

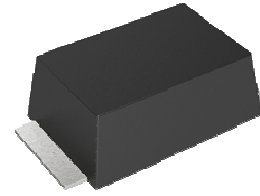
Thyristor Surge Suppressor

Version: A0 2014-02-24

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
- Weight:87mg
- Non degenerative
- Bi-directional

Exterior

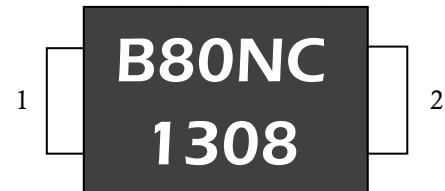


SMB-F

Application Information

- Ethernet

Package (Top View)



Agency Approvals

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

Schematic Symbol



Part Number and Electrical Parameter

| Part Number | IDRM@VDRM <sup>①</sup> |     | Vs <sup>②</sup> @ Is |     | VT@ IT |     | IH  | Co <sup>③</sup> |
|-------------|------------------------|-----|----------------------|-----|--------|-----|-----|-----------------|
|             | μA                     | V   | V                    | mA  | V      | A   | mA  | pF              |
|             | MAX                    |     | MAX                  |     | MAX    |     | MAX | MAX             |
| BS8000N-C-F | 5                      | 750 | 1000                 | 800 | 4      | 2.2 | 50  | 50              |

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

①Hi-pot:AC500V

②Vs is measured at 100KV/S.

③Off-state Capacitance is measured at VDC=2V,VRMS=1V,f=1MHz.

Thyristor Surge Suppressor

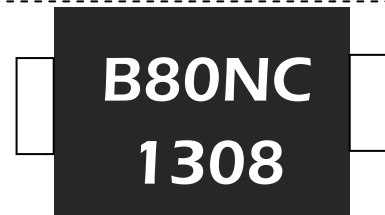
Version: A0 2014-02-24

Part Numbering System

BS 8000 N C F  
(1) (2) (3) (4) (5)

- (1)Bencent Semiconductor Surge Arrester
- (2)Off-state Voltage,e.g. : 8000=800×10<sup>0</sup>=800V
- (3) Package :SMB
- (4) Rating Surge Voltage: 6KV (10/700μs)
- (5) Flat feet

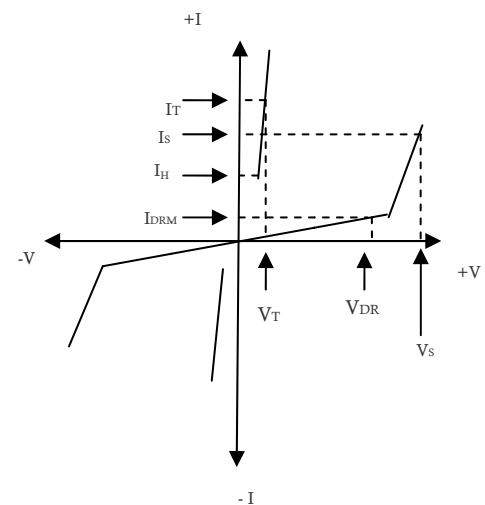
Mark



B80NC: Part Number  
1308:August,2013

V-I Curve

| Parameters       | Definition             |
|------------------|------------------------|
| V <sub>DRM</sub> | Peak Off-state Voltage |
| I <sub>DRM</sub> | Off-state Current      |
| V <sub>S</sub>   | Switching Voltage      |
| I <sub>S</sub>   | Switching Current      |
| I <sub>H</sub>   | Holding Current        |
| V <sub>T</sub>   | On-state Voltage       |
| I <sub>T</sub>   | On-state Current       |
| C <sub>o</sub>   | Off-state Capacitance  |



Surge Ratings

|                  |          |           |           |
|------------------|----------|-----------|-----------|
| Current Waveform | 8/20μs   | 5/320μs*  | 10/1000μs |
| Voltage Waveform | 1.2/50μs | 10/700μs* | 10/1000μs |
| I <sub>pp</sub>  | 400A     | 150A      | 100A      |

- Peak pulse current rating (I<sub>pp</sub>) is repetitive and guaranteed for the life of the product;
- Bencent only makes the test for 5/320μs@150A\* (10/700μs@6KV), but for other IPP value derived from experience is just for reference only. Bencent will not take any obligation for these parameters, so before applying our parts, please make sure to verify the parameters listed in the above table.

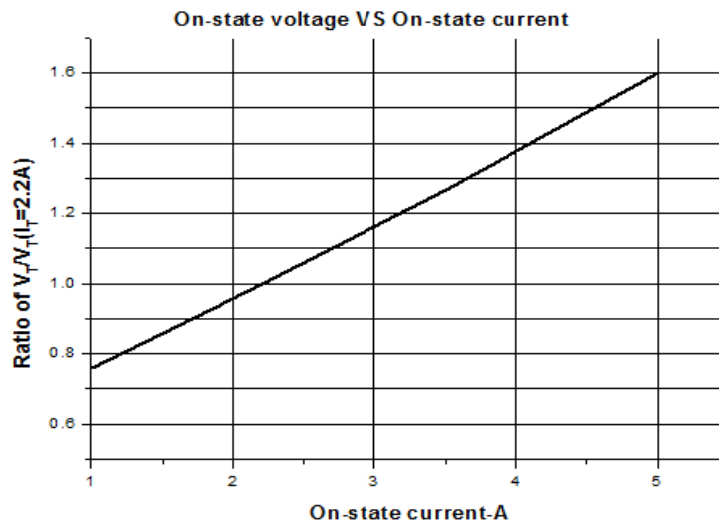
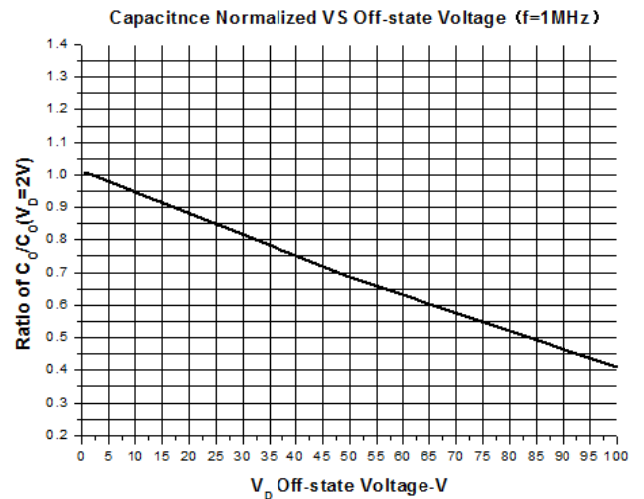
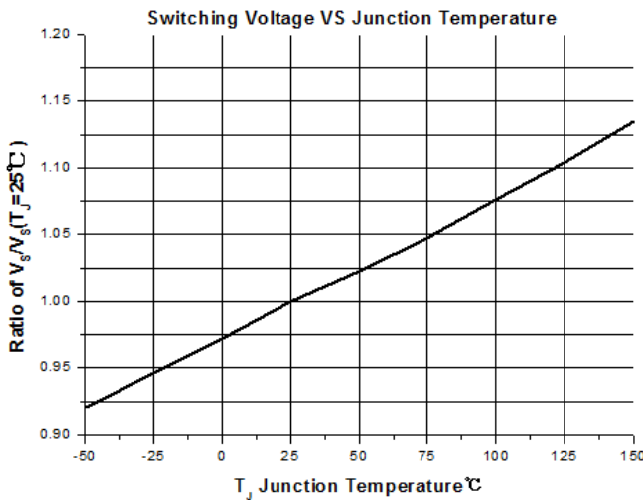
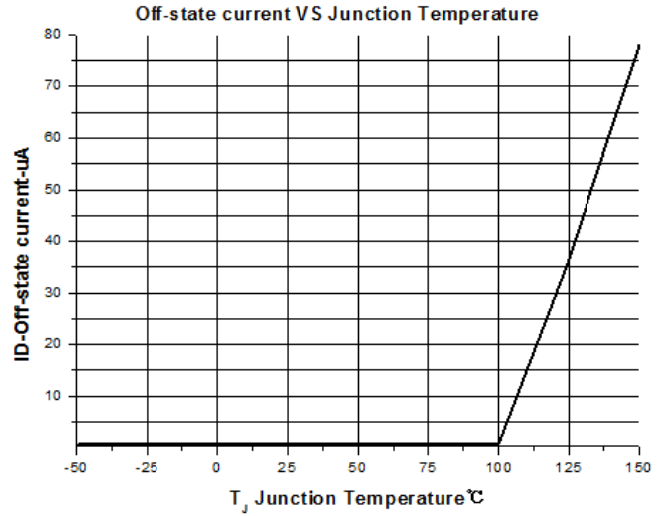
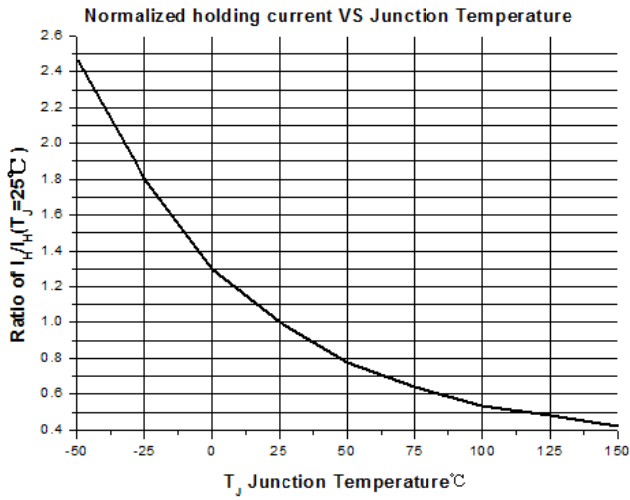
Thermal Considerations

| symbol         | Parameter                            | Value       | Unit |
|----------------|--------------------------------------|-------------|------|
| T <sub>J</sub> | Operating Junction Temperature Range | -40 to +150 | °C   |
| T <sub>S</sub> | Storage Temperature Range            | -60 to +150 | °C   |

Physical Characteristics

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

Typical Characteristics



Thyristor Surge Suppressor

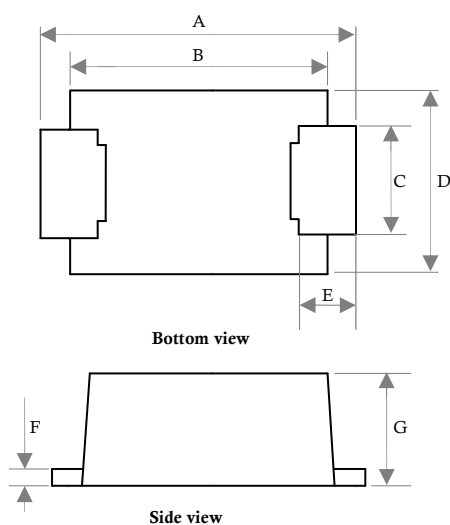
Version: A0 2014-02-24

Environmental Characteristics

| Testing Items                         | Technical Standards   |
|---------------------------------------|---|
| High Temperature Reverse Bias Test    | Temperature: $150\pm 3^{\circ}\text{C}$ , Bias= $80\%V_{\text{DRM}}$<br>Time:168H                   |
| High Temperature Life Test            | Temperature: $150^{\circ}\text{C}$<br>Time:168H   |
| High-low Temperature Cycle Test       | Temperature:From $-40^{\circ}\text{C}$ to $125^{\circ}\text{C}$<br>Dwell time: 30min, 10-100 cycles |
| High Temperature & High Humidity Test | Temperature: $85^{\circ}\text{C}$ , Humidity:85%<br>Test time:168H                                  |
| Pressure Cooker Test                  | Temperature: $121^{\circ}\text{C}$ , 2atm. Humidity:100%<br>Test time:24H to 168H                   |
| Resistance of Soldering Heat          | Temperature: $260\pm 5^{\circ}\text{C}$<br>Time of dip soldering: 10s, 3times                       |

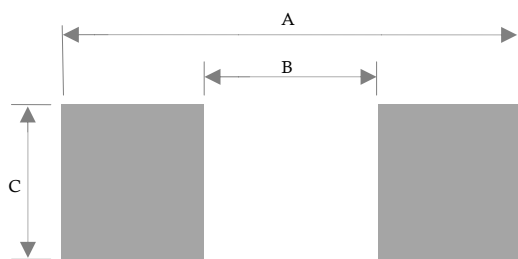
Note: The above testing items can be specified by customers by contacting Bencent service

Product Dimensions



| REF | mm             | inch             |
|-----|----------------|------------------|
| A   | $5.4\pm 0.3$   | $0.213\pm 0.012$ |
| B   | $4.4\pm 0.2$   | $0.173\pm 0.008$ |
| C   | $2.0\pm 0.1$   | $0.079\pm 0.004$ |
| D   | $3.3\pm 0.3$   | $0.130\pm 0.012$ |
| E   | $0.8\pm 0.3$   | $0.032\pm 0.012$ |
| F   | $0.25\pm 0.05$ | $0.010\pm 0.002$ |
| G   | $2\pm 0.3$     | $0.079\pm 0.012$ |

Recommended Soldering Pad



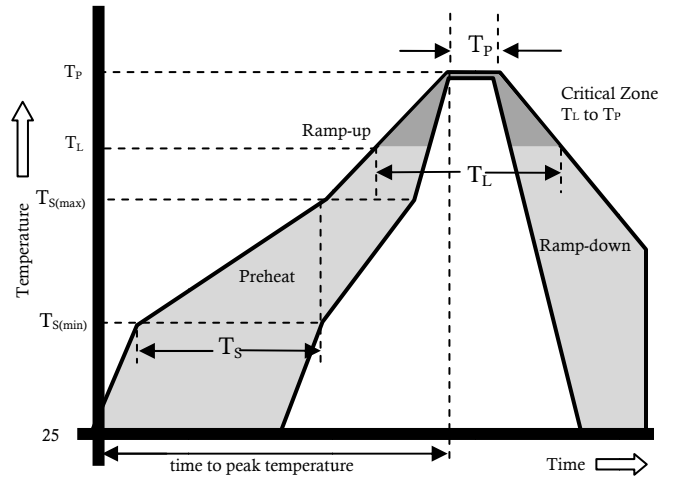
| REF | mm   | inch  |
|-----|------|-------|
| A   | 6.4  | 0.252 |
| B   | 3.4  | 0.134 |
| C   | 2.75 | 0.108 |

Thyristor Surge Suppressor

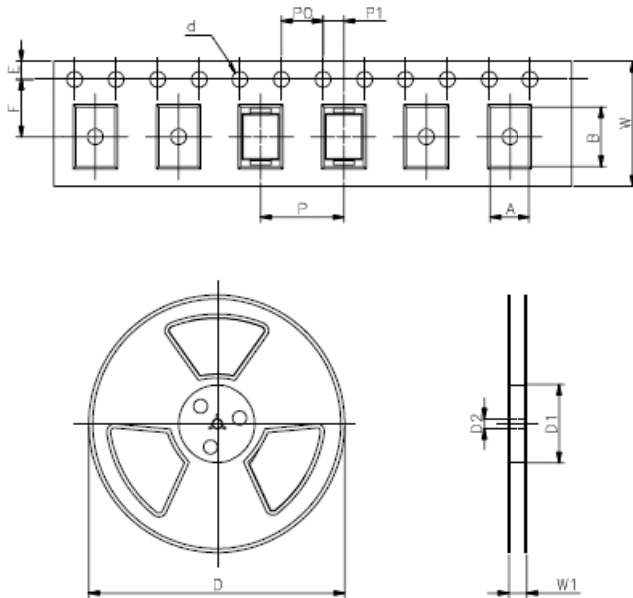
Version: A0 2014-02-24

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(LiquidusTemp( $T_L$ ) to peak) |                                    | 3°C/sec.Max.     |
| Ts(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 – 15secs.      |
| 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   | 3.65+/-0.3 | 0.144+/-0.012 |
| B   | 5.69+/-0.3 | 0.244+/-0.012 |
| d   | 1.5+/-0.1  | 0.059+/-0.004 |
| D   | 330.0      | 13.0          |
| D1  | 100+/-3    | 3.937+/-0.118 |
| D2  | 13+/-0.3   | 0.512+/-0.012 |
| E   | 1.5+/-0.2  | 0.059+/-0.008 |
| F   | 5.65+/-0.2 | 0.222+/-0.008 |
| P   | 8.0+/-0.2  | 0.315+/-0.008 |
| P0  | 4.0+/-0.2  | 0.157+/-0.008 |
| P1  | 2.0+/-0.2  | 0.079+/-0.008 |
| W   | 12.0+/-0.2 | 0.472+/-0.008 |
| W1  | 16.8+/-2.0 | 0.661+/-0.079 |

| Outline | Reel (pcs) | Per Carton (pcs) | Reel Diameters (mm) | Carton Size(mm) |     |     |
|---------|------------|------------------|---------------------|-----------------|-----|-----|
|         |            |                  |                     | L               | W   | H   |
| Taping  | 3,000      | 24,000           | 330                 | 360             | 360 | 380 |

单击下面可查看定价，库存，交付和生命周期等信息

[>>Bencent \(槟城\)](#)