

### Transient Voltage Suppressors

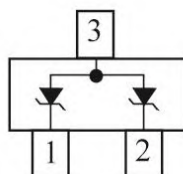
#### FEATURES:

- We declare that the material of product compliance with RoHS requirements and Halogen Free.
- 2 Unidirectional transil functions
- Low leakage current:  $I_R \max < 20 \mu A$  at  $V_{RM}$
- 300W peak pulse power(8/20 $\mu s$ )
- Transient protection for data lines as per IEC61000-4-2(ESD) 15KV(air) 8KV(contact) IEC61000-4-5(Lightning) see IPPM below

#### Circuit Diagram & Pin Configuration:



SOT-23



#### DEVICE MARKING AND ORDERING INFORMATION

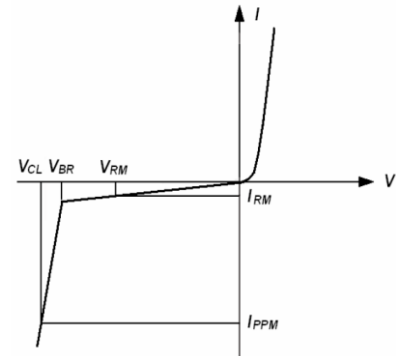
| Device       | Marking | Shipping       |
|--------------|---------|----------------|
| TESDN122AT23 | 12C     | 3000/Tape&Reel |

#### ABSOLUTE RATINGS( $T_a = 25^\circ C$ )

| Parameter                                              | Symbol | Limits          | Unit       |
|--------------------------------------------------------|--------|-----------------|------------|
| Peak Pulse Power ( $t_p = 8/20\mu s$ )                 | PPP    | 300             | W          |
| Lead Solder Temperature – Maximum (10 Second Duration) | TL     | 260             | $^\circ C$ |
| Storage Temperature Range                              | Tstg   | $-55 \sim +150$ | $^\circ C$ |
| Operating Temperature Range                            | Top    | $-40 \sim +125$ | $^\circ C$ |
| Maximum junction temperature                           | Tj     | 150             | $^\circ C$ |
| Electrostatic discharge                                | VPP    |                 | kV         |
| IEC61000-4-2 air discharge                             |        | 15              |            |
| IEC61000-4-2 contact discharge                         |        | 8               |            |

## ELECTRICAL CHARACTERISTICS (Ta= 25°C)

| Symbol | Parameter          |
|--------|--------------------|
| VRM    | Stand-off voltage  |
| VBR    | Breakdown voltage  |
| VCL    | Clamping voltage   |
| IRM    | Leakage current    |
| IPPM   | Peak pulse current |



## ELECTRICAL CHARACTERISTICS (Ta= 25°C)

| DEVICE       | VRWM<br>(V) | IR (μA)<br>@VRWM | VBR (V)<br>@IT<br>(Note 1) | IT<br>(mA) | VC (V)<br>@IPP=1A | VC (V)<br>@IPP=5A | IPP(A)<br>@tp=8/20μs | C (pF)<br>f=1MHz |
|--------------|-------------|------------------|----------------------------|------------|-------------------|-------------------|----------------------|------------------|
|              | Max.        | Max.             | Min.                       |            | Max.              | Max.              | Max.                 | Max.             |
| TESDN122AT23 | 12          | 1                | 13.3                       | 1          | 19                | 28                | 12                   | 90               |

1. 8/20 waveform used.

### ELECTRICAL CHARACTERISTICS CURVES

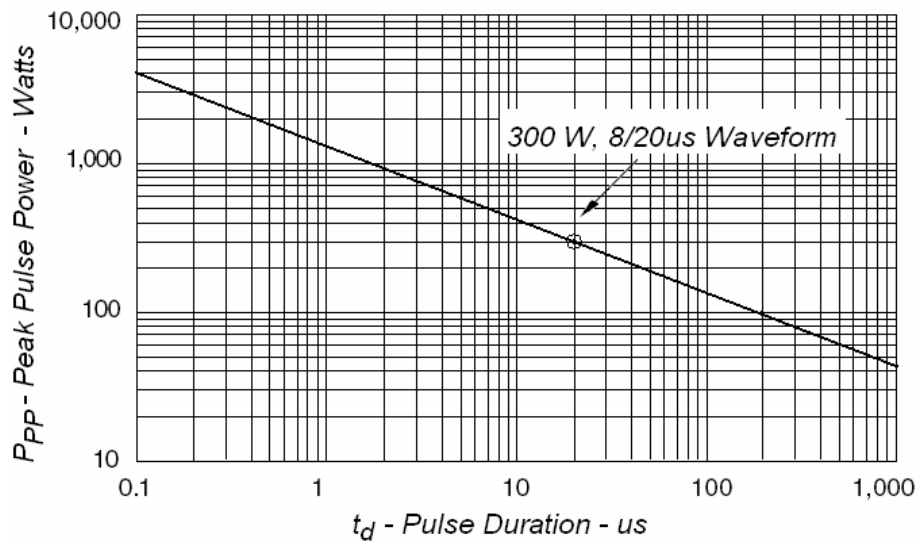


Fig1. Peak Pulse Power VS Pulse Time

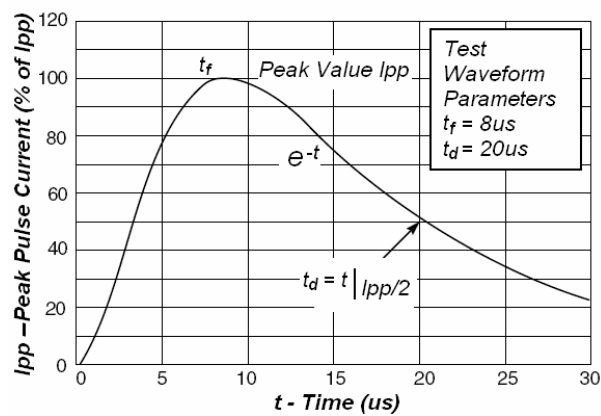


Fig2. Pulse Waveform

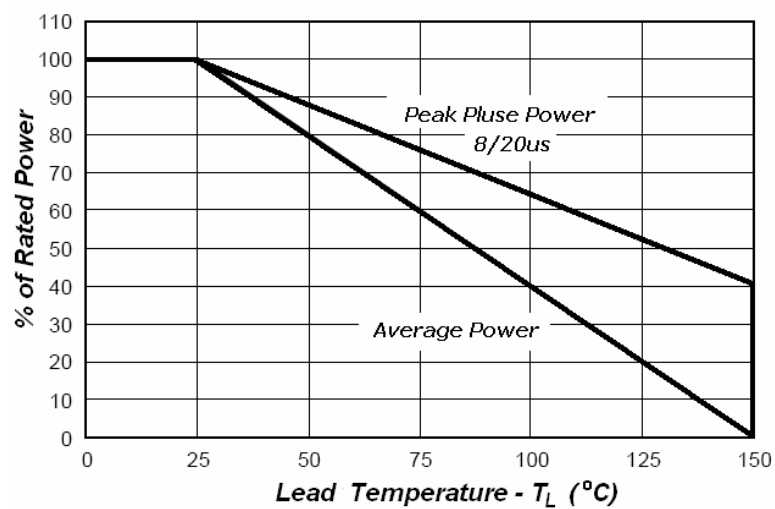
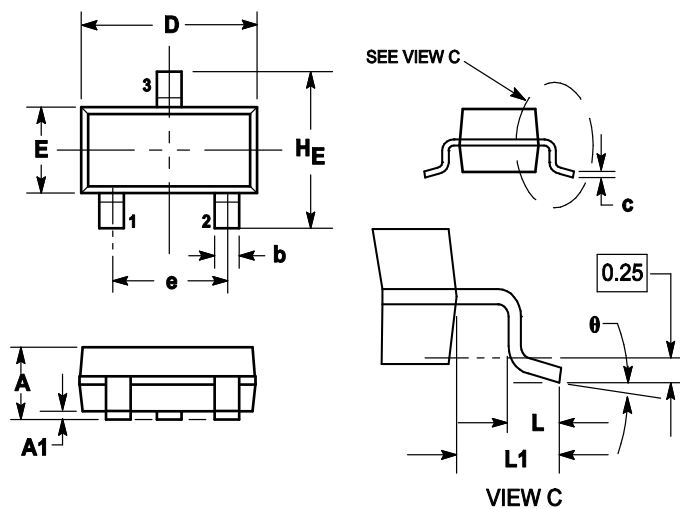


Fig3. Power Derating

### OUTLINE AND DIMENSIONS

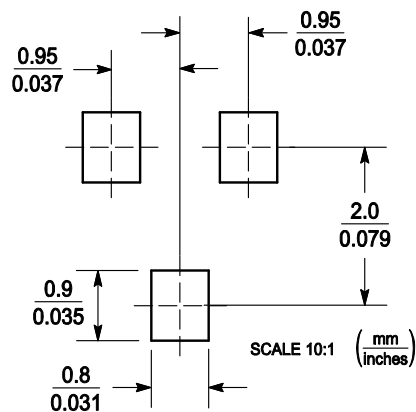
Notes:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.
4. DIMENSIONS D AND E DO NOT INCLUDE MOLD FLASH, PROTRUSIONS OR GATE BURRS.



| DIM            | MILLIMETERS |      |      | INCHES |       |       |
|----------------|-------------|------|------|--------|-------|-------|
|                | MIN         | NOM  | MAX  | MIN    | NOM   | MAX   |
| A              | 0.89        | 1    | 1.11 | 0.035  | 0.04  | 0.044 |
| A1             | 0.01        | 0.06 | 0.1  | 0.001  | 0.002 | 0.004 |
| b              | 0.37        | 0.44 | 0.5  | 0.015  | 0.018 | 0.02  |
| c              | 0.09        | 0.13 | 0.18 | 0.003  | 0.005 | 0.007 |
| D              | 2.80        | 2.9  | 3.04 | 0.11   | 0.114 | 0.12  |
| E              | 1.20        | 1.3  | 1.4  | 0.047  | 0.051 | 0.055 |
| e              | 1.78        | 1.9  | 2.04 | 0.07   | 0.075 | 0.081 |
| L              | 0.10        | 0.2  | 0.3  | 0.004  | 0.008 | 0.012 |
| L1             | 0.35        | 0.54 | 0.69 | 0.014  | 0.021 | 0.029 |
| H <sub>E</sub> | 2.10        | 2.4  | 2.64 | 0.083  | 0.094 | 0.104 |
| θ              | 0°          | ---  | 10°  | 0°     | ---   | 10°   |

### SOLDERING FOOTPRINT



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