

## 200W SMD UNI-DIRECTIONAL TVS FOR ESD PROTECTION DIODE, 5V

Dimensions shown in drawing:

- Top view: 0.041(1.05) / 0.037(0.95)
- Side view: 0.026(0.65) / 0.022(0.55)
- Bottom view: 0.0138(0.35) Typ., 0.012(0.30) Typ., 0.022(0.55) / 0.018(0.45)
- Lead width: 0.0177(0.45) Typ.

### PRODUCT FEATURES

1. FLAMMABILITY CLASSIFICATION 94V-0
2. GOLD PLATED TERMINALS
3. ESD (HUMAN BODY MODEL) >16KV
4. IEC COMPATIBILITY:
  - IEC61000-4-2 (ESD) ±20KV (AIR), ±15KV (CONTACT)
  - IEC61000-4-4 (EFT) 80A (5/50nS)
  - IEC61000-4-5 (LIGHTNING) 13A (8/20µS)
5. LOW LEAKAGE CURRENT
6. CASE: TRANSFER MOLDED, 0402 SIZE
7. DIMENSIONS IN INCHES AND (MILLIMETERS)
8. LEADS: SOLDERABILITY PER MIL-STD-750 METHOD 2026
9. WEIGHT: 0.001 GRAMS
10. RoHS COMPLIANT, ADD SUFFIX "H" FOR HALOGEN FREE  
i.e. ESD9FN5.0-H: RoHS COMPLIANT/HALOGEN FREE

## ELECTRICAL CHARACTERISTICS

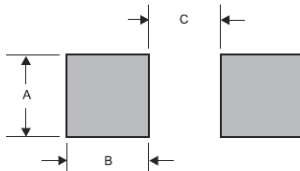
### MAXIMUM RATINGS (T<sub>A</sub> =25°C UNLESS OTHERWISE NOTED ) AND ELECTRICAL CHARACTERISTICS

| RATING                               | SYMBOL           | UNITS           |
|--------------------------------------|------------------|-----------------|
| PEAK PULSE POWER, tp=8/20 µS         | P <sub>PP</sub>  | 200 W           |
| STORAGE TEMPERATURE RANGE            | T <sub>STG</sub> | - 55 TO +150 °C |
| OPERATING JUNCTION TEMPERATURE RANGE | T <sub>J</sub>   | - 55 TO +125 °C |

| PART NUMBER | Max. V <sub>RWM</sub> (V) | Max I <sub>R</sub> @ V <sub>RWM</sub> (µA) | Min V <sub>BR</sub> @ I <sub>T</sub> =1mA (A) | Max V <sub>C</sub> @ I <sub>PP</sub> =13A (V) | Max I <sub>PP</sub> (A) | Max C <sub>J</sub> (pF) | MARKING |
|-------------|---------------------------|--|---|---|-------------------------|-------------------------|---------|
| ESD9FN5.0   | 5                         | 2  | 6   | 15.5  | 13                      | 120                     | T       |

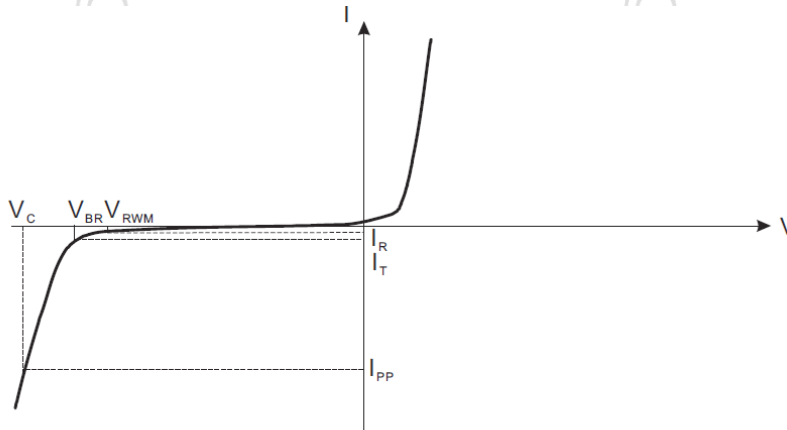
- NOTE : 1. SURGE CURRENT WAVEFORM PER FIG 1.  
 2. V<sub>BR</sub> IS MEASURED WITH A PULSE TEST CURRENT I<sub>T</sub> AT 25°C AMBIENT TEMP  
 3. UNLESS SPECIFIED OTHERWISE, THE ELECTRICAL TEST IS PERFORMED AT T<sub>A</sub>=25°C, V<sub>F</sub>=1.2V@I<sub>F</sub>=10mA

## LAYOUT RECOMMENDATION



| PACKAGE | A            | B            | C            |
|---------|--------------|--------------|--------------|
| 0402    | 0.028 (0.70) | 0.020 (0.50) | 0.010 (0.25) |

## RATINGS AND CHARACTERISTIC CURVES



Uni-Directional TVS

- $V_C$  : Clamping Voltage @  $I_{PP}$
- $I_{PP}$  : Maximum Reverse Peak Pulse Current
- $V_{RWM}$  : Maximum Working Peak Reverse voltage
- $I_R$  : Maximum Reverse Leakage Current @  $V_{RWM}$
- $V_{BR}$  : Breakdown voltage @  $I_T$
- $I_T$  : Test Current
- $P_{PP}$  : Peak Pulse Power
- $C_j$  : Max. Capacitance @  $V_R = 0V$  and  $f = 1MHz$

FIG.1- 8 X 20us PULSE WAVEFORM

FIG.2- POWER RATING DERATING CURVE

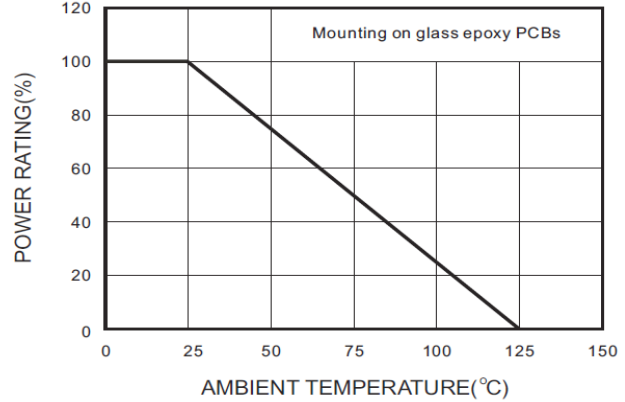
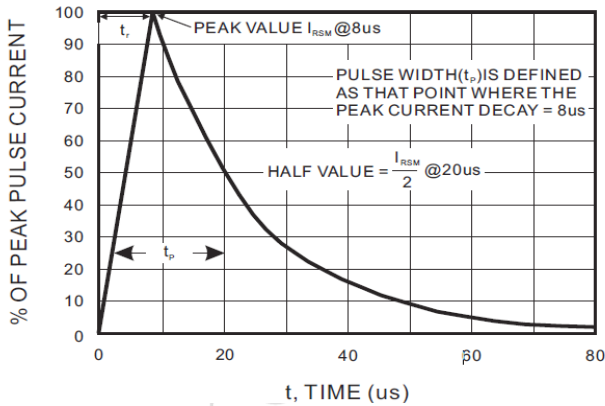


FIG.3- TERMINALS CHARACTERISTICS

