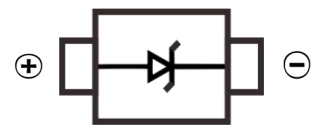


**TVS DIODE****FEATURES**

- Built-in strain relief
- Glass passivated junction
- Low inductance
- Excellent clamping capability
- Repetition Rate (duty cycle):0.01%
- Fast response time: typically less than 1.0ps  
from 0 Volts to V(BR) for unidirectional types
- Typical IR less than 1mA above 10V
- High temperature soldering guaranteed: 260°C/10 seconds,
- Small Surface Mount device

**SMA****MECHANICAL DATA**

- Case: SMA(DO-214AC)
- Case Material: Molded Plastic. UL flammability
- Classification Rating: 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Weight: 0.065 grams (approximate)

**MAXIMUM RATINGS AND CHARACTERISTICS(T<sub>A</sub> = 25°C unless otherwise noted)**

| Parameter                                                                                   | Symbol                            | Value          | UNIT |
|---------------------------------------------------------------------------------------------|-----------------------------------|----------------|------|
| Peak power dissipation with a 10/1000μs waveform <sup>(1)</sup>                             | P <sub>PP</sub>                   | 400            | W    |
| Peak pulse current with a 10/1000μs waveform <sup>(1)</sup>                                 | I <sub>PP</sub>                   | See Next Table | A    |
| Power dissipation on infinite heatsink at T <sub>L</sub> = 75 °C                            | P <sub>D</sub>                    | 1.0            | W    |
| Peak forward surge current, 8.3 ms single half sine-wave unidirectional only <sup>(2)</sup> | I <sub>FSM</sub>                  | 40             | A    |
| Maximum instantaneous forward voltage at 25 A for unidirectional only <sup>(3)</sup>        | V <sub>F</sub>                    | 3.5/5.0        | V    |
| Operating junction and storage temperature range                                            | T <sub>J</sub> , T <sub>STG</sub> | -55 to +150    | °C   |

**Note:**

(1)Non-repetitive current pulse per Fig.5 and derated above T<sub>A</sub> = 25 °C per Fig.1

(2)Measured on 8.3 ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum

(3)V<sub>F</sub><3.5V for devices of V<sub>BR</sub><200V and V<sub>F</sub><5.0V for devices of V<sub>BR</sub>>201V

## TVS DIODE

ELECTRICAL CHARACTERISTICS ( $T_A=25^{\circ}\text{C}$  unless otherwise noted)

| Part Number<br>(Uni) | Part Number<br>(Bi) | Device<br>Marking<br>Code |    | Breakdown Voltage $V_{BR}$ @ $I_T$ |         |            | Maximum<br>Reverse<br>Leakage $I_R$<br>@ $V_{RWM}$<br>( $\mu\text{A}$ ) | Working<br>Peak Reverse<br>Voltage<br>$V_{RWM}$<br>(V) | Maximum<br>Reverse<br>Surge<br>Current $I_{PP}$<br>(A) | Maximum<br>Clamping<br>Voltage $V_C$<br>@ $I_{PP}$<br>(V) |
|----------------------|---------------------|---------------------------|----|------------------------------------|---------|------------|-------------------------------------------------------------------------|--------------------------------------------------------|--------------------------------------------------------|-----------------------------------------------------------|
|                      |                     | Uni                       | Bi | Min (V)                            | Max (V) | $I_T$ (mA) |                                                                         |                                                        |                                                        |                                                           |
| SMAJ5.0              | SMAJ5.0C            | AD                        | WD | 6.40                               | 7.30    | 10         | 800                                                                     | 5.0                                                    | 41.67                                                  | 9.6                                                       |
| SMAJ5.0A             | SMAJ5.0CA           | AE                        | WE | 6.40                               | 7.00    | 10         | 800                                                                     | 5.0                                                    | 43.48                                                  | 9.2                                                       |
| SMAJ6.0              | SMAJ6.0C            | AF                        | WF | 6.67                               | 8.15    | 10         | 800                                                                     | 6.0                                                    | 35.09                                                  | 11.4                                                      |
| SMAJ6.0A             | SMAJ6.0CA           | AG                        | WG | 6.67                               | 7.37    | 10         | 800                                                                     | 6.0                                                    | 38.83                                                  | 10.3                                                      |
| SMAJ6.5              | SMAJ6.5C            | AH                        | WH | 7.22                               | 8.82    | 10         | 500                                                                     | 6.5                                                    | 32.52                                                  | 12.3                                                      |
| SMAJ6.5A             | SMAJ6.5CA           | AK                        | WK | 7.22                               | 7.98    | 10         | 500                                                                     | 6.5                                                    | 35.71                                                  | 11.2                                                      |
| SMAJ7.0              | SMAJ7.0C            | AL                        | WL | 7.78                               | 9.51    | 10         | 200                                                                     | 7.0                                                    | 30.08                                                  | 13.3                                                      |
| SMAJ7.0A             | SMAJ7.0CA           | AM                        | WM | 7.78                               | 8.60    | 10         | 200                                                                     | 7.0                                                    | 33.33                                                  | 12.0                                                      |
| SMAJ7.5              | SMAJ7.5C            | AN                        | WN | 8.33                               | 10.20   | 1          | 100                                                                     | 7.5                                                    | 27.97                                                  | 14.3                                                      |
| SMAJ7.5A             | SMAJ7.5CA           | AP                        | WP | 8.33                               | 9.21    | 1          | 100                                                                     | 7.5                                                    | 31.01                                                  | 12.9                                                      |
| SMAJ8.0              | SMAJ8.0C            | AQ                        | WQ | 8.89                               | 10.90   | 1          | 50                                                                      | 8.0                                                    | 26.67                                                  | 15.0                                                      |
| SMAJ8.0A             | SMAJ8.0CA           | AR                        | WR | 8.89                               | 9.83    | 1          | 50                                                                      | 8.0                                                    | 29.41                                                  | 13.6                                                      |
| SMAJ8.5              | SMAJ8.5C            | AS                        | WS | 9.44                               | 11.50   | 1          | 10                                                                      | 8.5                                                    | 25.16                                                  | 15.9                                                      |
| SMAJ8.5A             | SMAJ8.5CA           | AT                        | WT | 9.44                               | 10.40   | 1          | 10                                                                      | 8.5                                                    | 27.78                                                  | 14.4                                                      |
| SMAJ9.0              | SMAJ9.0C            | AU                        | WU | 10.00                              | 12.20   | 1          | 5                                                                       | 9.0                                                    | 23.67                                                  | 16.9                                                      |
| SMAJ9.0A             | SMAJ9.0CA           | AV                        | WV | 10.00                              | 11.10   | 1          | 5                                                                       | 9.0                                                    | 25.97                                                  | 15.4                                                      |
| SMAJ10               | SMAJ10C             | AW                        | WW | 11.10                              | 13.60   | 1          | 5                                                                       | 10.0                                                   | 21.28                                                  | 18.8                                                      |
| SMAJ10A              | SMAJ10CA            | AX                        | WX | 11.10                              | 12.30   | 1          | 5                                                                       | 10.0                                                   | 23.53                                                  | 17.0                                                      |
| SMAJ11               | SMAJ11C             | AY                        | WY | 12.20                              | 14.90   | 1          | 1                                                                       | 11.0                                                   | 19.90                                                  | 20.1                                                      |
| SMAJ11A              | SMAJ11CA            | AZ                        | WZ | 12.20                              | 13.50   | 1          | 1                                                                       | 11.0                                                   | 21.98                                                  | 18.2                                                      |
| SMAJ12               | SMAJ12C             | BD                        | XD | 13.30                              | 16.30   | 1          | 1                                                                       | 12.0                                                   | 18.18                                                  | 22.0                                                      |
| SMAJ12A              | SMAJ12CA            | BE                        | XE | 13.30                              | 14.70   | 1          | 1                                                                       | 12.0                                                   | 20.10                                                  | 19.9                                                      |
| SMAJ13               | SMAJ13C             | BF                        | XF | 14.40                              | 17.60   | 1          | 1                                                                       | 13.0                                                   | 16.81                                                  | 23.8                                                      |
| SMAJ13A              | SMAJ13CA            | BG                        | XG | 14.40                              | 15.90   | 1          | 1                                                                       | 13.0                                                   | 18.60                                                  | 21.5                                                      |
| SMAJ14               | SMAJ14C             | BH                        | XH | 15.60                              | 19.10   | 1          | 1                                                                       | 14.0                                                   | 15.50                                                  | 25.8                                                      |
| SMAJ14A              | SMAJ14CA            | BK                        | XK | 15.60                              | 17.20   | 1          | 1                                                                       | 14.0                                                   | 17.24                                                  | 23.2                                                      |
| SMAJ15               | SMAJ15C             | BL                        | XL | 16.70                              | 20.40   | 1          | 1                                                                       | 15.0                                                   | 14.87                                                  | 26.9                                                      |
| SMAJ15A              | SMAJ15CA            | BM                        | XM | 16.70                              | 18.50   | 1          | 1                                                                       | 15.0                                                   | 16.39                                                  | 24.4                                                      |
| SMAJ16               | SMAJ16C             | BN                        | XN | 17.80                              | 21.80   | 1          | 1                                                                       | 16.0                                                   | 13.89                                                  | 28.8                                                      |
| SMAJ16A              | SMAJ16CA            | BP                        | XP | 17.80                              | 19.70   | 1          | 1                                                                       | 16.0                                                   | 15.38                                                  | 26.0                                                      |
| SMAJ17               | SMAJ17C             | BQ                        | XQ | 18.90                              | 23.10   | 1          | 1                                                                       | 17.0                                                   | 13.11                                                  | 30.5                                                      |
| SMAJ17A              | SMAJ17CA            | BR                        | XR | 18.90                              | 20.90   | 1          | 1                                                                       | 17.0                                                   | 14.49                                                  | 27.6                                                      |
| SMAJ18               | SMAJ18C             | BS                        | XS | 20.00                              | 24.40   | 1          | 1                                                                       | 18.0                                                   | 12.42                                                  | 32.2                                                      |
| SMAJ18A              | SMAJ18CA            | BT                        | XT | 20.00                              | 22.10   | 1          | 1                                                                       | 18.0                                                   | 13.70                                                  | 29.2                                                      |
| SMAJ19               | SMAJ19C             | BA                        | XA | 21.13                              | 25.76   | 1          | 1                                                                       | 19.0                                                   | 11.76                                                  | 34.0                                                      |
| SMAJ19A              | SMAJ19CA            | BB                        | XB | 21.10                              | 23.30   | 1          | 1                                                                       | 19.0                                                   | 13.00                                                  | 30.8                                                      |
| SMAJ20               | SMAJ20C             | BU                        | XU | 22.20                              | 27.10   | 1          | 1                                                                       | 20.0                                                   | 11.17                                                  | 35.8                                                      |
| SMAJ20A              | SMAJ20CA            | BV                        | XV | 22.20                              | 24.50   | 1          | 1                                                                       | 20.0                                                   | 12.35                                                  | 32.4                                                      |
| SMAJ22               | SMAJ22C             | BW                        | XW | 24.40                              | 29.80   | 1          | 1                                                                       | 22.0                                                   | 10.15                                                  | 39.4                                                      |
| SMAJ22A              | SMAJ22CA            | BX                        | XX | 24.40                              | 26.90   | 1          | 1                                                                       | 22.0                                                   | 11.27                                                  | 35.5                                                      |
| SMAJ24               | SMAJ24C             | BY                        | XY | 26.70                              | 32.60   | 1          | 1                                                                       | 24.0                                                   | 9.30                                                   | 43.0                                                      |
| SMAJ24A              | SMAJ24CA            | BZ                        | XZ | 26.70                              | 29.50   | 1          | 1                                                                       | 24.0                                                   | 10.28                                                  | 38.9                                                      |
| SMAJ26               | SMAJ26C             | CD                        | YD | 28.90                              | 35.30   | 1          | 1                                                                       | 26.0                                                   | 8.58                                                   | 46.6                                                      |
| SMAJ26A              | SMAJ26CA            | CE                        | YE | 28.90                              | 31.90   | 1          | 1                                                                       | 26.0                                                   | 9.50                                                   | 42.1                                                      |
| SMAJ28               | SMAJ28C             | CF                        | YF | 31.10                              | 38.00   | 1          | 1                                                                       | 28.0                                                   | 8.00                                                   | 50.0                                                      |
| SMAJ28A              | SMAJ28CA            | CG                        | YG | 31.10                              | 34.40   | 1          | 1                                                                       | 28.0                                                   | 8.81                                                   | 45.4                                                      |
| SMAJ30               | SMAJ30C             | CH                        | YH | 33.30                              | 40.70   | 1          | 1                                                                       | 30.0                                                   | 7.48                                                   | 53.5                                                      |
| SMAJ30A              | SMAJ30CA            | CK                        | YK | 33.30                              | 36.80   | 1          | 1                                                                       | 30.0                                                   | 8.26                                                   | 48.4                                                      |
| SMAJ33               | SMAJ33C             | CL                        | YL | 36.70                              | 44.90   | 1          | 1                                                                       | 33.0                                                   | 6.78                                                   | 59.0                                                      |
| SMAJ33A              | SMAJ33CA            | CM                        | YM | 36.70                              | 40.60   | 1          | 1                                                                       | 33.0                                                   | 7.50                                                   | 53.3                                                      |
| SMAJ36               | SMAJ36C             | CN                        | YN | 40.00                              | 48.90   | 1          | 1                                                                       | 36.0                                                   | 6.22                                                   | 64.3                                                      |
| SMAJ36A              | SMAJ36CA            | CP                        | YP | 40.00                              | 44.20   | 1          | 1                                                                       | 36.0                                                   | 6.88                                                   | 58.1                                                      |

**TVS DIODE**

| Part Number<br>(Uni) | Part Number<br>(Bi) | Device<br>Marking<br>Code |    | Breakdown Voltage $V_{BR}$ @ $I_T$ |         |            | Maximum<br>Reverse<br>Leakage $I_R$<br>@ $V_{RWM}$<br>( $\mu A$ ) | Working<br>Peak Reverse<br>Voltage<br>$V_{RWM}$<br>(V) | Maximum<br>Reverse<br>Surge<br>Current $I_{PP}$<br>(A) | Maximum<br>Clamping<br>Voltage $V_C$<br>@ $I_{PP}$<br>(V) |
|----------------------|---------------------|---------------------------|----|------------------------------------|---------|------------|-------------------------------------------------------------------|--------------------------------------------------------|--------------------------------------------------------|-----------------------------------------------------------|
|                      |                     | Uni                       | Bi | Min (V)                            | Max (V) | $I_T$ (mA) |                                                                   |                                                        |                                                        |                                                           |
| SMAJ40               | SMAJ40C             | CQ                        | YQ | 44.40                              | 54.30   | 1          | 1                                                                 | 40.0                                                   | 5.60                                                   | 71.4                                                      |
| SMAJ40A              | SMAJ40CA            | CR                        | YR | 44.40                              | 49.10   | 1          | 1                                                                 | 40.0                                                   | 6.20                                                   | 64.5                                                      |
| SMAJ43               | SMAJ43C             | CS                        | YS | 47.80                              | 58.40   | 1          | 1                                                                 | 43.0                                                   | 5.22                                                   | 76.7                                                      |
| SMAJ43A              | SMAJ43CA            | CT                        | YT | 47.80                              | 52.80   | 1          | 1                                                                 | 43.0                                                   | 5.76                                                   | 69.4                                                      |
| SMAJ45               | SMAJ45C             | CU                        | YU | 50.00                              | 61.10   | 1          | 1                                                                 | 45.0                                                   | 4.98                                                   | 80.3                                                      |
| SMAJ45A              | SMAJ45CA            | CV                        | YV | 50.00                              | 55.30   | 1          | 1                                                                 | 45.0                                                   | 5.50                                                   | 72.7                                                      |
| SMAJ48               | SMAJ48C             | CW                        | YW | 53.30                              | 65.10   | 1          | 1                                                                 | 48.0                                                   | 4.68                                                   | 85.5                                                      |
| SMAJ48A              | SMAJ48CA            | CX                        | YX | 53.30                              | 58.90   | 1          | 1                                                                 | 48.0                                                   | 5.17                                                   | 77.4                                                      |
| SMAJ51               | SMAJ51C             | CY                        | YY | 56.70                              | 69.30   | 1          | 1                                                                 | 51.0                                                   | 4.39                                                   | 91.1                                                      |
| SMAJ51A              | SMAJ51CA            | CZ                        | YZ | 56.70                              | 62.70   | 1          | 1                                                                 | 51.0                                                   | 4.85                                                   | 82.4                                                      |
| SMAJ54               | SMAJ54C             | RD                        | ZD | 60.00                              | 73.30   | 1          | 1                                                                 | 54.0                                                   | 4.15                                                   | 96.3                                                      |
| SMAJ54A              | SMAJ54CA            | RE                        | ZE | 60.00                              | 66.30   | 1          | 1                                                                 | 54.0                                                   | 4.59                                                   | 87.1                                                      |
| SMAJ58               | SMAJ58C             | RF                        | ZF | 64.40                              | 78.70   | 1          | 1                                                                 | 58.0                                                   | 3.88                                                   | 103.0                                                     |
| SMAJ58A              | SMAJ58CA            | RG                        | ZG | 64.40                              | 71.20   | 1          | 1                                                                 | 58.0                                                   | 4.27                                                   | 93.6                                                      |
| SMAJ60               | SMAJ60C             | RH                        | ZH | 66.70                              | 81.50   | 1          | 1                                                                 | 60.0                                                   | 3.74                                                   | 107.0                                                     |
| SMAJ60A              | SMAJ60CA            | RK                        | ZK | 66.70                              | 73.70   | 1          | 1                                                                 | 60.0                                                   | 4.13                                                   | 96.8                                                      |
| SMAJ64               | SMAJ64C             | RL                        | ZL | 71.10                              | 86.90   | 1          | 1                                                                 | 64.0                                                   | 3.51                                                   | 114.0                                                     |
| SMAJ64A              | SMAJ64CA            | RM                        | ZM | 71.10                              | 78.60   | 1          | 1                                                                 | 64.0                                                   | 3.88                                                   | 103.0                                                     |
| SMAJ70               | SMAJ70C             | RN                        | ZN | 77.80                              | 95.10   | 1          | 1                                                                 | 70.0                                                   | 3.20                                                   | 125.0                                                     |
| SMAJ70A              | SMAJ70CA            | RP                        | ZP | 77.80                              | 86.00   | 1          | 1                                                                 | 70.0                                                   | 3.54                                                   | 113.0                                                     |
| SMAJ75               | SMAJ75C             | RQ                        | ZQ | 83.30                              | 102.00  | 1          | 1                                                                 | 75.0                                                   | 2.99                                                   | 134.0                                                     |
| SMAJ75A              | SMAJ75CA            | RR                        | ZR | 83.30                              | 92.10   | 1          | 1                                                                 | 75.0                                                   | 3.31                                                   | 121.0                                                     |
| SMAJ78               | SMAJ78C             | RS                        | ZS | 86.70                              | 106.00  | 1          | 1                                                                 | 78.0                                                   | 2.88                                                   | 139.0                                                     |
| SMAJ78A              | SMAJ78CA            | RT                        | ZT | 86.70                              | 95.80   | 1          | 1                                                                 | 78.0                                                   | 3.17                                                   | 126.0                                                     |
| SMAJ80               | SMAJ80C             | RA                        | ZA | 88.96                              | 108.80  | 1          | 1                                                                 | 80.0                                                   | 2.79                                                   | 143.2                                                     |
| SMAJ80A              | SMAJ80CA            | RB                        | ZB | 88.80                              | 97.60   | 1          | 1                                                                 | 80.0                                                   | 3.09                                                   | 129.6                                                     |
| SMAJ85               | SMAJ85C             | RU                        | ZU | 94.40                              | 115.00  | 1          | 1                                                                 | 85.0                                                   | 2.65                                                   | 151.0                                                     |
| SMAJ85A              | SMAJ85CA            | RV                        | ZV | 94.40                              | 104.00  | 1          | 1                                                                 | 85.0                                                   | 2.92                                                   | 137.0                                                     |
| SMAJ90               | SMAJ90C             | RW                        | ZW | 100.00                             | 122.00  | 1          | 1                                                                 | 90.0                                                   | 2.50                                                   | 160.0                                                     |
| SMAJ90A              | SMAJ90CA            | RX                        | ZX | 100.00                             | 111.00  | 1          | 1                                                                 | 90.0                                                   | 2.74                                                   | 146.0                                                     |
| SMAJ100              | SMAJ100C            | RY                        | ZY | 111.00                             | 136.00  | 1          | 1                                                                 | 100.0                                                  | 2.23                                                   | 179.0                                                     |
| SMAJ100A             | SMAJ100CA           | RZ                        | ZZ | 111.00                             | 123.00  | 1          | 1                                                                 | 100.0                                                  | 2.47                                                   | 162.0                                                     |
| SMAJ110              | SMAJ110C            | SD                        | VD | 122.00                             | 149.00  | 1          | 1                                                                 | 110.0                                                  | 2.04                                                   | 196.0                                                     |
| SMAJ110A             | SMAJ110CA           | SE                        | VE | 122.00                             | 135.00  | 1          | 1                                                                 | 110.0                                                  | 2.26                                                   | 177.0                                                     |
| SMAJ120              | SMAJ120C            | SF                        | VF | 133.00                             | 163.00  | 1          | 1                                                                 | 120.0                                                  | 1.87                                                   | 214.0                                                     |
| SMAJ120A             | SMAJ120CA           | SG                        | VG | 133.00                             | 147.00  | 1          | 1                                                                 | 120.0                                                  | 2.07                                                   | 193.0                                                     |
| SMAJ130              | SMAJ130C            | SH                        | VH | 144.00                             | 176.00  | 1          | 1                                                                 | 130.0                                                  | 1.73                                                   | 231.0                                                     |
| SMAJ130A             | SMAJ130CA           | SK                        | VK | 144.00                             | 159.00  | 1          | 1                                                                 | 130.0                                                  | 1.91                                                   | 209.0                                                     |
| SMAJ140              | SMAJ140C            | SA                        | VA | 155.68                             | 190.40  | 1          | 1                                                                 | 140.0                                                  | 1.60                                                   | 250.6                                                     |
| SMAJ140A             | SMAJ140CA           | SB                        | VB | 155.00                             | 171.00  | 1          | 1                                                                 | 140.0                                                  | 1.76                                                   | 226.8                                                     |
| SMAJ150              | SMAJ150C            | SL                        | VL | 167.00                             | 204.00  | 1          | 1                                                                 | 150.0                                                  | 1.49                                                   | 268.0                                                     |
| SMAJ150A             | SMAJ150CA           | SM                        | VM | 167.00                             | 185.00  | 1          | 1                                                                 | 150.0                                                  | 1.65                                                   | 243.0                                                     |
| SMAJ160              | SMAJ160C            | SN                        | VN | 178.00                             | 218.00  | 1          | 1                                                                 | 160.0                                                  | 1.39                                                   | 287.0                                                     |
| SMAJ160A             | SMAJ160CA           | SP                        | VP | 178.00                             | 197.00  | 1          | 1                                                                 | 160.0                                                  | 1.54                                                   | 259.0                                                     |
| SMAJ170              | SMAJ170C            | SQ                        | VQ | 189.00                             | 231.00  | 1          | 1                                                                 | 170.0                                                  | 1.32                                                   | 304.0                                                     |
| SMAJ170A             | SMAJ170CA           | SR                        | VR | 189.00                             | 209.00  | 1          | 1                                                                 | 170.0                                                  | 1.45                                                   | 275.0                                                     |
| SMAJ180              | SMAJ180C            | SS                        | VS | 200.16                             | 244.80  | 1          | 1                                                                 | 180.0                                                  | 1.24                                                   | 322.2                                                     |
| SMAJ180A             | SMAJ180CA           | ST                        | VT | 200.00                             | 220.00  | 1          | 1                                                                 | 180.0                                                  | 1.37                                                   | 291.6                                                     |
| SMAJ190              | SMAJ190C            | SU                        | VU | 211.28                             | 258.40  | 1          | 1                                                                 | 190.0                                                  | 1.18                                                   | 340.1                                                     |
| SMAJ190A             | SMAJ190CA           | SV                        | VV | 211.00                             | 232.00  | 1          | 1                                                                 | 190.0                                                  | 1.30                                                   | 307.8                                                     |
| SMAJ200A             | SMAJ200CA           | SW                        | VW | 224.00                             | 247.00  | 1          | 1                                                                 | 200.0                                                  | 1.23                                                   | 324.0                                                     |
| SMAJ220A             | SMAJ220CA           | SX                        | VX | 246.00                             | 272.00  | 1          | 1                                                                 | 220.0                                                  | 1.12                                                   | 356.0                                                     |
| SMAJ250A             | SMAJ250CA           | SZ                        | VZ | 279.00                             | 309.00  | 1          | 1                                                                 | 250.0                                                  | 0.99                                                   | 405.0                                                     |
| SMAJ300A             | SMAJ300CA           | DE                        | HE | 335.00                             | 371.00  | 1          | 1                                                                 | 300.0                                                  | 0.82                                                   | 486.0                                                     |
| SMAJ350A             | SMAJ350CA           | DG                        | HG | 391.00                             | 432.00  | 1          | 1                                                                 | 350.0                                                  | 0.71                                                   | 567.0                                                     |
| SMAJ400A             | SMAJ400CA           | DK                        | HK | 447.00                             | 494.00  | 1          | 1                                                                 | 400.0                                                  | 0.62                                                   | 648.0                                                     |
| SMAJ440A             | SMAJ440CA           | DM                        | HM | 492.00                             | 543.00  | 1          | 1                                                                 | 440.0                                                  | 0.56                                                   | 713.0                                                     |

**Note:**

1. Suffix 'A' denotes 5% tolerance device. Without 'A' denotes 10% tolerance device
2. Add suffix 'C' or 'CA' after part number to specify Bi-directional devices
3. For Bi-Directional devices having  $V_R$  of 10 volts and under, the  $I_R$  limit is double

## Typical Characteristics

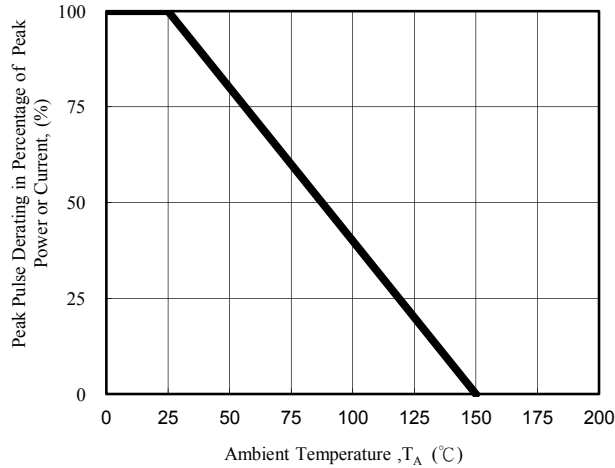


Fig. 1 - Pulse Derating Curve

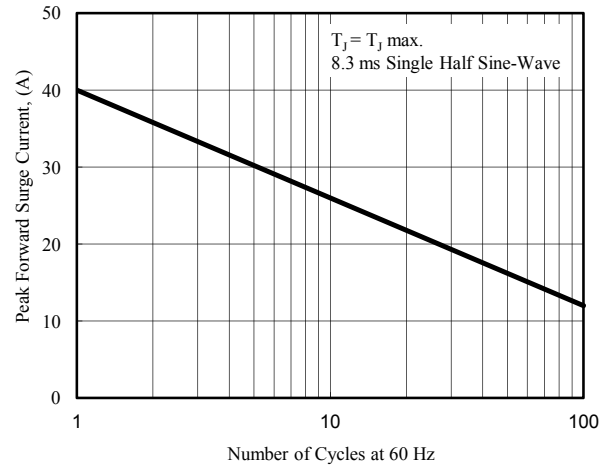


Fig. 2 - Maximum Non-Repetitive Surge Current

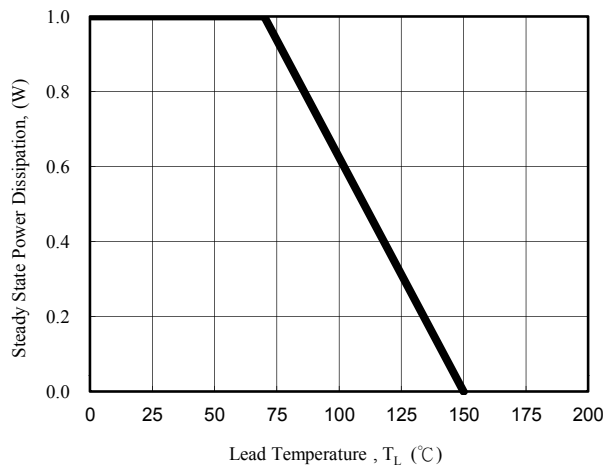


Fig. 3 - Steady State Power Derating Curve

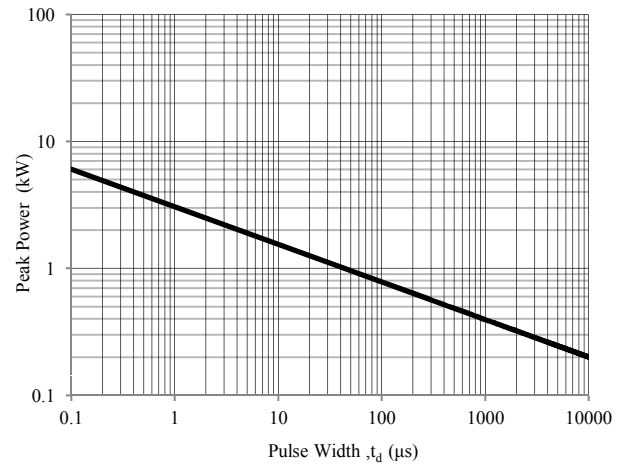


Fig. 4 - Peak Pulse Power Rating Curve

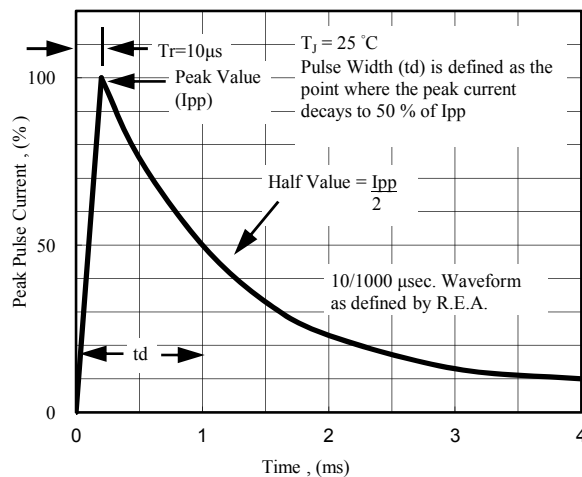


Fig. 5 - Pulse Waveform

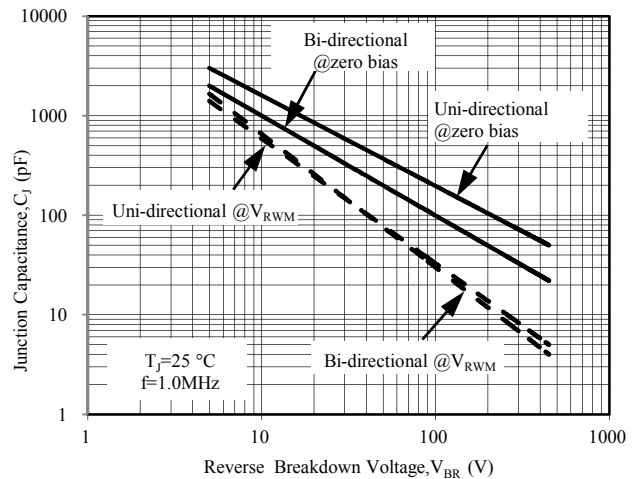
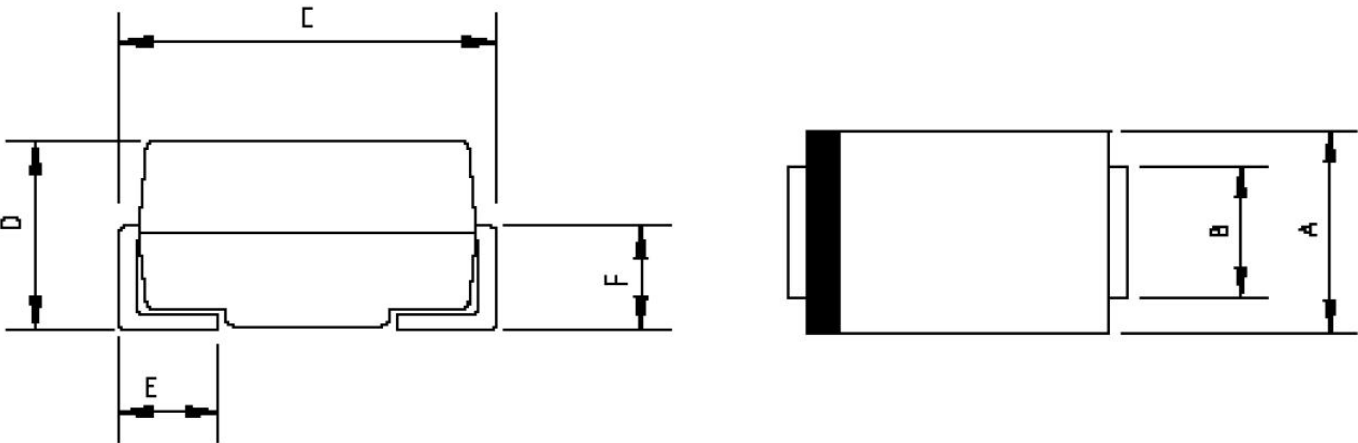


Fig. 6 - Typical Junction Capacitance

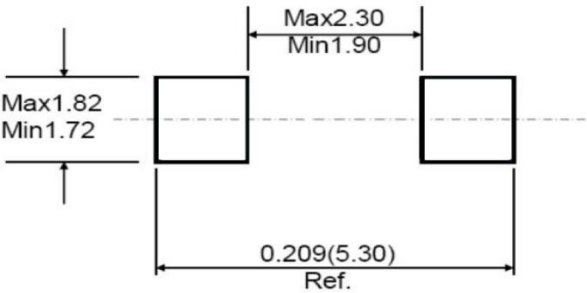
TVS DIODE

**SMA Package Outline Dimensions**



| Symbol | Dimensions In Millimeters |      | Dimensions In Inches |       |
|--------|---------------------------|------|----------------------|-------|
|        | Min.                      | Max. | Min.                 | Max.  |
| A      | 2.20                      | 2.80 | 0.086                | 0.110 |
| B      | 1.30                      | 1.70 | 0.051                | 0.067 |
| C      | 4.70                      | 5.30 | 0.185                | 0.209 |
| D      | 1.70                      | 2.55 | 0.067                | 0.100 |
| E      | 0.90                      | 1.50 | 0.035                | 0.059 |
| F      | 0.90                      | 1.50 | 0.035                | 0.059 |

**SMA Suggested Pad Layout**

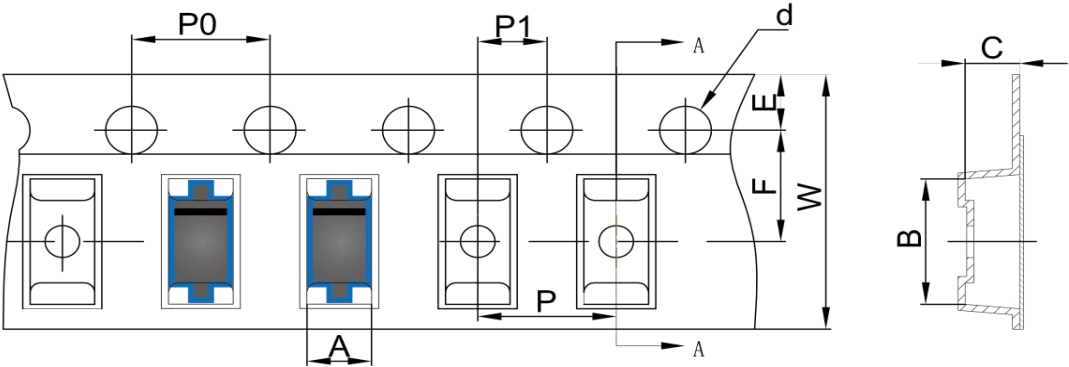


- Note:**
1. Controlling dimension: in millimeters
  2. General tolerance:  $\pm 0.05\text{mm}$
  3. The pad layout is for reference purposes only

TVS DIODE

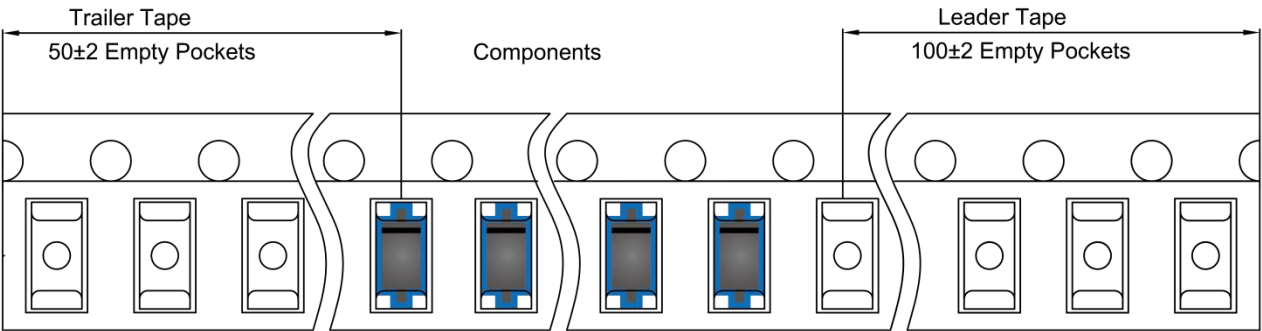
**SMA Tape and Reel**

**SMA Embossed Carrier Tape**

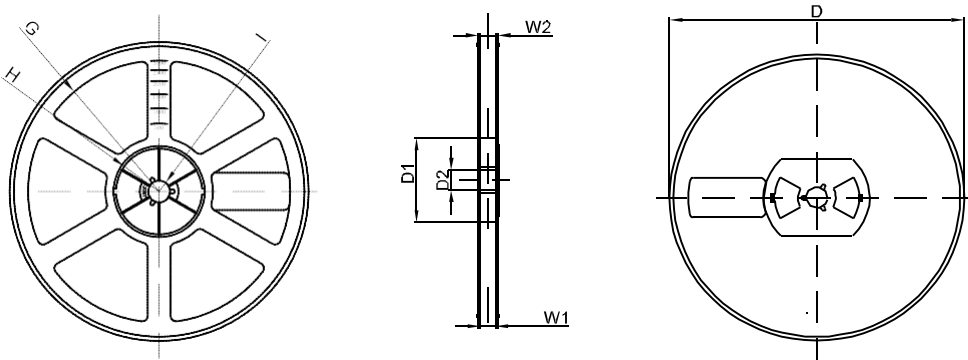


|           | DIMENSIONS ARE IN MILLIMETER |      |      |       |      |      |      |      |      |       |
|-----------|------------------------------|------|------|-------|------|------|------|------|------|-------|
| TYPE      | A                            | B    | C    | d     | E    | F    | P0   | P    | P1   | W     |
| SMA       | 2.89                         | 5.35 | 2.68 | Ø1.50 | 1.75 | 5.50 | 4.00 | 4.00 | 2.00 | 12.00 |
| TOLERANCE | ±0.1                         | ±0.1 | ±0.1 | ±0.1  | ±0.1 | ±0.1 | ±0.1 | ±0.1 | ±0.1 | ±0.1  |

**SMA Tape Leader and Trailer**



**SMA Reel**



|             | DIMENSIONS ARE IN MILLIMETER |       |       |     |        |       |       |       |
|-------------|------------------------------|-------|-------|-----|--------|-------|-------|-------|
| REEL OPTION | D                            | D1    | D2    | G   | H      | I     | W1    | W2    |
| 7" DIA      | Ø178                         | 54.40 | 13.00 | R78 | R25.60 | R6.50 | 12.40 | 17.60 |
| TOLERANCE   | ±2                           | ±1    | ±1    | ±1  | ±1     | ±1    | ±1    | ±1    |