

## SMD BI-DIRECTIONAL TVS FOR ESD PROTECTION DIODE, 3.3V-5.0V

Dimensions (Inches / Millimeters):

- Top view: 0.026 (0.65) / 0.022 (0.55), 0.035 (0.85) / 0.029 (0.75), 0.010 (0.25) / 0.006 (0.15)
- Side view: 0.017 (0.43) / 0.014 (0.36)
- Cross-section: 0.007 (0.17) / 0.003 (0.07), 0.042 (1.05) / 0.037 (0.95)

### PRODUCT FEATURES

- FLAMMABILITY CLASSIFICATION 94V-0
- RESPONSE TIME <1ns TYP.
- ESD VOLTAGE (HUMAN BODY MODEL) 16KV
- IEC COMPATIBILITY:
  - IEC61000-4-2 (ESD) ±15KV (AIR), ±8KV (CONTACT)
  - IEC61000-4-4 (EFT) 40A (5/50nS)
  - IEC61000-4-5 (LIGHTNING) >9A (8/20µS)
- LOW LEAKAGE CURRENT
- CASE: TRANSFER MOLDED, SOD-923FL
- DIMENSIONS IN INCHES AND (MILLIMETERS)
- LEADS: SOLDERABILITY PER MIL-STD-750 METHOD 2026
- WEIGHT: 0.00044 GRAMS
- RoHS COMPLIANT, ADD SUFFIX "H" FOR HALOGEN FREE  
i.e. ESD9Z3.3C-H: RoHS COMPLIANT/HALOGEN FREE

## ELECTRICAL CHARACTERISTICS

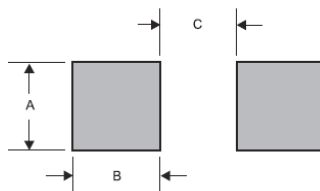
### MAXIMUM RATINGS (T<sub>A</sub> =25°C UNLESS OTHERWISE NOTED ) AND ELECTRICAL CHARACTERISTICS

RATING	SYMBOL	UNITS
PEAK POWER DISSIPATION, t <sub>p</sub> =8/20µS	P <sub>PP</sub>	150 W
STORAGE TEMPERATURE RANGE	T <sub>STG</sub>	- 55 TO +150 °C
OPERATING JUNCTION TEMPERATURE RANGE	T <sub>J</sub>	- 40 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> Max (V)	Max I <sub>PP</sub> (A)	MAX P <sub>PK</sub> (W) (NOTE 2)	MAX C <sub>J</sub> (pF)	MARKING
ESD9Z3.3C	3.3	1	7	14.1	11.2	158	25	B
ESD9Z5.0C	5.0	1	8	18.6	9.4	174	15	C

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

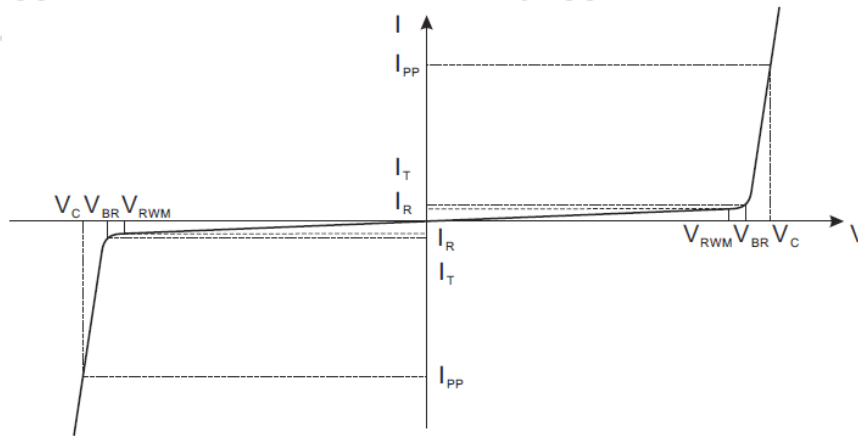
## LAYOUT RECOMMENDATION



PACKAGE	A	B	C
SOD-923FL	0.016 (0.40)	0.012 (0.30)	0.024 (0.60)



## 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- PULSE WAVEFORM

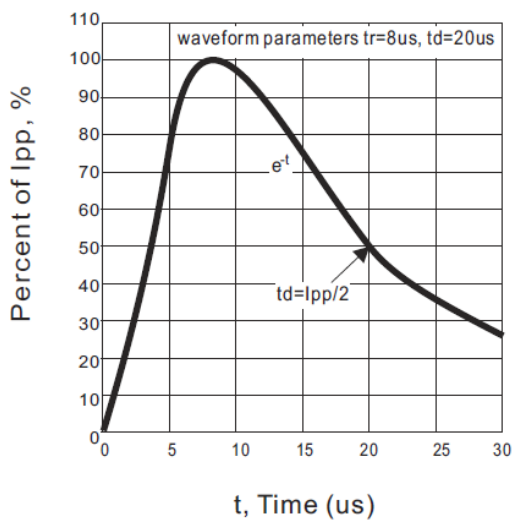


Fig.2- POWER RATING CURVE

