

## 75W SMD BI-DIRECTIONAL TVS FOR ESD PROTECTION DIODES, 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 spacing: 0.0177(0.45) Typ.

### PRODUCT FEATURES

1. FLAMMABILITY CLASSIFICATION 94V-0
2. LOW CLAMPING VOLTAGE
3. GOLD PLATED TERMINALS
4. IEC COMPATIBILITY:  
IEC61000-4-2 (ESD) ±15KV (AIR), ±8KV (CONTACT)  
IEC61000-4-4 (EFT) 80A (5/50nS)  
IEC61000-4-5 (LIGHTNING) 5A (8/20µS)
5. LOW LEAKAGE CURRENT
6. CASE: MOLDED PLASTIC 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. ESD9FN5.0C-H: RoHS COMPLIANT/HALOGEN FREE

## ELECTRICAL CHARACTERISTICS

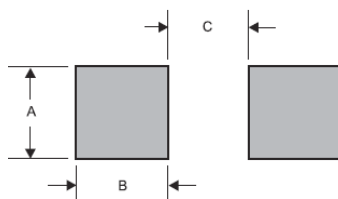
### MAXIMUM RATINGS (T<sub>A</sub> =25°C UNLESS OTHERWISE NOTED ) AND ELECTRICAL CHARACTERISTICS

RATING	SYMBOL	UNITS
PEAK PULSE POWER, tp=8/20 µS	P <sub>PP</sub>	75 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> =5A (V)	Max I <sub>PP</sub> (A)	MAX C <sub>J</sub> (pF)	MARKING
ESD9FN5.0C	5	2	6	15	5	20	H

NOTE : 1. SURGE CURRENT WAVEFORM PER FIG 1.  
2. V<sub>BR</sub> IS MEASURED AT AMBIENT TEMPERATURE OF 25°C.

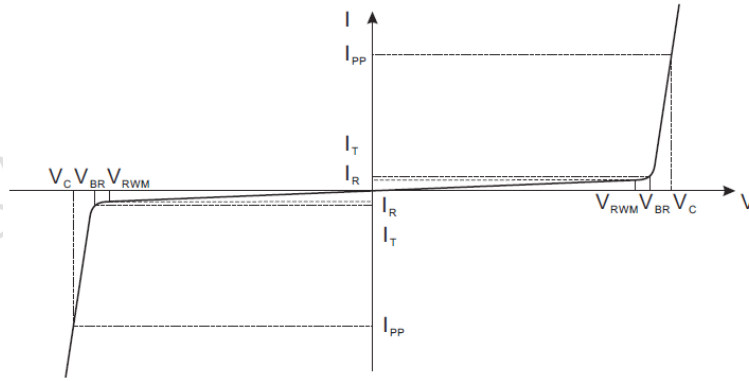
## LAYOUT RECOMMENDATION



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



## RATINGS AND CHARACTERISTIC CURVES



Bi-Directional TVS

- $V_C$  : Clamping Voltage @  $I_{PP}$
- $I_{PP}$  : Maximum Reverse Peak Pulse Current
- $V_{RWM}$  : Maximum Reverse Working 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

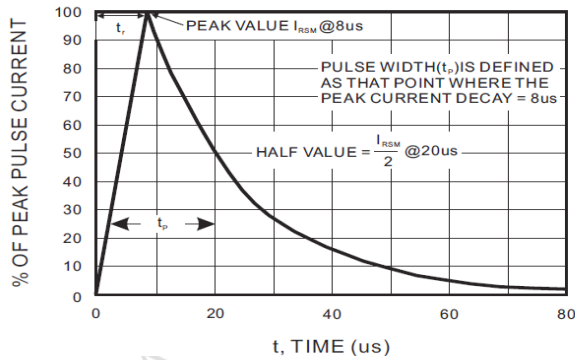


FIG.3- TERMINALS CHARACTERISTICS

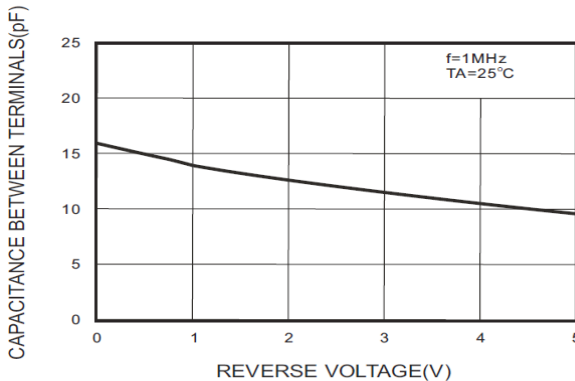


FIG.2- CLAMPING VOLTAGE VS. PEAK PULSE CURRENT

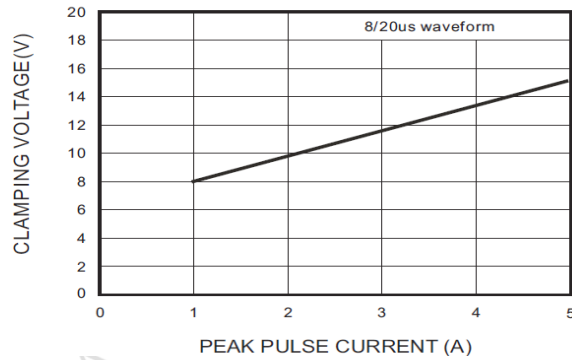


FIG.4- POWER RATING DERATING CURVE

