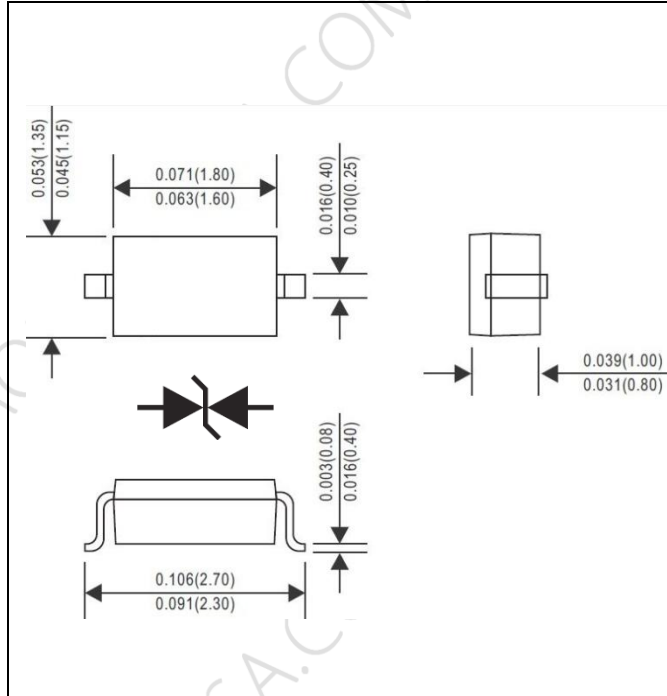


SMD BI-DIRECTIONAL TVS FOR ESD PROTECTION DIODES, 3.3V-24V



PRODUCT FEATURES

1. FLAMMABILITY CLASSIFICATION 94V-0
2. LOW CLAMPING VOLTAGE
3. PROTECT ONE I/O LINE OR POWER LINE
4. IEC COMPATIBILITY:
 - IEC61000-4-2 (ESD) $\pm 15\text{KV}$ (AIR), $\pm 8\text{KV}$ (CONTACT)
 - IEC61000-4-4 (EFT) 40A (5/50nS)
 - IEC61000-4-5 (LIGHTNING) $>7\text{A}$ (8/20 μS)
5. LOW LEAKAGE CURRENT
6. CASE: TRANSFER MOLDED, SOD-323F
7. DIMENSIONS IN INCHES AND (MILLIMETERS)
8. LEADS: SOLDERABILITY PER MIL-STD-750 METHOD 2026
9. WEIGHT: 0.005 GRAMS
10. RoHS COMPLIANT, ADD SUFFIX "H" FOR HALOGEN FREE
i.e. ESD3Z3.3C-H: RoHS COMPLIANT/HALOGEN FREE

ELECTRICAL CHARACTERISTICS

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

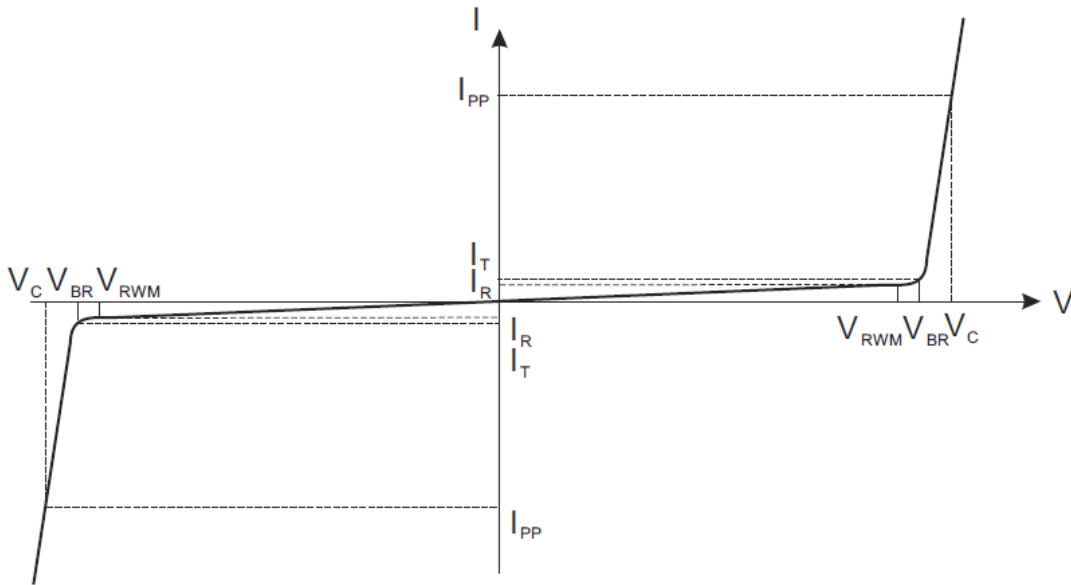
RATING	SYMBOL	UNITS
PEAK PULSE POWER, $t_p=8/20 \mu\text{S}$	P_{PP}	350 W
STORAGE TEMPERATURE RANGE	T_{STG}	- 55 TO +150 $^\circ\text{C}$
OPERATING JUNCTION TEMPERATURE RANGE	T_J	- 55 TO +150 $^\circ\text{C}$

PART NUMBER	Max. V_{RWM} (V)	Max I_R @ V_{RWM} (μA)	Min V_{BR} @ $I_T=1\text{mA}$ (A)	Max V_C @ $I_{PP}=1\text{A}$ (V)	Max I_{PP} (A)	V_C @ Max I_{PP} (V) (NOTE 1)	MAX P_{PK} (W) (NOTE 1)	MAX C_J (pF)	MARKING
ESD3Z3.3C	3.3	40	4	7.5	20	10.5	210	450	2A
ESD3Z5.0C	5.0	10	6	9.8	17	18	306	200	2B
ESD3Z12C	12	1	13.3	19	11	32	352	75	2D
ESD3Z15C	15	1	16.7	24	10	38	380	68	2J
ESD3Z18C	18	1	20	29	9	45	406	57	2K
ESD3Z24C	24	1	26.7	43	7	52	364	50	2H

NOTE : 1. SURGE CURRENT WAVEFORM PER FIG 1.

2. V_{BR} IS MEASURED AT AMBIENT TEMPERATURE OF 25°C .

RATINGS AND CHARACTERISTIC CURVES



Bi-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 $f = 1MHz$

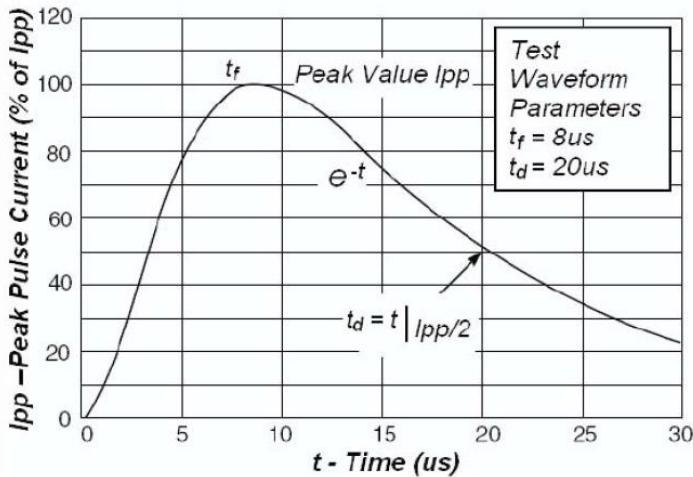


Fig1. Pulse Waveform

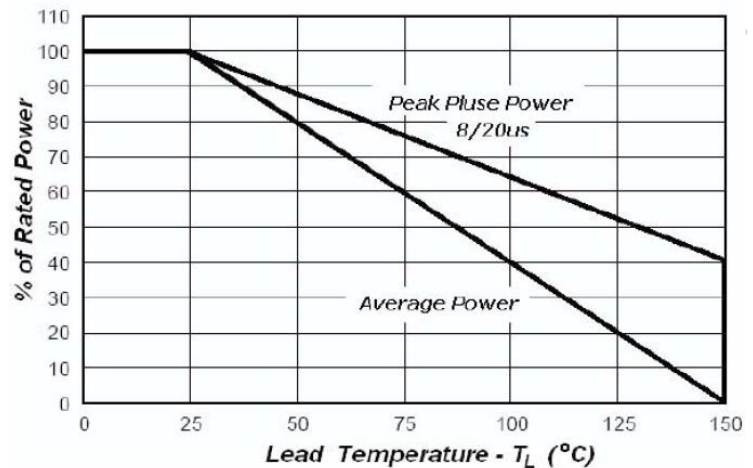
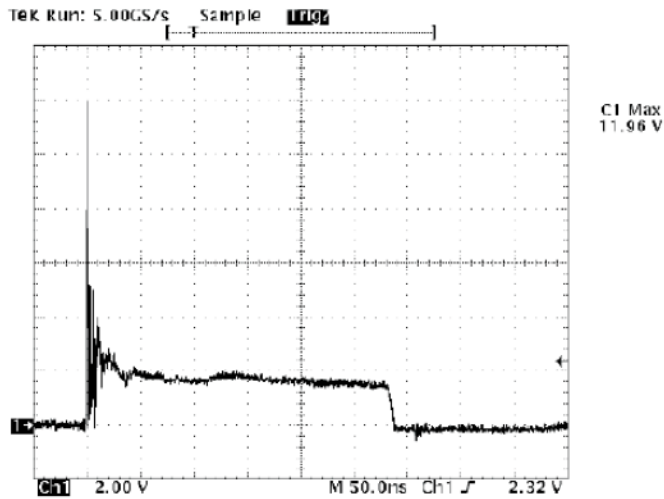


Fig2. Power Derating

**ESD Clamping
(8kV Contact per IEC 61000-4-2)**



**ESD Clamping
(-8kV Contact per IEC 61000-4-2)**

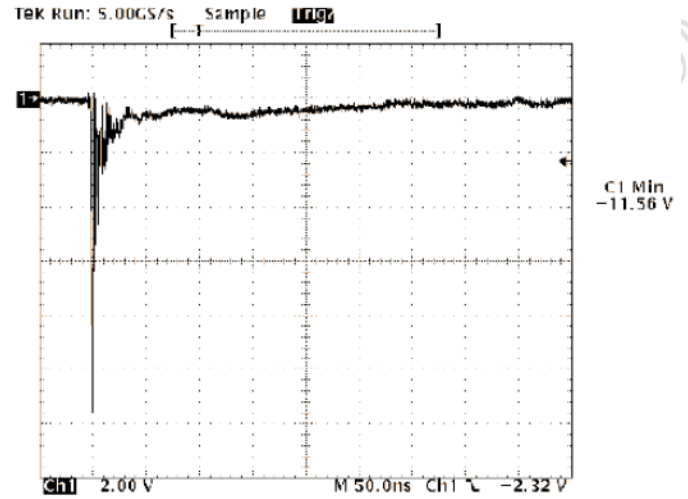
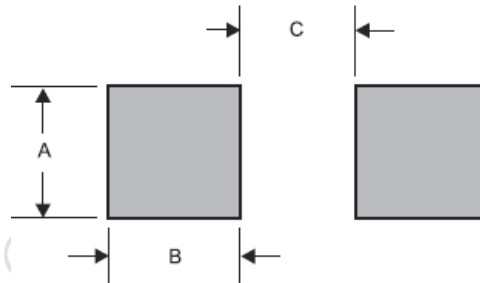


Fig3. ESD PULSE WAVEFORM, PER IEC 61000-4-2

LAYOUT RECOMMENDATION



PACKAGE	A	B	C
SOD-323F	0.033 (0.83)	0.025 (0.63)	0.063 (1.60)