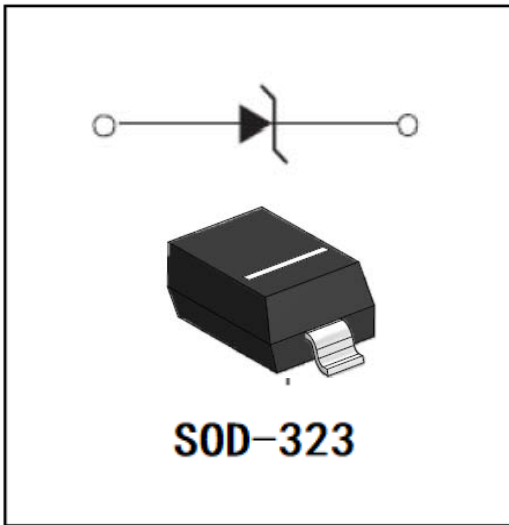


ESD Protection Diode



Features

- For sensitive ESD protection
- Low leakage
- Uni-directional ESD protection of one line
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1

Mechanical Data

- **Package:** SOD323
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** Cathode line denotes the cathode end
- **Marking:** ZM

■ Maximum Ratings

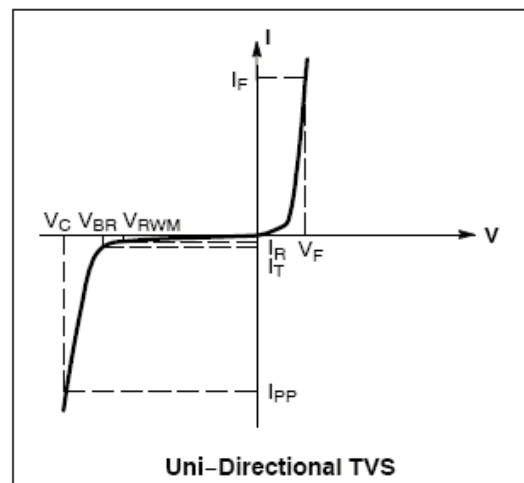
PARAMETER	SYMBOL	LIMITS	UNIT
Operating Junction & Storage Temperature	$T_J & T_{STG}$	-45 to +125	°C
IEC61000-4-2(ESD)Air	VESD ⁽¹⁾	± 15	KV
IEC61000-4-2(ESD)Contact		± 8	KV
Peak Pulse Current	I_{PP} ⁽²⁾	17	A

(1).Device stressed with ten non-repetitive ESD pulses.

(2).Non-repetitive current pulse 8/20µs exponential decay waveform according to IEC61000-4-5.

■ Electrical Parameter

PARAMETER	SYMBOL
Clamping Voltage@ I_{PP}	V_C
Breakdown Voltage@ I_T	V_{BR}
Peak Pulse Current	I_{PP}
Test Current	I_T
Reverse Leakage Current@ V_{RWM}	I_R
Reverse Standoff Voltage	V_{RWM}
Forward Voltage@ I_F	V_F
Forward Current	I_F
Peak Power Dissipation	P_{PK}
Max. Capacitance @ $V_R=0$ and $f=1$ MHz	C



■ **Electrical Characteristics** ($T_a=25^\circ\text{C}$ Unless otherwise specified)

PARAMETER	Symbol	UNIT	Conditions	Min	Typ	Max
Reverse Standoff Voltage	$V_{RWM}^{(1)}$	V				12
Reverse Leakage Current	I_R	μA	$V_{RWM}=12\text{V}$			0.5
Breakdown Voltage	$V_{(BR)}$	V	$I_T=1\text{mA}$	13		16
Clamping Voltage	$V_C^{(2)}$	V	$I_{PP}=17\text{A}$			26
Forward voltage	V_F	V	$I_F=100\text{mA}$			1.2
Junction Capacitance	C_J	pF	$V_R=0\text{V}, f=1\text{MHz}$		120	

(1).Other voltages available upon request.

(2).Non-repetitive current pulse $8/20\mu\text{ s}$ exponential decay waveform according to IEC61000-4-5

■ **Ordering Information (Example)**

PREFERRED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
SD12	F2	Approximate 0.004	3000	30000	120000	7" reel

■ **Characteristics (Typical)**

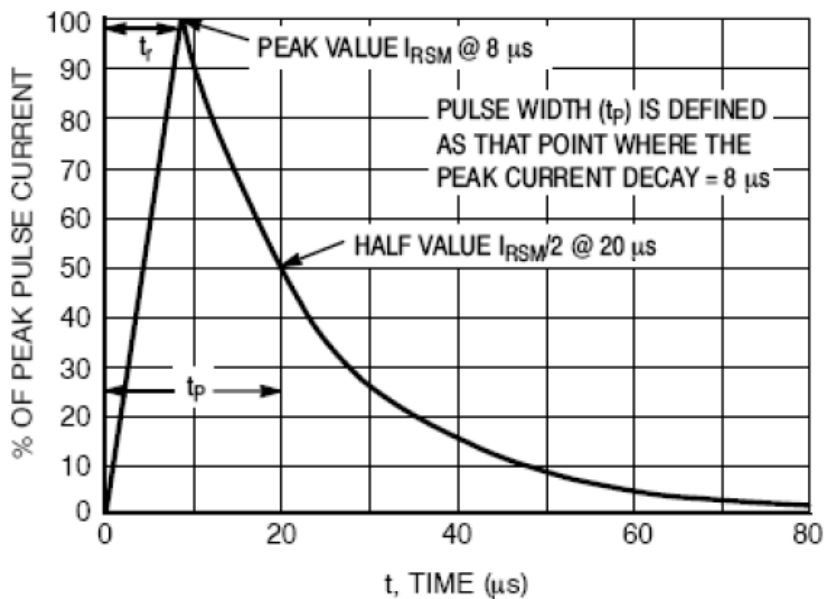
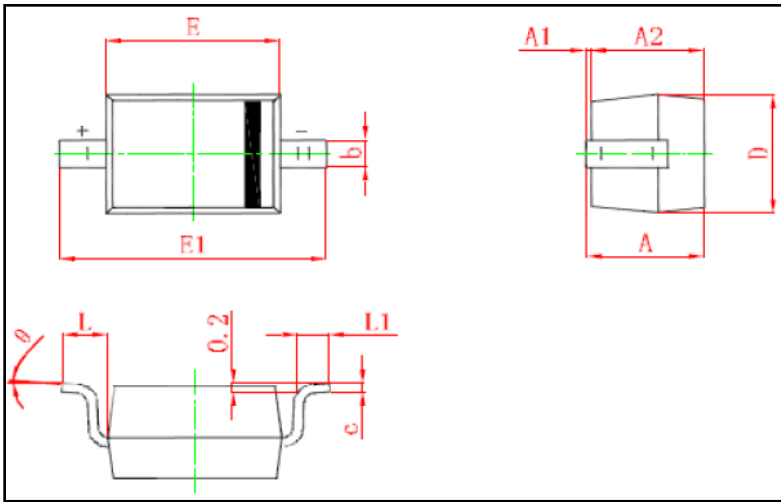


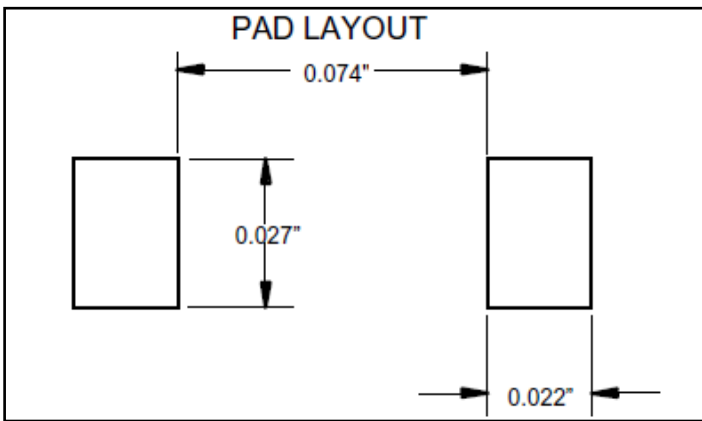
Figure 1. 8 x 20 μs Pulse Waveform

■ **Outline Dimensions**



Symbol	Min. (mm)	Max. (mm)
A		1.000
A1	0.000	0.100
A2	0.800	0.900
b	0.250	0.400
c	0.080	0.150
D	1.200	1.400
E	1.600	1.800
E1	2.500	2.700
L	0.475REF	
L1	0.250	0.400
θ	0°	8°

■ **Soldering Footprint**



Unit : inches