

## Transient Voltage Suppressor

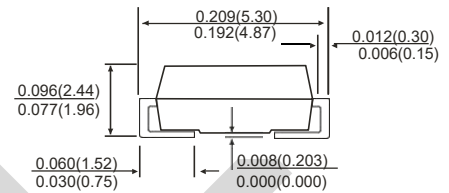
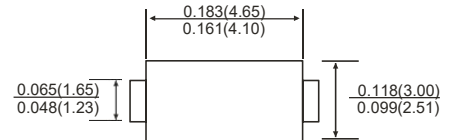
### Features

- IEC61000-4-2 (ESD)  $\pm 30\text{kV}$  (air),  $\pm 30\text{kV}$  (contact).
- Glass passivated chip.
- 400W peak pulse power capability with a 10/1000  $\mu\text{s}$  waveform, repetitive rate (duty cycle):0.01%.
- Low leakage.
- Bidirectional unit.
- Excellent clamping capability.
- Very fast response time.

### Mechanical Data

- Case: Molded plastic.
- Epoxy: UL 94V-0 rate flame retardant.
- Terminal: solder plated, solderable per J-STD-002.
- Moisture Sensitivity: Level 1 per J-STD-020.
- RoHS Compliant.

### SMA/DO-214AC



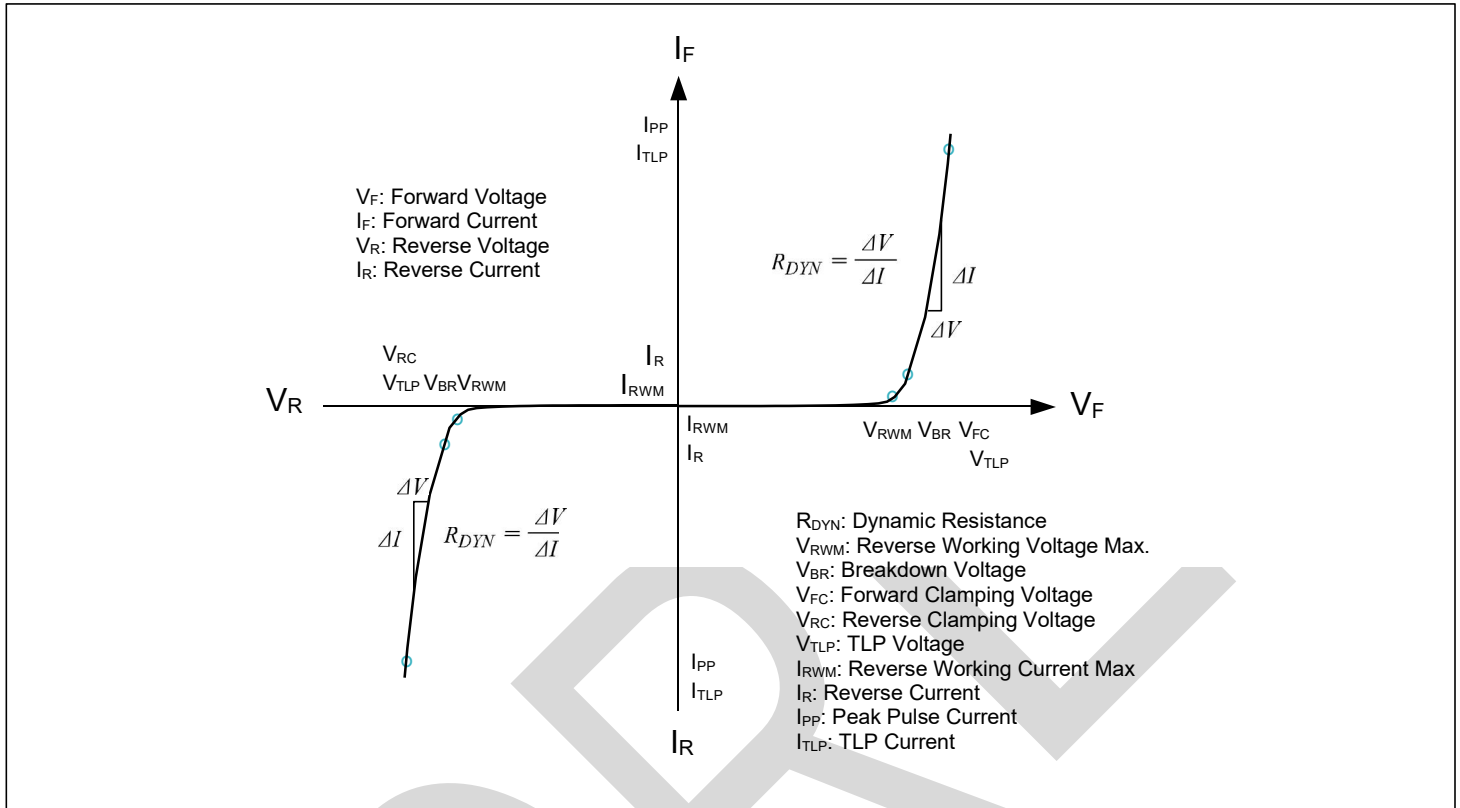
Dimensions in inches and (millimeter)



### Absolute Maximum Ratings ( $T_A=25^\circ\text{C}$ unless otherwise noted)

| Parameter                                                          | Symbol           | Value          | Unit             |
|--------------------------------------------------------------------|------------------|----------------|------------------|
| ESD per IEC 61000-4-2 (Air)                                        | $V_{\text{ESD}}$ | $\pm 30$       | kV               |
| ESD per IEC 61000-4-2 (Contact)                                    |                  | $\pm 30$       |                  |
| Peak power dissipation with a 10/1000 $\mu\text{s}$ waveform       | $P_{\text{PP}}$  | 400            | W                |
| Peak pulse current with a 10/1000 $\mu\text{s}$ waveform           | $I_{\text{PP}}$  | See Next Table | A                |
| Power dissipation on infinite heatsink at $T_L = 75^\circ\text{C}$ | $P_D$            | 3.3            | W                |
| Maximum lead temperature for soldering during 10 s                 | $T_L$            | 260            | $^\circ\text{C}$ |
| Operating junction temperature range                               | $T_J$            | -55 to +150    | $^\circ\text{C}$ |
| Storage temperature range                                          | $T_{\text{stg}}$ | -55 to +150    | $^\circ\text{C}$ |

## I-V Curve Characteristics



## Electrical Characteristics ( $T_A=25^\circ\text{C}$ unless otherwise noted)

| Part Number<br>(Bi) | Breakdown Voltage<br>$V_{BR} @ I_T$ |            |               | Maximum<br>Reverse<br>Leakage<br>$I_R @ V_{RWM}$<br>( $\mu\text{A}$ ) | Working<br>Peak<br>Reverse<br>Voltage<br>$V_{RWM}$<br>(V) | Maximum<br>Reverse<br>Surge<br>Current<br>$I_{PP}$ (A) | Maximum<br>Clamping<br>Voltage<br>$V_C @ I_{PP}$<br>(V) |
|---------------------|-------------------------------------|------------|---------------|-----------------------------------------------------------------------|-----------------------------------------------------------|--------------------------------------------------------|---------------------------------------------------------|
|                     | Min<br>(V)                          | Max<br>(V) | $I_T$<br>(mA) |                                                                       |                                                           |                                                        |                                                         |
| SMAJ20CA            | 22.20                               | 24.50      | 1.0           | 1.0                                                                   | 20.0                                                      | 12.35                                                  | 32.4                                                    |

## Ratings and Characteristics Curves ( $T_A=25^\circ\text{C}$ unless otherwise noted)

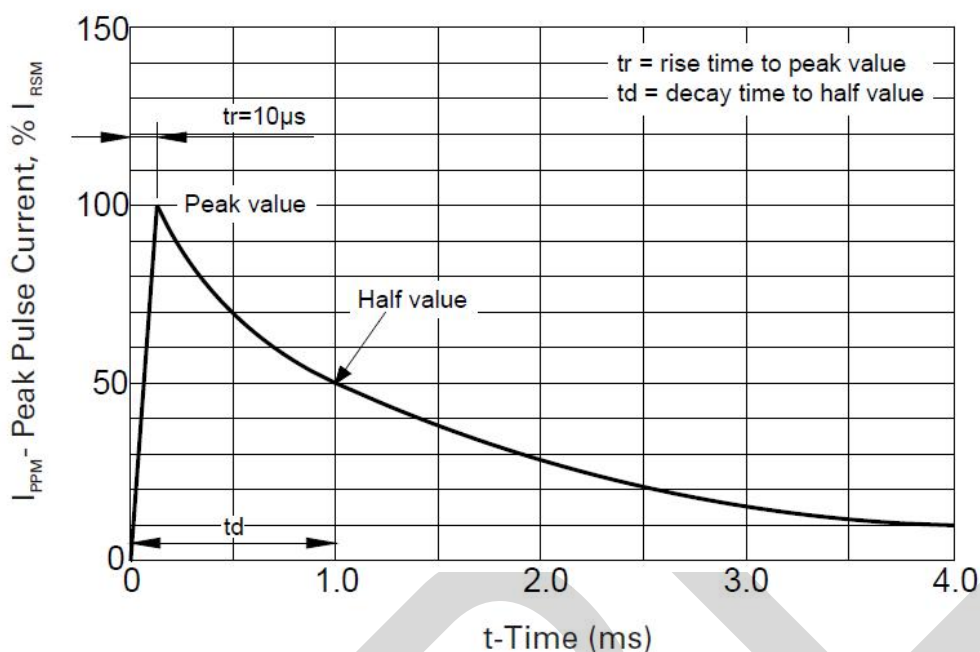


Figure 1 - 10/1000µs Pulse Waveform

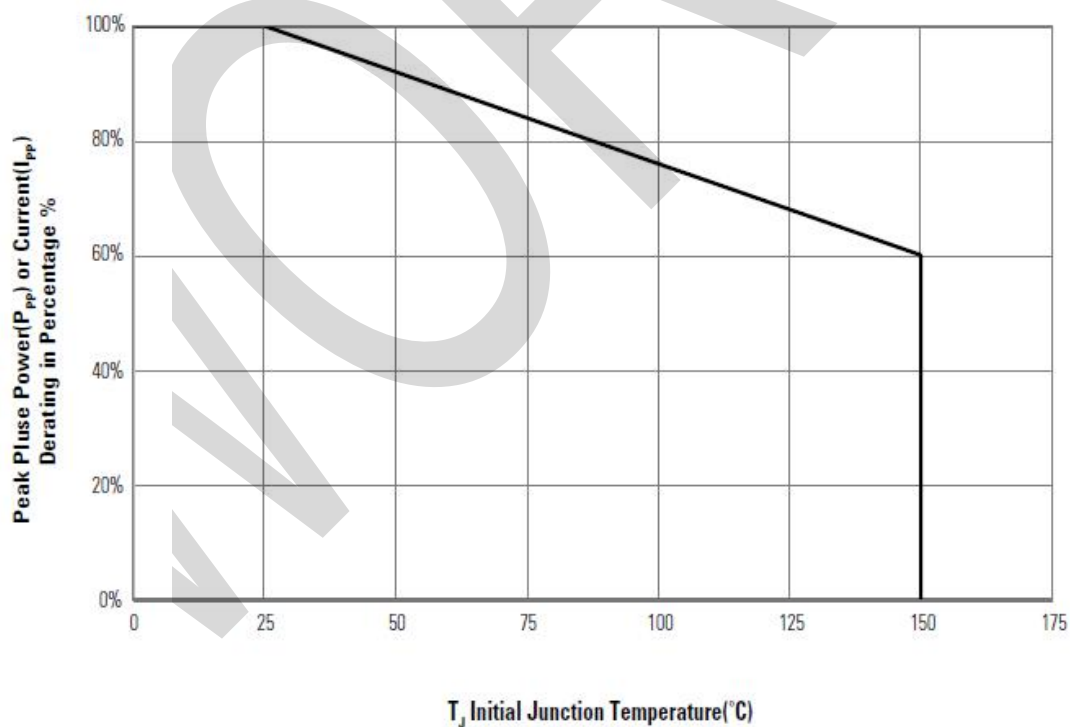
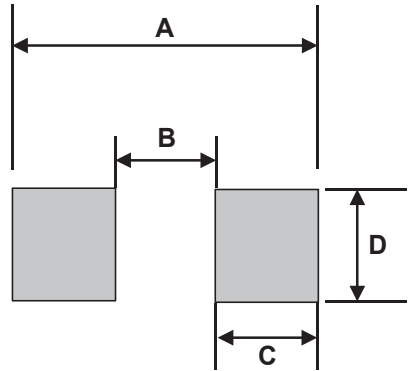


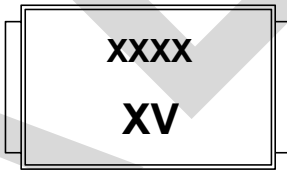
Figure 2 - Peak Pulse Power Derating Curve

## Suggested PAD Layout

| SIZE | DO-214AC(SMA) |           |
|------|---------------|-----------|
|      | (mm)          | (inch)    |
| A    | 6.3           | 0.248     |
| B    | 2.3 MAX       | 0.091 MAX |
| C    | 2.0 MIN       | 0.079 MIN |
| D    | 1.8 MIN       | 0.071 MIN |



## Marking Code

|                                                        |                                                                                     |
|--------------------------------------------------------|-------------------------------------------------------------------------------------|
| Part Number                                            |  |
| SMAJ20CA                                               |                                                                                     |
| XV = Product Type Marking Code<br>XXXX = Tracking Code |                                                                                     |

## Ordering Information

| Part Number | Package       | Base qty | Reel Size | Delivery mode |
|-------------|---------------|----------|-----------|---------------|
|             |               | (pcs)    | (inch)    |               |
| SMAJ20CA    | DO-214AC(SMA) | 5000     | 13        | Tape and reel |