

# STB606I - STB65G4

**V<sub>BR</sub> : 6.8 - 440 Volts**  
**P<sub>PK</sub> : 600 Watts**

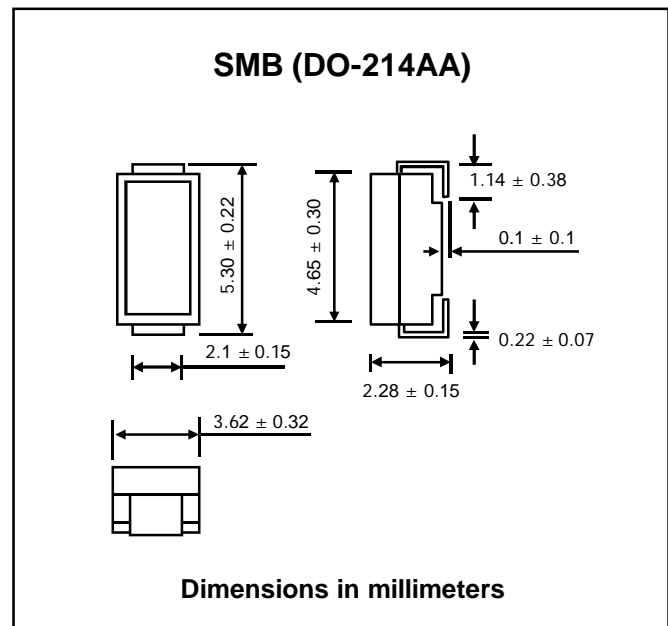
## FEATURES :

- \* 600W surge capability at 1ms
- \* Excellent clamping capability
- \* Low zener impedance
- \* Fast response time : typically less than 1.0 ps from 0 volt to V<sub>BR(min.)</sub>
- \* Typical I<sub>R</sub> less than 1μA above 10V
- \* Pb / RoHS Free

## MECHANICAL DATA

- \* Case : SMB Molded plastic
- \* Epoxy : UL94V-O rate flame retardant
- \* Lead : Lead Formed for Surface Mount
- \* Mounting position : Any
- \* Weight : 0.093 grams

## SURFACE MOUNT BIDIRECTIONAL TRANSIENT VOLTAGE SUPPRESSOR



## DEVICES FOR UNIPOLAR APPLICATIONS

For Uni-directional altered the third letter of type from "B" to be "U".  
 Electrical characteristics apply in both directions

## MAXIMUM RATINGS

Rating at 25 °C ambient temperature unless otherwise specified

| Rating                                                                        | Symbol                            | Value         | Unit |
|-------------------------------------------------------------------------------|-----------------------------------|---------------|------|
| Peak Power Dissipation at T <sub>a</sub> = 25 °C, T <sub>p</sub> =1ms (Note1) | PPK                               | Minimum 600   | W    |
| Steady State Power Dissipation at T <sub>L</sub> = 75 °C                      | PD                                | 5.0           | W    |
| Operating and Storage Temperature Range                                       | T <sub>J</sub> , T <sub>STG</sub> | - 55 to + 150 | °C   |

### Note :

(1) Non-repetitive Current pulse per Fig. 2 and derated above T<sub>a</sub>= 25 °C per Fig. 1

## ELECTRICAL CHARACTERISTICS

Rating at 25 °C ambient temperature unless otherwise specified

| TYPE    | Breakdown Voltage @ It<br>( Note 1 ) |      | Working Peak<br>Reverse<br>Voltage<br>VRWM | Maximum<br>Reverse Leakage<br>@ VRWM<br>IR<br>( $\mu$ A) | Maximum<br>Reverse<br>Current<br>IRSM<br>(A) | Maximum<br>Clamping<br>Voltage @ IRSM<br>VRSM<br>(V) | Maximum<br>Temperature<br>Co-efficient<br>of VBR<br>(% / °C) |       |
|---------|--------------------------------------|------|--------------------------------------------|----------------------------------------------------------|----------------------------------------------|------------------------------------------------------|--------------------------------------------------------------|-------|
|         | VBR (V)                              |      |                                            |                                                          |                                              |                                                      |                                                              |       |
|         | Min.                                 | Max. | It<br>(mA)                                 | (V)                                                      | (A)                                          | (V)                                                  | (% / °C)                                                     |       |
| STB606I | 6.12                                 | 7.48 | 10                                         | 5.50                                                     | 2000                                         | 55.5                                                 | 10.8                                                         | 0.057 |
| STB656I | 6.45                                 | 7.14 | 10                                         | 5.80                                                     | 2000                                         | 57.0                                                 | 10.5                                                         | 0.057 |
| STB607F | 6.75                                 | 8.25 | 10                                         | 6.05                                                     | 1000                                         | 51.0                                                 | 11.7                                                         | 0.061 |
| STB657F | 7.13                                 | 7.88 | 10                                         | 6.40                                                     | 1000                                         | 53.0                                                 | 11.3                                                         | 0.061 |
| STB608C | 7.38                                 | 9.02 | 10                                         | 6.63                                                     | 400                                          | 48.0                                                 | 12.5                                                         | 0.065 |
| STB658C | 7.79                                 | 8.61 | 10                                         | 7.02                                                     | 400                                          | 50.0                                                 | 12.1                                                         | 0.065 |
| STB609B | 8.19                                 | 10.0 | 1.0                                        | 7.37                                                     | 100                                          | 44.0                                                 | 13.8                                                         | 0.068 |
| STB659B | 8.65                                 | 9.55 | 1.0                                        | 7.78                                                     | 100                                          | 45.0                                                 | 13.4                                                         | 0.068 |
| STB6010 | 9.00                                 | 11.0 | 1.0                                        | 8.10                                                     | 20                                           | 40.0                                                 | 15.0                                                         | 0.073 |
| STB6510 | 9.50                                 | 10.5 | 1.0                                        | 8.55                                                     | 20                                           | 41.0                                                 | 14.5                                                         | 0.073 |
| STB6011 | 9.90                                 | 12.1 | 1.0                                        | 8.92                                                     | 10                                           | 37.0                                                 | 16.2                                                         | 0.075 |
| STB6511 | 10.5                                 | 11.6 | 1.0                                        | 9.40                                                     | 10                                           | 38.0                                                 | 15.6                                                         | 0.075 |
| STB6012 | 10.8                                 | 13.2 | 1.0                                        | 9.72                                                     | 5.0                                          | 35.0                                                 | 17.3                                                         | 0.078 |
| STB6512 | 11.4                                 | 12.6 | 1.0                                        | 10.2                                                     | 5.0                                          | 36.0                                                 | 16.7                                                         | 0.078 |
| STB6013 | 11.7                                 | 14.3 | 1.0                                        | 10.5                                                     | 5.0                                          | 32.0                                                 | 19.0                                                         | 0.081 |
| STB6513 | 12.4                                 | 13.7 | 1.0                                        | 11.1                                                     | 5.0                                          | 33.0                                                 | 18.2                                                         | 0.081 |
| STB6015 | 13.5                                 | 16.5 | 1.0                                        | 12.1                                                     | 5.0                                          | 27.0                                                 | 22.0                                                         | 0.084 |
| STB6515 | 14.3                                 | 15.8 | 1.0                                        | 12.8                                                     | 5.0                                          | 28.0                                                 | 21.2                                                         | 0.084 |
| STB6016 | 14.4                                 | 17.6 | 1.0                                        | 12.9                                                     | 5.0                                          | 26.0                                                 | 23.5                                                         | 0.086 |
| STB6516 | 15.2                                 | 16.8 | 1.0                                        | 13.6                                                     | 5.0                                          | 27.0                                                 | 22.5                                                         | 0.086 |
| STB6018 | 16.2                                 | 19.8 | 1.0                                        | 14.5                                                     | 5.0                                          | 23.0                                                 | 26.5                                                         | 0.088 |
| STB6518 | 17.1                                 | 18.9 | 1.0                                        | 15.3                                                     | 5.0                                          | 24.0                                                 | 25.2                                                         | 0.088 |
| STB6020 | 18.0                                 | 22.0 | 1.0                                        | 16.2                                                     | 5.0                                          | 21.0                                                 | 29.1                                                         | 0.090 |
| STB6520 | 19.0                                 | 21.0 | 1.0                                        | 17.1                                                     | 5.0                                          | 22.0                                                 | 27.7                                                         | 0.090 |
| STB6022 | 19.8                                 | 24.2 | 1.0                                        | 17.8                                                     | 5.0                                          | 19.0                                                 | 31.9                                                         | 0.092 |
| STB6522 | 20.9                                 | 23.1 | 1.0                                        | 18.8                                                     | 5.0                                          | 20.0                                                 | 30.6                                                         | 0.092 |
| STB6024 | 21.6                                 | 26.4 | 1.0                                        | 19.4                                                     | 5.0                                          | 17.0                                                 | 34.7                                                         | 0.094 |
| STB6524 | 22.8                                 | 25.2 | 1.0                                        | 20.5                                                     | 5.0                                          | 18.0                                                 | 33.2                                                         | 0.094 |
| STB6027 | 24.3                                 | 29.7 | 1.0                                        | 21.8                                                     | 5.0                                          | 15.0                                                 | 39.1                                                         | 0.096 |
| STB6527 | 25.7                                 | 28.4 | 1.0                                        | 23.1                                                     | 5.0                                          | 16.0                                                 | 37.5                                                         | 0.096 |
| STB6030 | 27.0                                 | 33.0 | 1.0                                        | 24.3                                                     | 5.0                                          | 14.0                                                 | 43.5                                                         | 0.097 |
| STB6530 | 28.5                                 | 31.5 | 1.0                                        | 25.6                                                     | 5.0                                          | 14.4                                                 | 41.4                                                         | 0.097 |
| STB6033 | 29.7                                 | 36.3 | 1.0                                        | 26.8                                                     | 5.0                                          | 12.6                                                 | 47.7                                                         | 0.098 |
| STB6533 | 31.4                                 | 34.7 | 1.0                                        | 28.2                                                     | 5.0                                          | 13.2                                                 | 45.7                                                         | 0.098 |
| STB6036 | 32.4                                 | 39.6 | 1.0                                        | 29.1                                                     | 5.0                                          | 11.6                                                 | 52.0                                                         | 0.099 |
| STB6536 | 34.2                                 | 37.8 | 1.0                                        | 30.8                                                     | 5.0                                          | 12.0                                                 | 49.9                                                         | 0.099 |
| STB6039 | 35.1                                 | 42.9 | 1.0                                        | 31.6                                                     | 5.0                                          | 10.6                                                 | 56.4                                                         | 0.100 |
| STB6539 | 37.1                                 | 41.0 | 1.0                                        | 33.3                                                     | 5.0                                          | 11.2                                                 | 53.9                                                         | 0.100 |
| STB6043 | 38.7                                 | 47.3 | 1.0                                        | 34.8                                                     | 5.0                                          | 9.6                                                  | 61.9                                                         | 0.101 |
| STB6543 | 40.9                                 | 45.2 | 1.0                                        | 36.8                                                     | 5.0                                          | 10.1                                                 | 59.3                                                         | 0.101 |
| STB6047 | 42.3                                 | 51.7 | 1.0                                        | 38.1                                                     | 5.0                                          | 8.9                                                  | 67.8                                                         | 0.101 |
| STB6547 | 44.7                                 | 49.4 | 1.0                                        | 40.2                                                     | 5.0                                          | 9.3                                                  | 64.8                                                         | 0.101 |
| STB6051 | 45.9                                 | 56.1 | 1.0                                        | 41.3                                                     | 5.0                                          | 8.2                                                  | 73.5                                                         | 0.102 |
| STB6551 | 48.5                                 | 53.6 | 1.0                                        | 43.6                                                     | 5.0                                          | 8.6                                                  | 70.1                                                         | 0.102 |
| STB6056 | 50.4                                 | 61.6 | 1.0                                        | 45.4                                                     | 5.0                                          | 7.4                                                  | 80.5                                                         | 0.103 |
| STB6556 | 53.2                                 | 58.8 | 1.0                                        | 47.8                                                     | 5.0                                          | 7.8                                                  | 77.0                                                         | 0.103 |

## ELECTRICAL CHARACTERISTICS

Rating at 25 °C ambient temperature unless otherwise specified

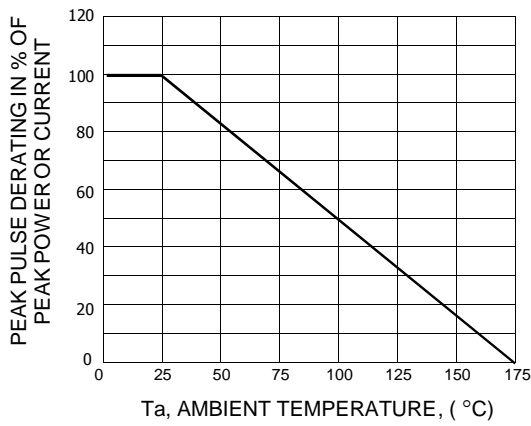
| TYPE    | Breakdown Voltage @ $I_t$<br>( Note 1 ) |      |               | Working Peak<br>Reverse<br>Voltage<br>$V_{RWM}$<br>(V) | Maximum<br>Reverse Leakage<br>@ $V_{RWM}$<br>$I_R$<br>( $\mu$ A) | Maximum<br>Reverse<br>Current<br>$I_{RSM}$<br>(A) | Maximum<br>Clamping<br>Voltage @ $I_{RSM}$<br>$V_{RSM}$<br>(V) | Maximum<br>Temperature<br>Co-efficient<br>of $V_{BR}$<br>(% / °C) |
|---------|-----------------------------------------|------|---------------|--------------------------------------------------------|------------------------------------------------------------------|---------------------------------------------------|----------------------------------------------------------------|-------------------------------------------------------------------|
|         | $V_{BR}$ (V)                            |      | $I_t$<br>(mA) |                                                        |                                                                  |                                                   |                                                                |                                                                   |
|         | Min.                                    | Max. |               |                                                        |                                                                  |                                                   |                                                                |                                                                   |
| STB6062 | 55.8                                    | 68.2 | 1.0           | 50.2                                                   | 5.0                                                              | 6.8                                               | 89.0                                                           | 0.104                                                             |
| STB6562 | 58.9                                    | 65.1 | 1.0           | 53.0                                                   | 5.0                                                              | 7.1                                               | 85.0                                                           | 0.104                                                             |
| STB6068 | 61.2                                    | 74.8 | 1.0           | 55.1                                                   | 5.0                                                              | 6.1                                               | 98.0                                                           | 0.104                                                             |
| STB6568 | 64.6                                    | 71.4 | 1.0           | 58.1                                                   | 5.0                                                              | 6.5                                               | 92.0                                                           | 0.104                                                             |
| STB6075 | 67.5                                    | 82.5 | 1.0           | 60.7                                                   | 5.0                                                              | 5.5                                               | 108                                                            | 0.105                                                             |
| STB6575 | 71.3                                    | 78.8 | 1.0           | 64.1                                                   | 5.0                                                              | 5.8                                               | 103                                                            | 0.105                                                             |
| STB6082 | 73.8                                    | 90.2 | 1.0           | 66.4                                                   | 5.0                                                              | 5.1                                               | 118                                                            | 0.105                                                             |
| STB6582 | 77.9                                    | 86.1 | 1.0           | 70.1                                                   | 5.0                                                              | 5.3                                               | 113                                                            | 0.105                                                             |
| STB6091 | 81.9                                    | 100  | 1.0           | 73.7                                                   | 5.0                                                              | 4.5                                               | 131                                                            | 0.106                                                             |
| STB6591 | 86.5                                    | 95.5 | 1.0           | 77.8                                                   | 5.0                                                              | 4.8                                               | 125                                                            | 0.106                                                             |
| STB60B0 | 90.0                                    | 110  | 1.0           | 81.0                                                   | 5.0                                                              | 4.2                                               | 144                                                            | 0.106                                                             |
| STB65B0 | 95.0                                    | 105  | 1.0           | 85.5                                                   | 5.0                                                              | 4.4                                               | 137                                                            | 0.106                                                             |
| STB60B1 | 99.0                                    | 121  | 1.0           | 89.2                                                   | 5.0                                                              | 3.8                                               | 158                                                            | 0.107                                                             |
| STB65B1 | 105                                     | 116  | 1.0           | 94.0                                                   | 5.0                                                              | 4.0                                               | 152                                                            | 0.107                                                             |
| STB60B2 | 108                                     | 132  | 1.0           | 97.2                                                   | 5.0                                                              | 3.5                                               | 173                                                            | 0.107                                                             |
| STB65B2 | 114                                     | 126  | 1.0           | 102                                                    | 5.0                                                              | 3.6                                               | 165                                                            | 0.107                                                             |
| STB60B3 | 117                                     | 143  | 1.0           | 106                                                    | 5.0                                                              | 3.2                                               | 187                                                            | 0.107                                                             |
| STB65B3 | 124                                     | 137  | 1.0           | 111                                                    | 5.0                                                              | 3.3                                               | 179                                                            | 0.107                                                             |
| STB60B5 | 135                                     | 165  | 1.0           | 121                                                    | 5.0                                                              | 2.8                                               | 215                                                            | 0.108                                                             |
| STB65B5 | 143                                     | 158  | 1.0           | 128                                                    | 5.0                                                              | 2.9                                               | 207                                                            | 0.108                                                             |
| STB60B6 | 144                                     | 176  | 1.0           | 130                                                    | 5.0                                                              | 2.6                                               | 230                                                            | 0.108                                                             |
| STB65B6 | 152                                     | 168  | 1.0           | 136                                                    | 5.0                                                              | 2.7                                               | 219                                                            | 0.108                                                             |
| STB60B7 | 153                                     | 187  | 1.0           | 138                                                    | 5.0                                                              | 2.5                                               | 244                                                            | 0.108                                                             |
| STB65B7 | 162                                     | 179  | 1.0           | 145                                                    | 5.0                                                              | 2.6                                               | 234                                                            | 0.108                                                             |
| STB60B8 | 162                                     | 198  | 1.0           | 146                                                    | 5.0                                                              | 2.3                                               | 258                                                            | 0.108                                                             |
| STB65B8 | 171                                     | 189  | 1.0           | 154                                                    | 5.0                                                              | 2.4                                               | 246                                                            | 0.108                                                             |
| STB60D0 | 180                                     | 220  | 1.0           | 162                                                    | 5.0                                                              | 2.1                                               | 287                                                            | 0.108                                                             |
| STB65D0 | 190                                     | 210  | 1.0           | 171                                                    | 5.0                                                              | 2.2                                               | 274                                                            | 0.108                                                             |
| STB60D2 | 198                                     | 242  | 1.0           | 175                                                    | 5.0                                                              | 1.75                                              | 344                                                            | 0.108                                                             |
| STB65D2 | 209                                     | 231  | 1.0           | 185                                                    | 5.0                                                              | 1.83                                              | 328                                                            | 0.108                                                             |
| STB60D5 | 225                                     | 275  | 1.0           | 202                                                    | 5.0                                                              | 1.67                                              | 360                                                            | 0.110                                                             |
| STB65D5 | 237                                     | 263  | 1.0           | 214                                                    | 5.0                                                              | 1.75                                              | 344                                                            | 0.110                                                             |
| STB60E0 | 270                                     | 330  | 1.0           | 243                                                    | 5.0                                                              | 1.40                                              | 430                                                            | 0.110                                                             |
| STB65E0 | 285                                     | 315  | 1.0           | 256                                                    | 5.0                                                              | 1.45                                              | 414                                                            | 0.110                                                             |
| STB60E5 | 315                                     | 385  | 1.0           | 284                                                    | 5.0                                                              | 1.20                                              | 504                                                            | 0.110                                                             |
| STB65E5 | 332                                     | 368  | 1.0           | 300                                                    | 5.0                                                              | 1.25                                              | 482                                                            | 0.110                                                             |
| STB60G0 | 360                                     | 440  | 1.0           | 324                                                    | 5.0                                                              | 1.05                                              | 574                                                            | 0.110                                                             |
| STB65G0 | 380                                     | 420  | 1.0           | 342                                                    | 5.0                                                              | 1.10                                              | 548                                                            | 0.110                                                             |
| STB60G4 | 396                                     | 484  | 1.0           | 356                                                    | 5.0                                                              | 0.95                                              | 631                                                            | 0.110                                                             |
| STB65G4 | 418                                     | 462  | 1.0           | 376                                                    | 5.0                                                              | 1.00                                              | 602                                                            | 0.110                                                             |

**Note:**

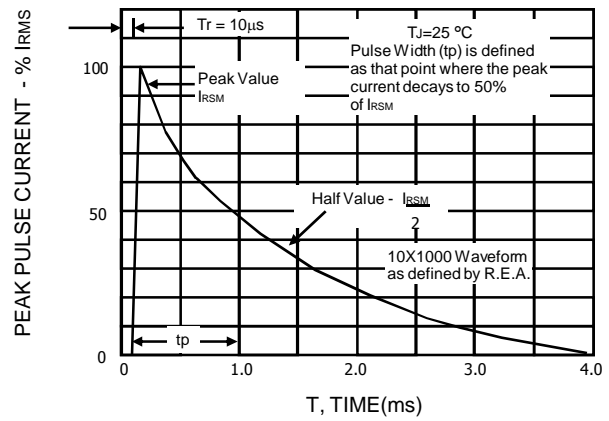
- ( 1 )  $V_{BR}$  measured after  $I_t$  applied for 300  $\mu$ s.,  $I_t$  = square wave pulse or equivalent.
- ( 2 ) "STB" will be omitted in marking on the diode.

**RATING AND CHARACTERISTIC CURVES ( STB606I - STB65G4 )**

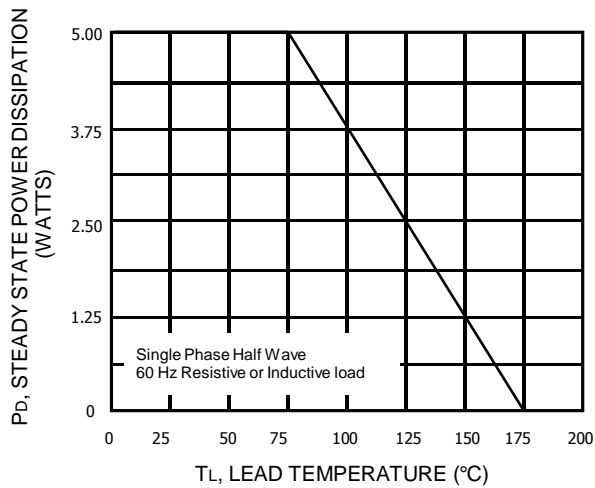
**FIG.1 - PULSE DERATING CURVE**



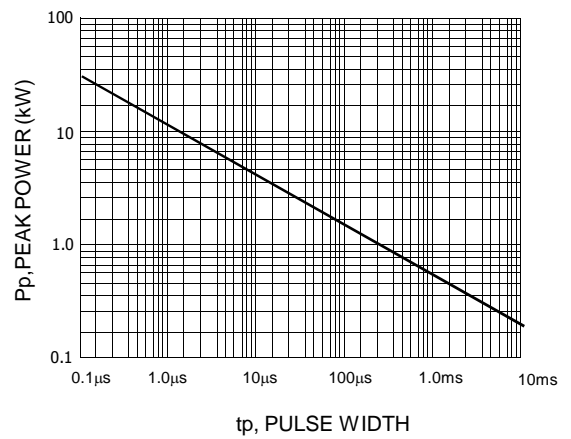
**FIG.2 - PULSE WAVEFORM**



**FIG.3 - STEADY STATE POWER DERATING**



**FIG.4 - PULSE RATING CURVE**



单击下面可查看定价，库存，交付和生命周期等信息

[>>EIC](#)