

90W SMD BI-DIRECTIONAL TVS FOR ESD PROTECTION DIODES, 12V

Top View Dimensions:
 Width: 0.041(1.05) / 0.037(0.95)
 Height: 0.026(0.65) / 0.022(0.55)

Side View Dimensions:
 Lead Width: 0.012(0.30) Typ.
 Lead Spacing: 0.0138(0.35) Typ.

Bottom View Dimensions:
 Lead Width: 0.0177(0.45) Typ.
 Lead Spacing: 0.022(0.55) / 0.018(0.45)

PRODUCT FEATURES

1. FLAMMABILITY CLASSIFICATION 94V-0
2. LOW CLAMPING VOLTAGE
3. GOLD PLATED TERMINALS
4. IEC COMPATIBILITY:
IEC61000-4-2 (ESD) ±16KV (AIR), ±8KV (CONTACT)
IEC61000-4-4 (EFT) 80A (5/50nS)
IEC61000-4-5 (LIGHTNING) 3A (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. ESD9FN12C-H: RoHS COMPLIANT/HALOGEN FREE

ELECTRICAL CHARACTERISTICS

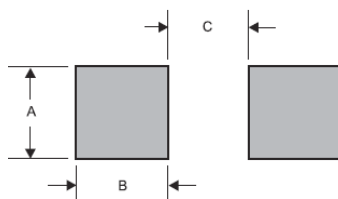
MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ UNLESS OTHERWISE NOTED) AND ELECTRICAL CHARACTERISTICS

RATING	SYMBOL	UNITS
PEAK PULSE POWER, $t_p=8/20 \mu\text{s}$	P_{PP}	90 W
STORAGE TEMPERATURE RANGE	T_{STG}	- 55 TO +150 $^\circ\text{C}$
OPERATING JUNCTION TEMPERATURE RANGE	T_J	- 55 TO +125 $^\circ\text{C}$

PART NUMBER	Max. V_{RWM} (V)	Max I_R @ V_{RWM} (μA)	Min V_{BR} @ $I_T=1\text{mA}$ (A)	Max V_C @ $I_{PP}=5\text{A}$ (V)	Max I_{PP} (A)	MAX C_J (pF)	MARKING
ESD9FN12C	12	2	14	30	3	15	S

NOTE : 1. SURGE CURRENT WAVEFORM PER FIG 1.
2. V_{BR} IS MEASURED AT AMBIENT TEMPERATURE OF 25°C .

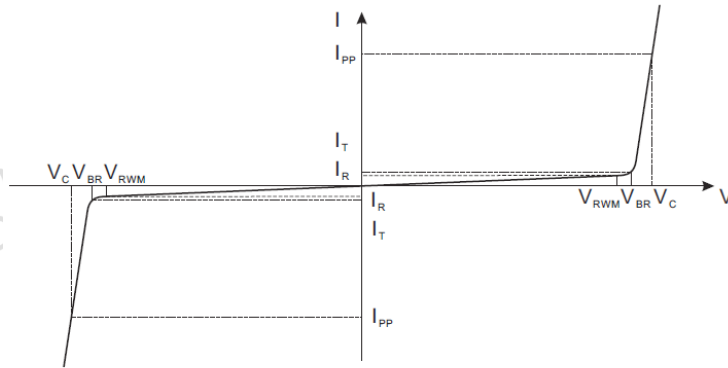
LAYOUT RECOMMENDATION



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.2- CLAMPING VOLTAGE VS. PEAK PULSE CURRENT

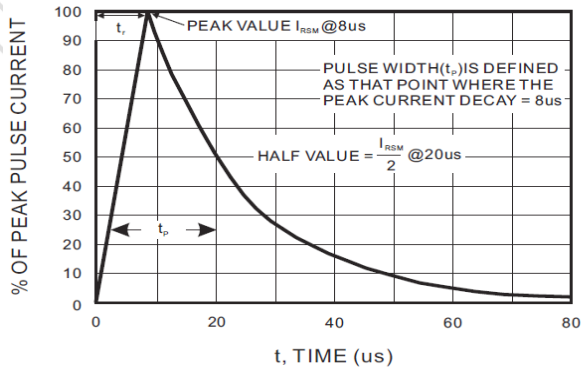


FIG.3- TERMINALS CHARACTERISTICS

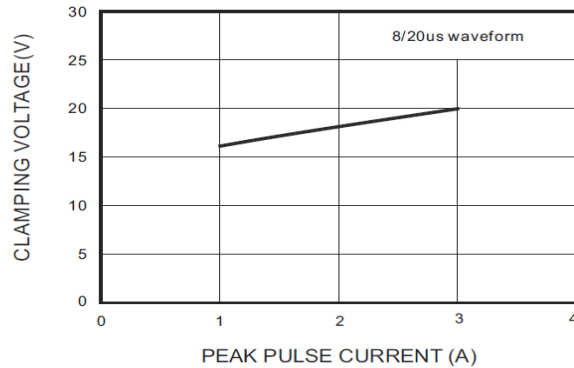


FIG.4- POWER RATING DERATING CURVE

