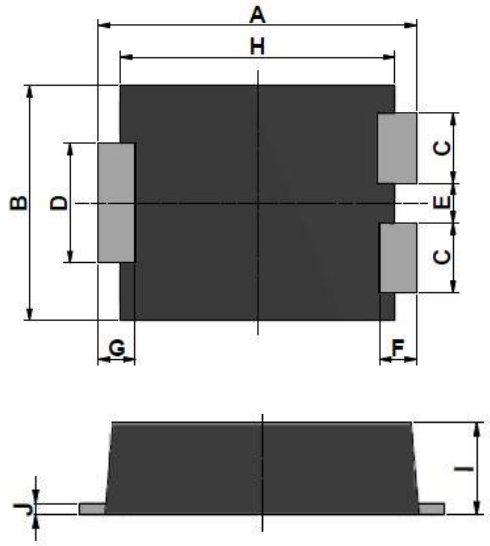
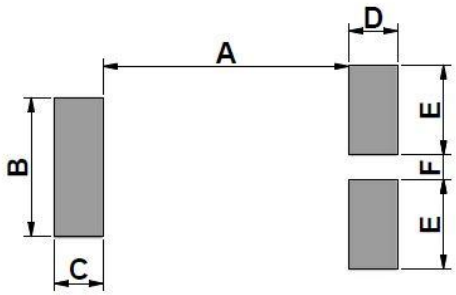
Product Dimensions



REF	mm	inch
A	8.0±0.3	0.315±0.012
B	5.9±0.3	0.232±0.012
C	1.75±0.1	0.069±0.004
D	3.0±0.2	0.118±0.008
E	1.0±0.2	0.039±0.008
F	0.8±0.25	0.031±0.010
G	0.8±0.25	0.031±0.010
H	6.9±0.3	0.272±0.012
I	2.0±0.2	0.079±0.008
J	0.25±0.05	0.010±0.002

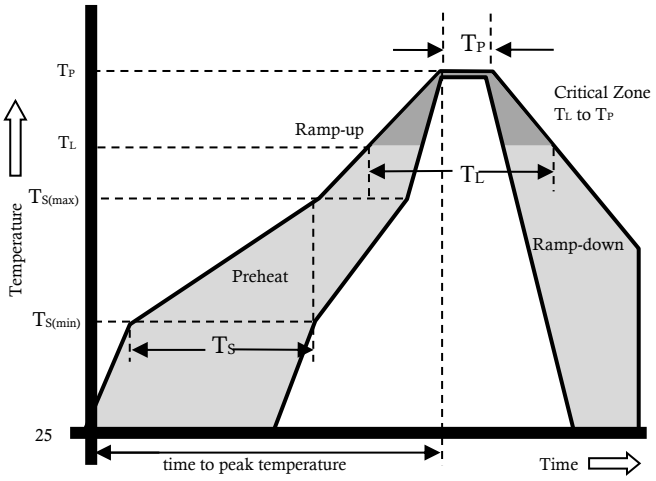
Recommended Soldering Pad



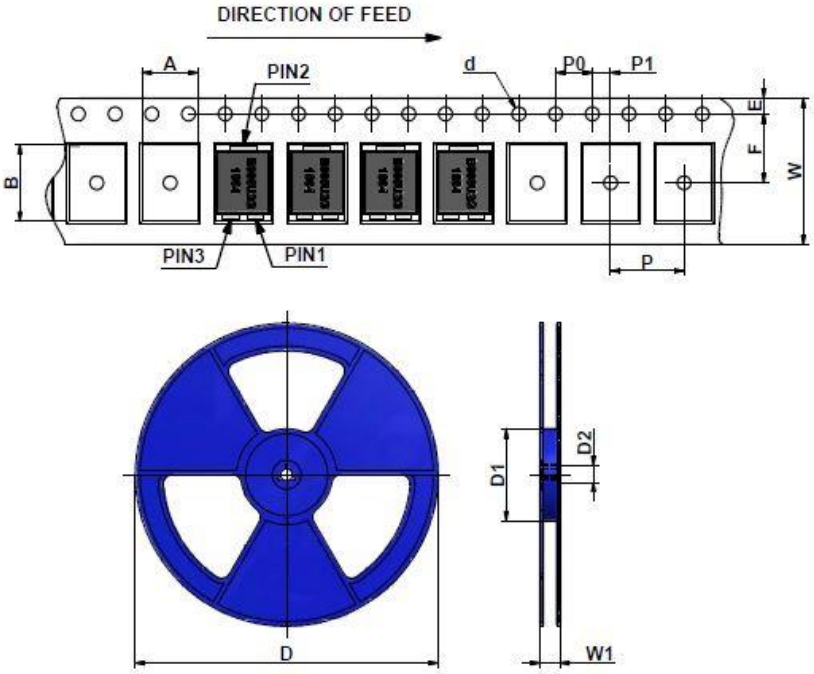
REF	mm	inch
A	6.0	0.236
B	3.4	0.134
C	1.2	0.047
D	1.2	0.047
E	2.2	0.087
F	0.6	0.024

Reflow Profile

Reflow Condition		Pb-Free Assembly
Pre Heat	Temperature Min.	+150°C
	Temperature Max.	+200°C
	Time (Min to Max)	60 – 180 secs.
Average ramp up rate (Liquidus Temp(T_L) to peak)		3°C/sec. Max.
T_S (max) to T_L - Ramp-up Rate		3°C/sec. Max.
Reflow	- Temperature (T_L) (Liquidus)	+217°C
	- Temperature (T_L)	60 – 150 secs.
Peak Temp (T_P)		+(260+0/-5)°C
Time within 5°C of actual Peak Temp (T_P)		8 – 15 secs.
Ramp-down Rate		6°C/sec. Max.
Time 25°C to peak Temp (T_P)		8 min. Max.
Do not exceed		+260°C



Package Reel Information



REF	mm	inch
A	6.05±0.2	0.238±0.008
B	8.3±0.2	0.327±0.008
d	1.5±0.15	0.059±0.006
D	type330.0	type13.0
D1	99±1	3.898±0.039
D2	13.3±0.5	0.524±0.020
E	1.75±0.2	0.069±0.008
F	7.5±0.2	0.295±0.008
P	8.0±0.1	0.315±0.004
P0	4.0±0.1	0.157±0.004
P1	2.0±0.1	0.079±.004
W	16.0±0.5	0.630±0.020
W1	21.5±1	0.846±0.039

OUTLINE	REEL (PCS)	PER CARTON (PCS)	REEL DIAMETERS (mm)	CARTON SIZE(mm)		
				L	W	H
TAPING	3,000	48,000	330	360	360	385