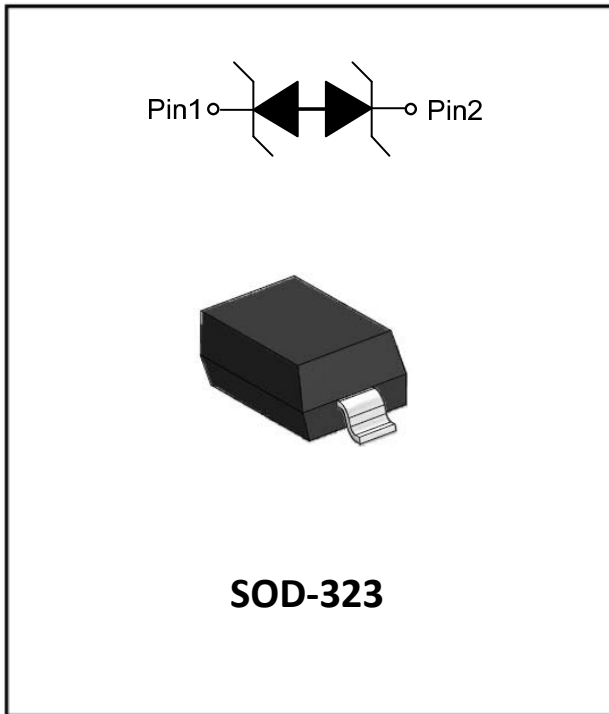


## 1-Line, Bi-directional, Transient Voltage Suppressor



### Features

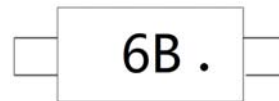
- Stand-off voltage:  $\pm 6.2V$  Max
- Transient protection for each line according to  
IEC61000-4-2(ESD):  $\pm 30kV$  (contact)  
IEC61000-4-5(surge): 24A (8/20 $\mu s$ )
- Low leakage current:
- Ultra low clamping voltage
- RoHS Compliant

### Applications

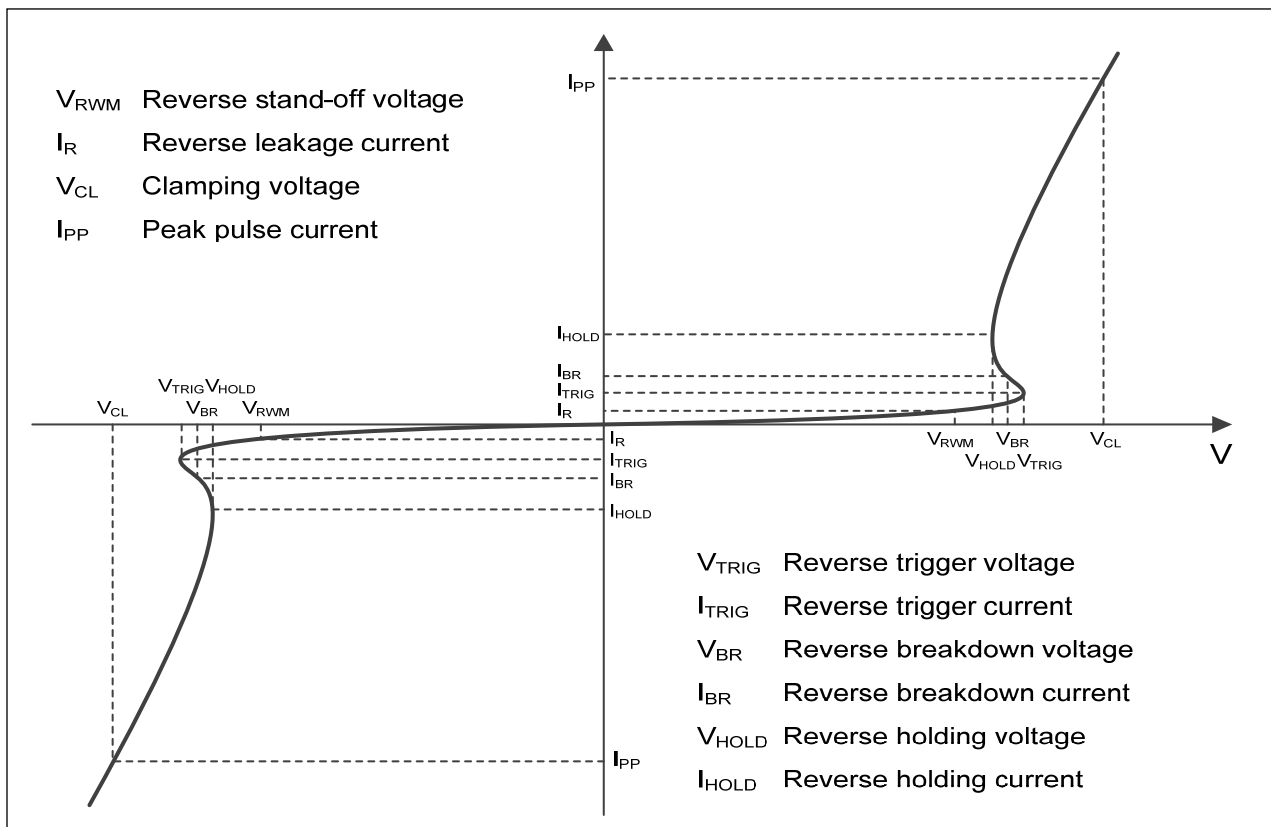
- Cellular Handsets and Accessories
- Personal Digital Assistants
- Notebooks and Handhelds
- Portable Instrumentation
- Peripherals
- Pagers Peripherals
- Desktop and Servers

### Mechanical Data

- Package: SOD-323
- Lead Finish: Matte Tin
- Case Material: "Green" Molding Compound
- Moisture Sensitivity: Level 1 per J-STD-020
- Marking Information: See Below



### ■ Definitions of electrical characteristics





# ESD6V2D3B

## ■Maximum Ratings

PARAMETER	SYMBOL	LIMITS	UNIT
Peak pulse power ( $t_p = 8/20\mu s$ )	$P_{pk}$	300	W
Peak pulse current ( $t_p = 8/20\mu s$ )	$I_{pp}$	24	A
ESD according to IEC61000-4-2 air discharge	$V_{ESD}$	$\pm 30$	KV
ESD according to IEC61000-4-2 contact discharge		$\pm 30$	
Junction temperature	$T_J$	125	$^{\circ}C$
Operating temperature	$T_{OP}$	-40~85	$^{\circ}C$
Storage temperature	$T_{STG}$	-55~150	$^{\circ}C$

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

PARAMETER	Symbol	UNIT	Conditions	Min	Typ	Max
Reverse maximum working voltage	$V_{RWM}$	V				$\pm 6.2$
Reverse leakage current	$I_R$	$\mu A$	$V_{RWM} = 6.2V$			0.5
Reverse breakdown voltage	$V_{BR}$	V	$I_{BR} = 1mA$	6.3		
Clamping voltage <sup>1)</sup>	$V_{CL}$	V	$I_{PP} = 1A, t_p = 8/20\mu s$		8.5	10
		V	$I_{PP} = 10A, t_p = 8/20\mu s$		9.5	11
		V	$I_{PP} = 24A, t_p = 8/20\mu s$		11	13
Junction capacitance	$C_J$	$\mu F$	$V_R = 0V, f = 1MHz$		66	80

Notes:

(1). Non-repetitive current pulse, according to IEC61000-4-5.

## ■Ordering Information (Example)

PREFERRED P/N	PACKING CODE	UNIT WEIGHT(mg)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
ESD6V2D3B	F2	Approximate 4	3000	30000	120000	7 reel



## ■ Characteristics (Typical)

Fig.1 8/20 $\mu$ s waveform per IEC61000-4-5

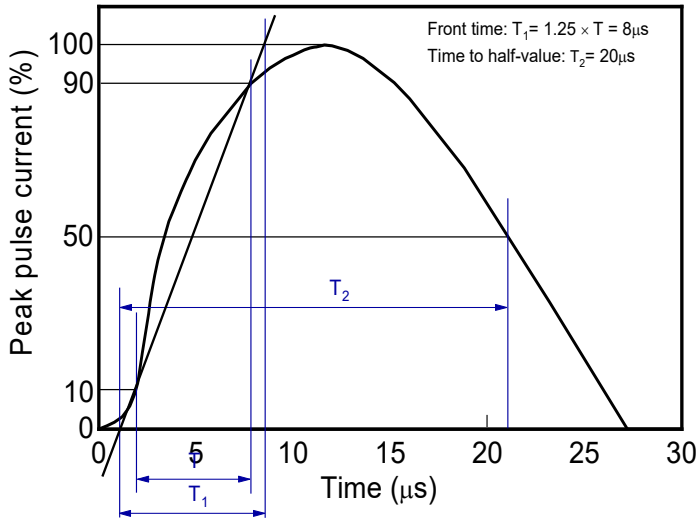


Fig.2 Contact discharge current waveform per IEC61000-4-2

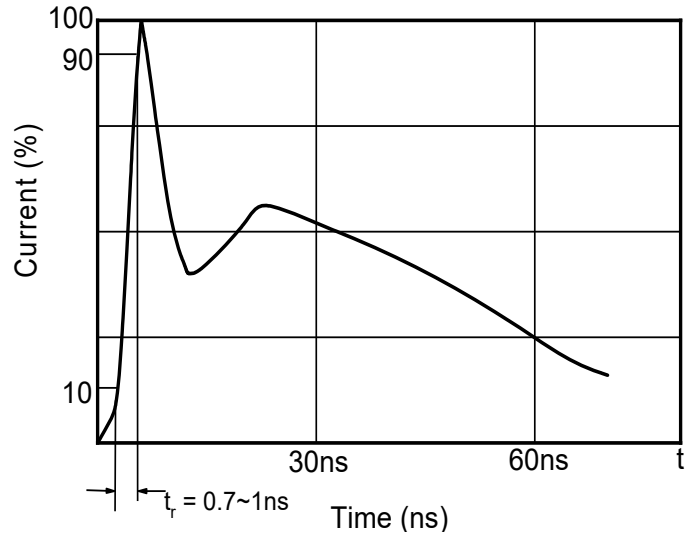


Fig.3 Clamping voltage vs. Peak pulse current

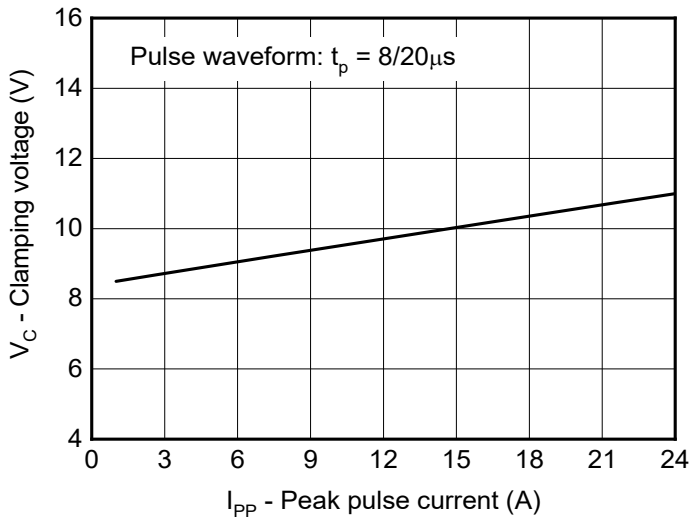


Fig.4 Capacitance vs. Reverse voltage

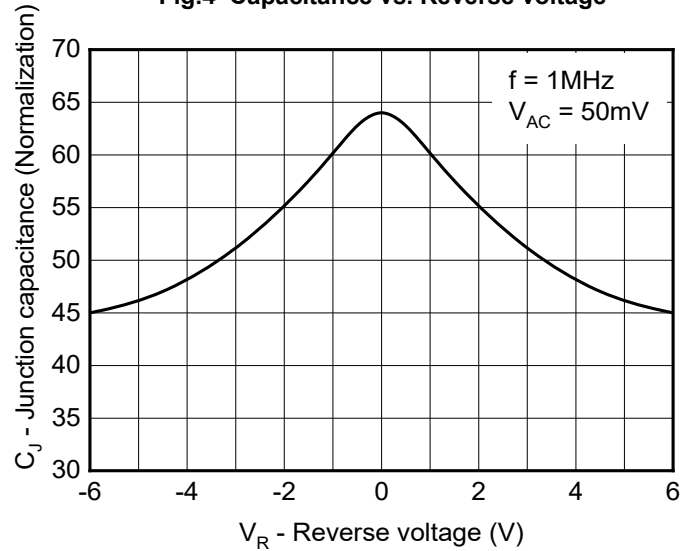


Fig.5 Non-repetitive peak pulse power vs. Pulse time

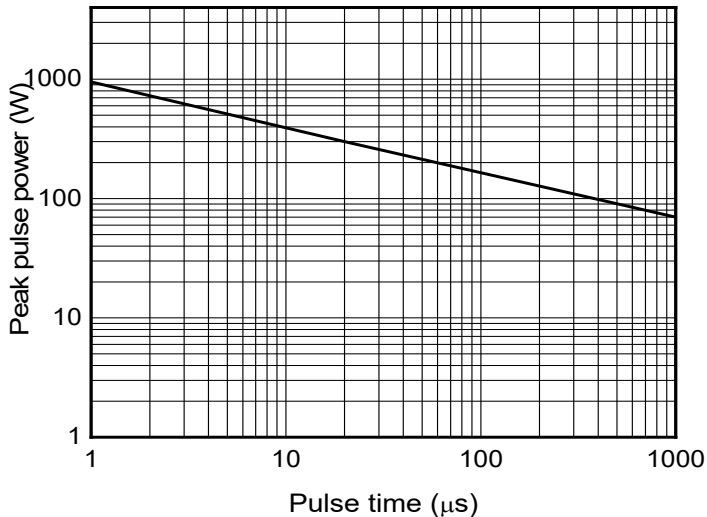
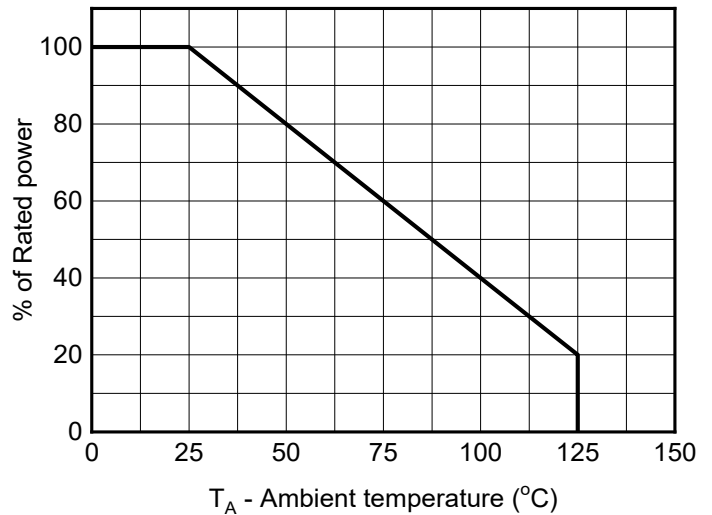


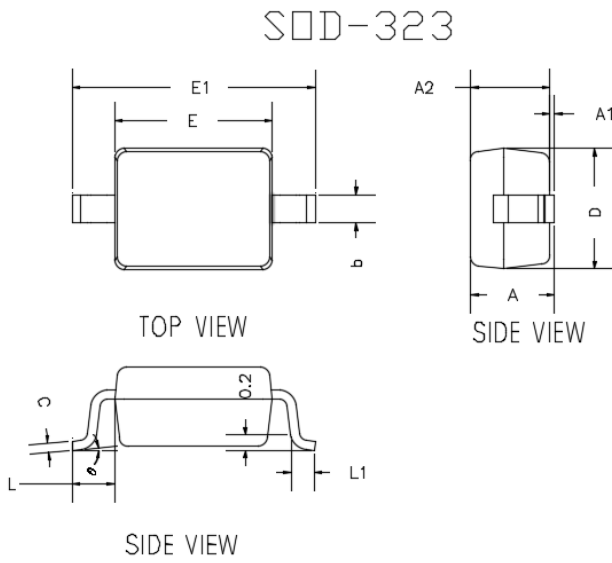
Fig.6 Power derating vs. Ambient temperature





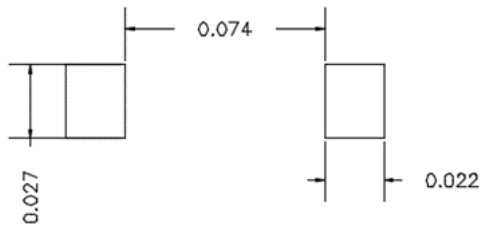
# ESD6V2D3B

## ■ Outline Dimensions



DIMENSIONS				
DIM	INCHES		MM	
	MIN	MAX	MIN	MAX
A	---	0.0393	---	1.0000
A1	0.0000	0.0039	0.0000	0.1000
A2	0.0314	0.0354	0.8000	0.9000
b	0.0098	0.0157	0.2500	0.4000
c	0.0031	0.0059	0.0800	0.1500
D	0.0472	0.0551	1.2000	1.4000
E	0.0629	0.0709	1.6000	1.8000
E1	0.0984	0.1063	2.5000	2.7000
L	0.0187TYP		0.475TYP	
L1	0.0098	0.0157	0.250	0.400
e	0°	8°	0°	8°

## ■ Soldering Footprint



UNIT: inch  
SUGGESTED SOLDER PAD LAYOUT



## ESD6V2D3B

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