

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
- Bi-directional

Application Information

- RS485

Agency Approvals

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

Part Number and Electrical Parameter

Part Number	IDRM@VDRM		Vs ^① @ Is		VT@ IT		IH	Co ^②
	μA	V	V	mA	V	A	mA	pF
	MAX	Pin1,3-2	Pin1,3-2		MAX		MIN	MAX
BS0060U-2G	5	6	25	800	4	2.2	50	1000

Absolute maximum ratings measured at TA= 25°C RH = 45%-75% (unless otherwise noted).

①Vs is measured at 100KV/S

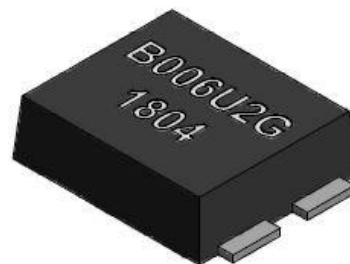
② Off-state Capacitance is measured at VDC=2V, VRMS=1V, f=1MHz

Part Numbering System

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

- (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)

Exterior

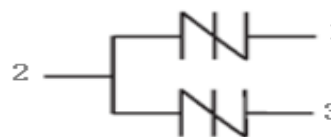


SMC-T

Package (top view)



Schematic Symbol



Mark



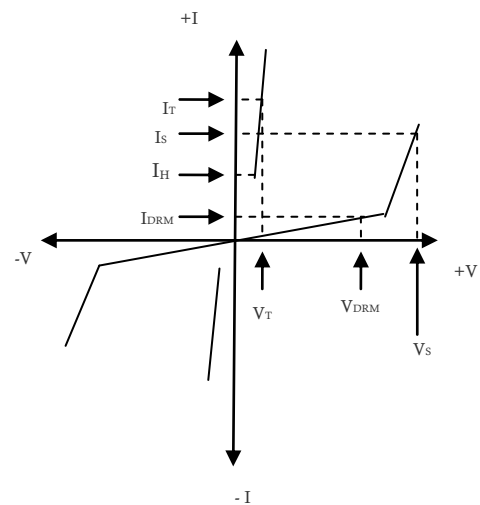
B006U2G: Part Number
1804: April, 2018

Thyristor Surge Suppressor

Version: A2 2018/6/13

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



Surge Ratings

Current Waveform	8/20 μ s
Voltage Waveform	1.2/50 μ s
I_{pp}	3KA

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

-Bencent only makes the test for 8/20 μ s@3KA, but for other IPP value derived from experience is just for reference only.

Thermal Considerations

Symbol	Parameter	Value	Unit
T_J	Operating Junction Temperature Range	-40 to +150	$^{\circ}$ C
T_S	Storage Temperature Range	-40 to +150	$^{\circ}$ C

Physical Characteristics

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

Environmental Characteristics

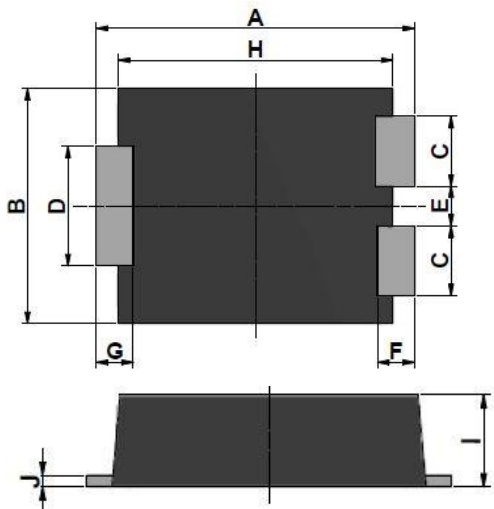
Testing Items	Technical Standards
High Temperature Reverse Bias Test	Temperature: 150 \pm 3 $^{\circ}$ C, Bias=80% V_{DRM} Time: 168H
High Temperature Life Test	Temperature: 150 $^{\circ}$ C Time: 168H
High-low Temperature Cycle Test	Temperature: From -40 $^{\circ}$ C to125 $^{\circ}$ C Dwell time: 30min, 100 cycles
High Temperature &High Humidity Test	Temperature: 85 $^{\circ}$ C Humidity:85% Test time: 168H
Pressure Cooker Test	Temperature: 121 $^{\circ}$ C, 2atm. Humidity: 100% Test time: 24H
Resistance of Soldering Heat	Temperature: 260 \pm 5 $^{\circ}$ C Time of dip soldering: 10s, 3times

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

Thyristor Surge Suppressor

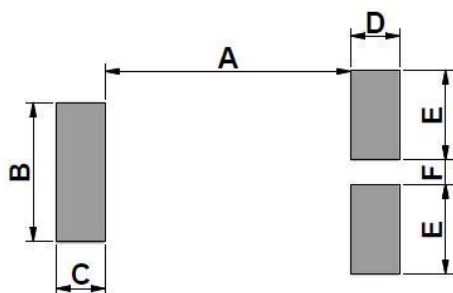
Version: A2 2018/6/13

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

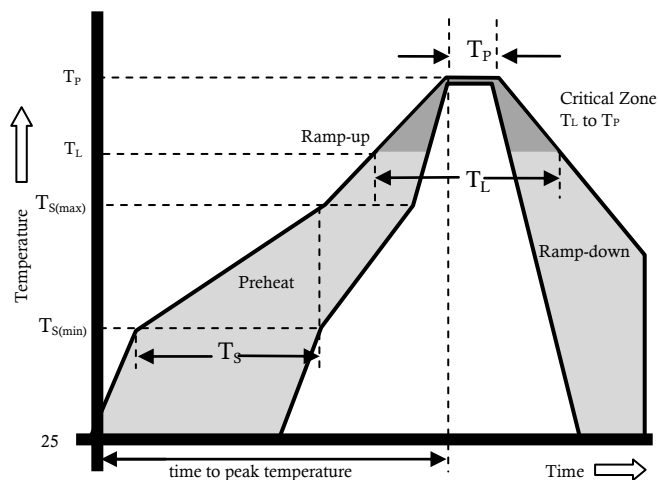
Recommended Soldering Pad



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

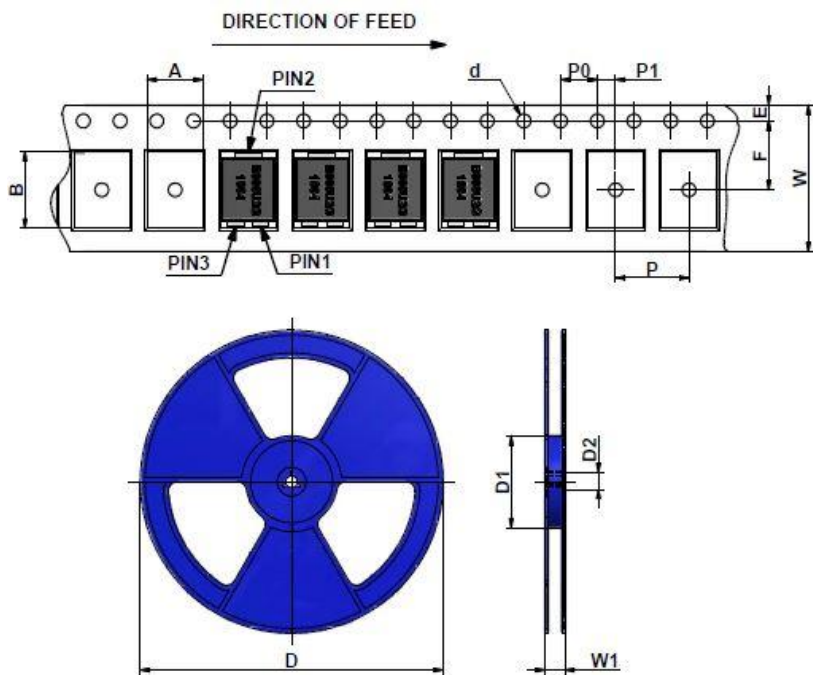
Reflow Condition		Pb-Free Assembly
Pre Heat	Temperature Min.	+150°C
	Temperature Max.	+200°C
	Time (Min to Max)	60 – 180 secs.
Average ramp up rate (Liquidus Temp (T _L) to peak)		3°C/sec. Max.
T _S (max) to T _L - Ramp-up Rate		3°C/sec. Max.
Reflow	- Temperature (T _L) (Liquidus)	+217°C
	- Temperature (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



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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