



## BIDIRECTIONAL ESD PROTECTION DIODES

### GENERAL DESCRIPTION

Electro Static Discharge ( ESD ) protection diodes in ultra small SMD Plastic packages designed to protect one signal line from the damage caused by ESD and other transients.

### Features


- Bidirectional ESD protection of one line.
- Max. peak pulse power :  $P_{pp} = 350W$  at  $t_p = 8/20 \mu s$
- ESD protection  $>25 kV$  per MIL-STD-883C, Method 3015-6:Class3
- IEC 61000-4-2, level 4 ( ESD ),  $>15KV$  ( air );  $>8KV$  ( contact ).

### APPLICATION

- Computers and peripherals
- Communication system
- Notebooks. Desktops & Servers.
- Portable electronics
- Cellular handsets and accessories.

### PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode

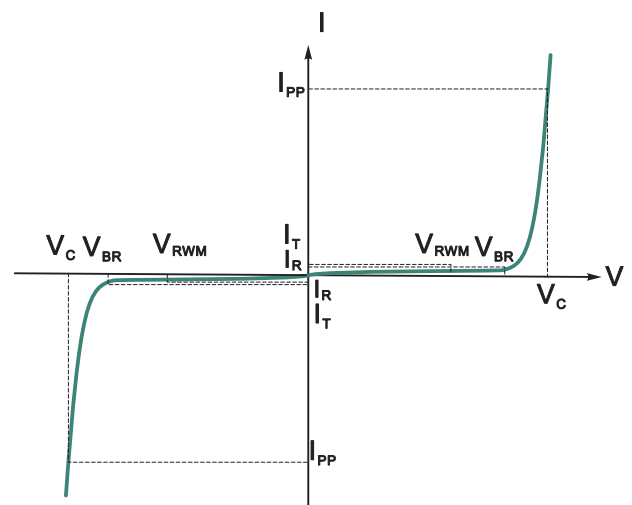


MECHANICAL DATA

- Case: SOD-323W
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 5.48mg / 0.00019oz

### Electronics Parameter

Parameter	Symbol
Maximum Reverse Peak Pulse Current	$I_{PP}$
Clamping Voltage @ $I_{PP}$	$V_C$
Peak Reverse Working Voltage	$V_{RWM}$
Reverse Leakage Current @ $V_{RWM}$	$I_R$
Breakdown Voltage @ $I_T$	$V_{BR}$
Test Current	$I_T$
Forward Current	$I_F$
Forward Voltage @ $I_F$	$V_F$





**Absolute Ratings**  
( $T_{amb}=25^{\circ}C$ )

Parameter	Symbol	Value	Unit
Peak Pulse Power( $t_p=8/20\mu s$ )	$P_{PPM}$	350	W
Peak Pulse Current( $t_p=8/20\mu s$ )	$I_{PP}$	15	A
Operating Junction Temperature	$T_J$	-55 to +150	$^{\circ}C$
Storage Temperature	$T_{STG}$	-55 to +150	$^{\circ}C$

**Electrical Characteristics**

Ratings at  $25^{\circ}C$  ambient temperature unless otherwise specified.

Parameter	Symbol	Conditions	Minimum	Typical	Maximum	Units
Reverse Stand-Off Voltage	$V_{DRM}$				12.0	V
Reverse Breakdown Voltage	$V_{BR}$	$I_T=1mA$	13.3		15.5	V
Reverse Leakage Current	$I_R$	$V_{RWM}=12V, T_a=25^{\circ}C$			1.0	$\mu A$
Clamping Voltage	$V_C$	$I_{PP}=15A, t_p=8/20\mu s$			24	V
Junction Capacitance	$C_j$	$V_R=0V, f=1MHz$			100	pF



Fig.1 Non-Repetitive Peak Pulse Power vs. Pulse Time

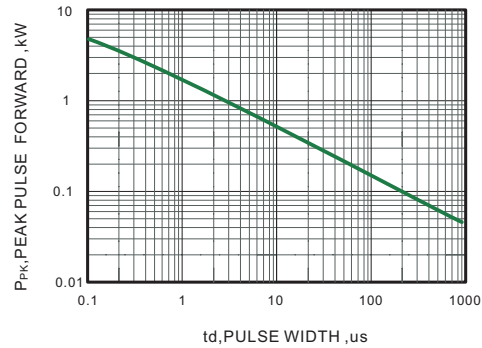


Fig.2 Forward Current Derating Curve

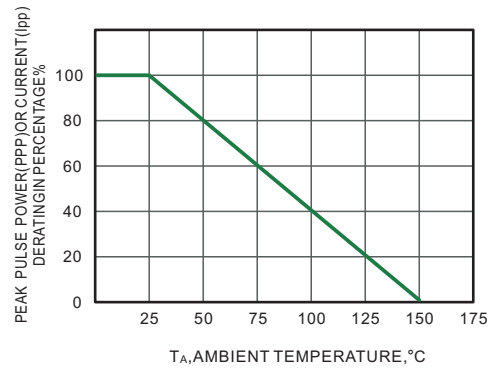


Fig.3 Waveform

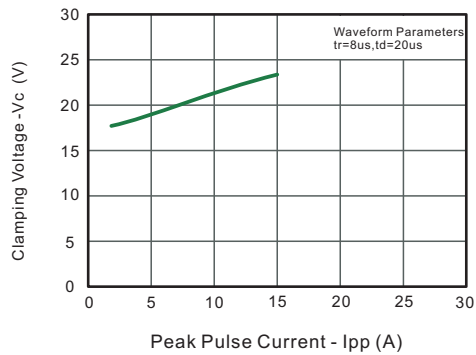


Fig.4 Power Derating Curve

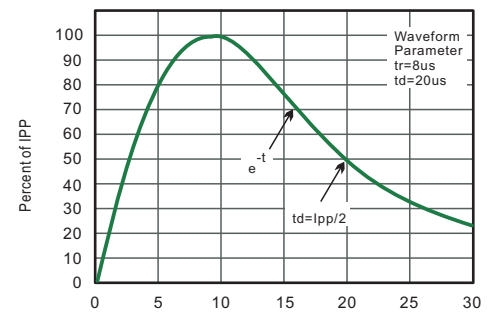
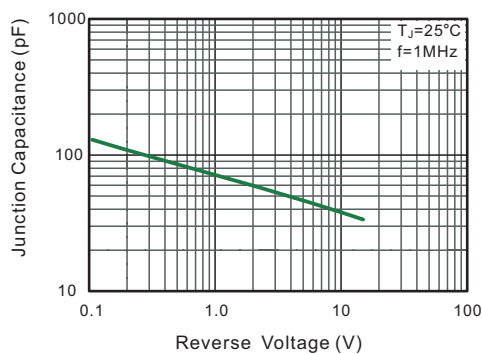


Fig.5 Typical Junction Capacitance

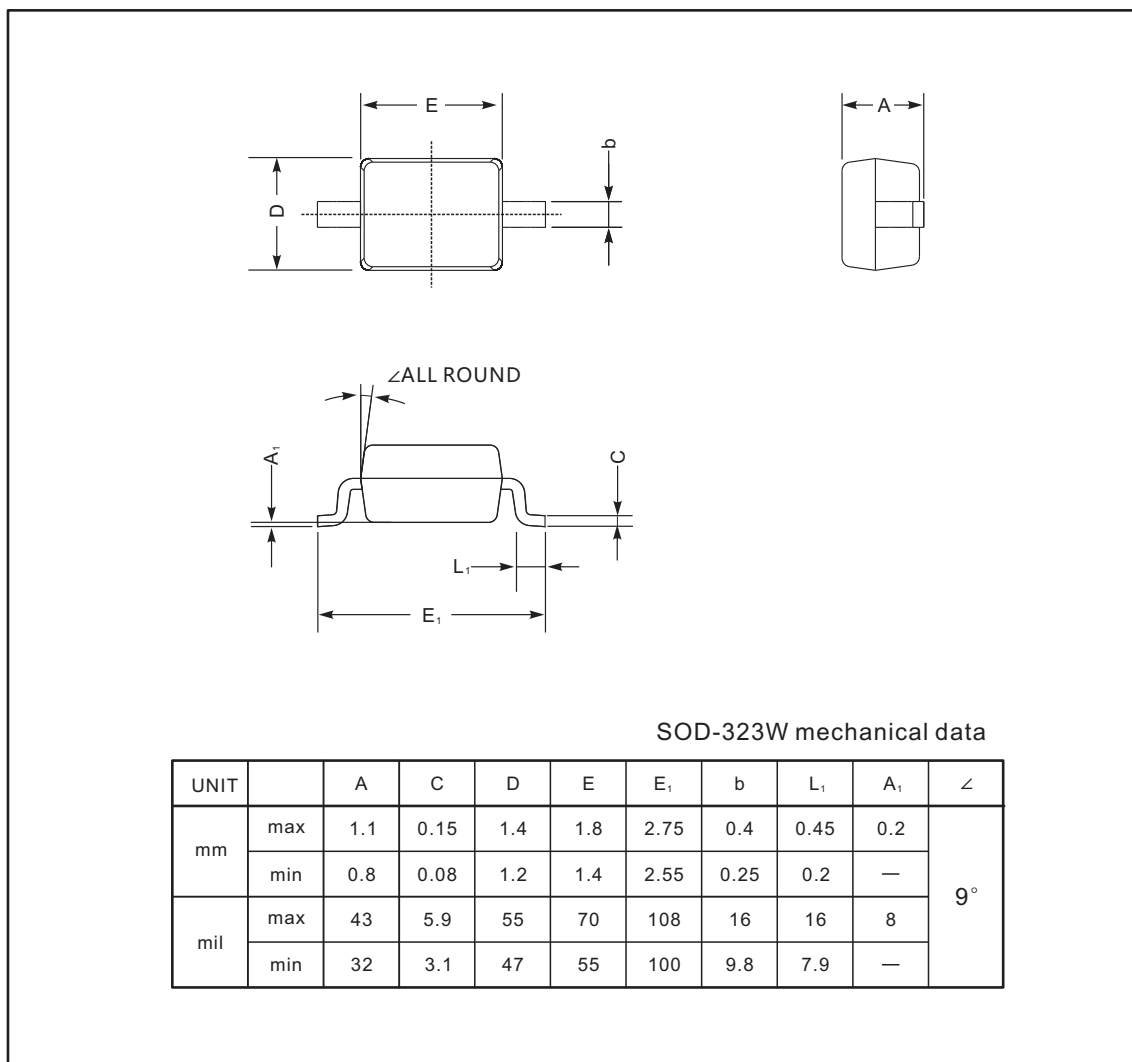




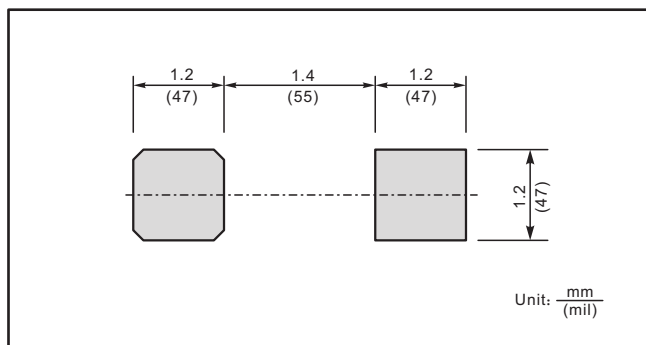
**PACKAGE OUTLINE**

Plastic surface mounted package; 2 leads

SOD-323W



**The recommended mounting pad size**



**Marking**

Type number	Marking code
J35ESD12VCB2	WBC