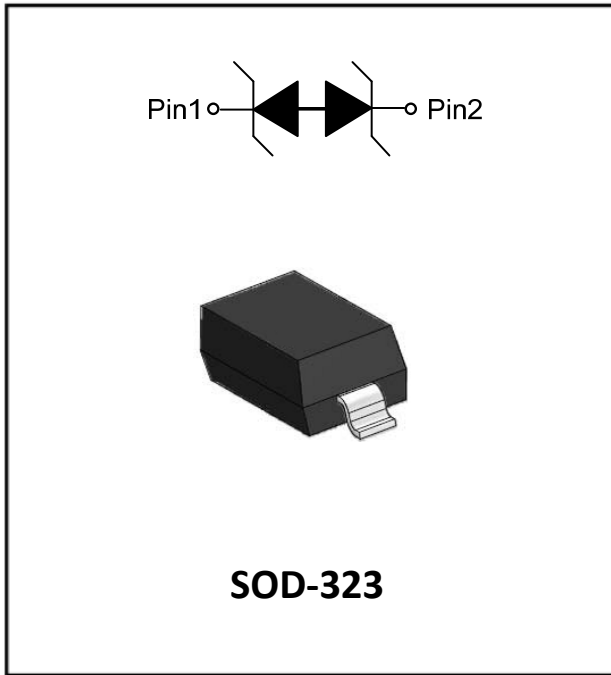


## 1- Line, Bi-directional, Transient Voltage Suppressor



### Features

- Stand-off voltage:  $\pm 18V$  Max
- Transient protection for each line according to  
IEC61000-4-2(ESD):  $\pm 30kV$  (contact)  
IEC61000-4-5(surge): 10A (8/20 $\mu s$ )
- Low leakage current: nA level
- Ultra low clamping voltage
- RoHS Compliant

### Applications

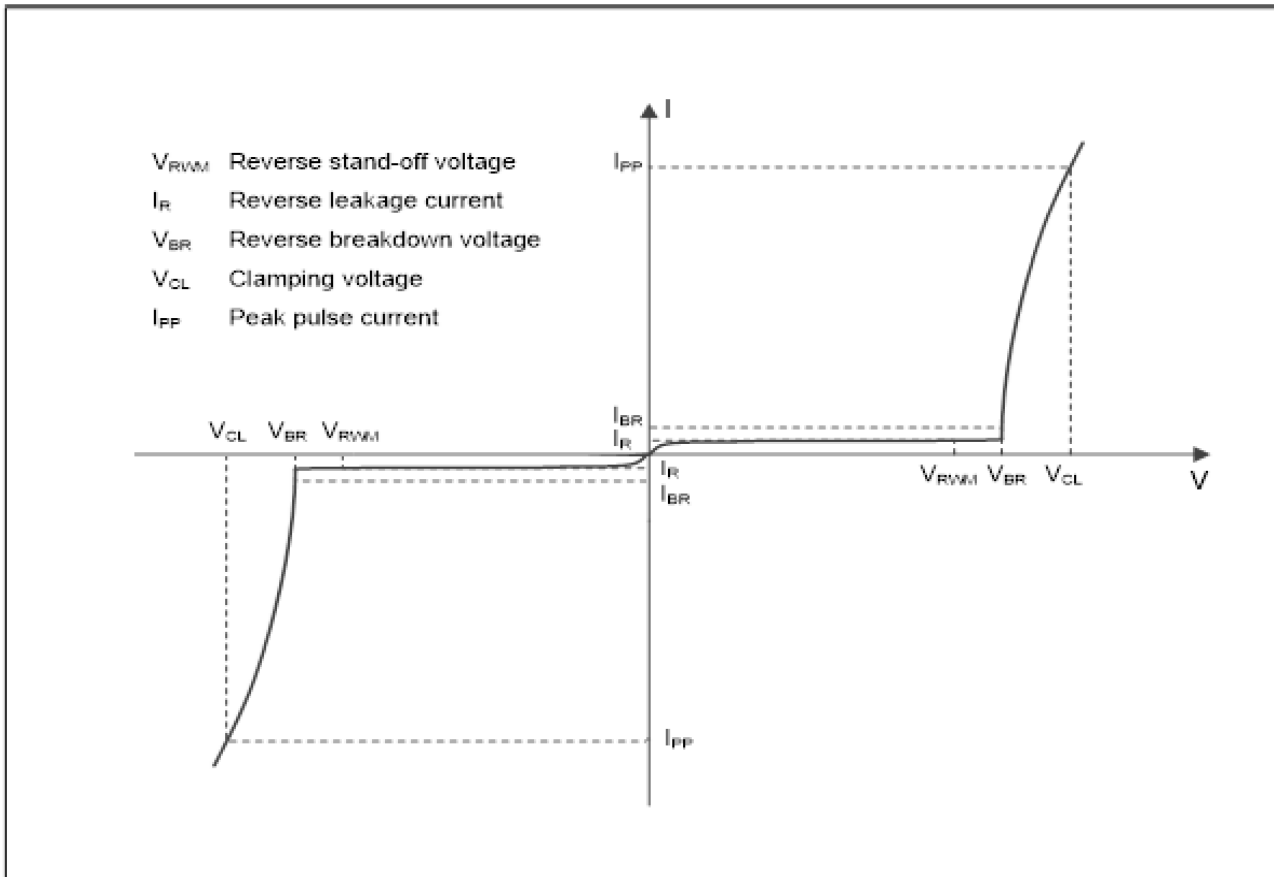
- Cellular Handsets and Accessories
- Personal Digital Assistants
- Notebooks and Handhelds
- Portable Instrumentation
- Peripherals
- Pagers Peripherals
- Desktop and Servers

### Mechanical Data

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



### ■ Definitions of electrical characteristics





# ESD18VD3B

## ■Maximum Ratings

PARAMETER	SYMBOL	LIMITS	UNIT
Peak pulse power ( $t_p = 8/20\mu s$ )	$P_{pk}$	360	W
Peak pulse current ( $t_p = 8/20\mu s$ )	$I_{PP}$	10	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				$\pm 18$
Reverse leakage current	$I_R$	nA	$V_{RWM} = 18V$		<1	100
Reverse breakdown voltage	$V_{(BR)}$	V	$I_{BR} = 1mA$	19	21.5	25
Clamping voltage <sup>1)</sup>	$V_{CL}$	V	$I_{PP} = 1A, t_p = 8/20\mu s$		22	25
		V	$I_{PP} = 5A, t_p = 8/20\mu s$		25	30
		V	$I_{PP} = 10A, t_p = 8/20\mu s$		30	36
Junction capacitance	$C_J$	pF	$V_R = 0V, f = 1MHz$		18	35

Notes:

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

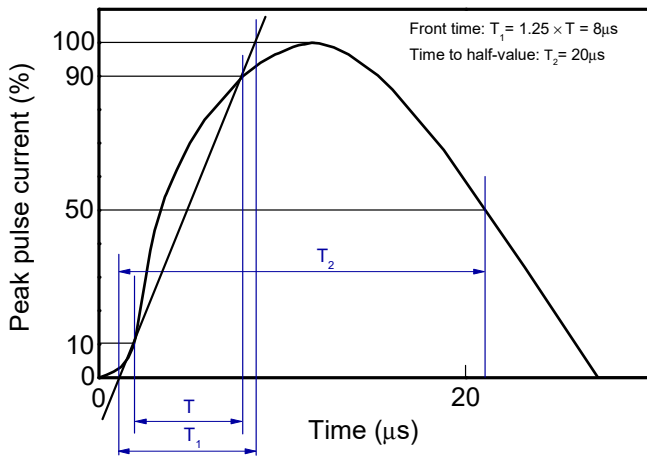
## ■Ordering Information (Example)

PREFERED P/N	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
ESD18VD3B	Approximate 0.004	3000	30000	120000	7 reel

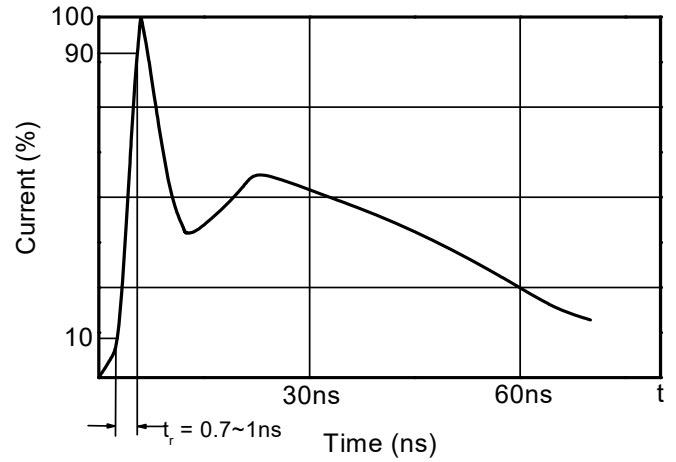


## ■ Characteristics (Typical)

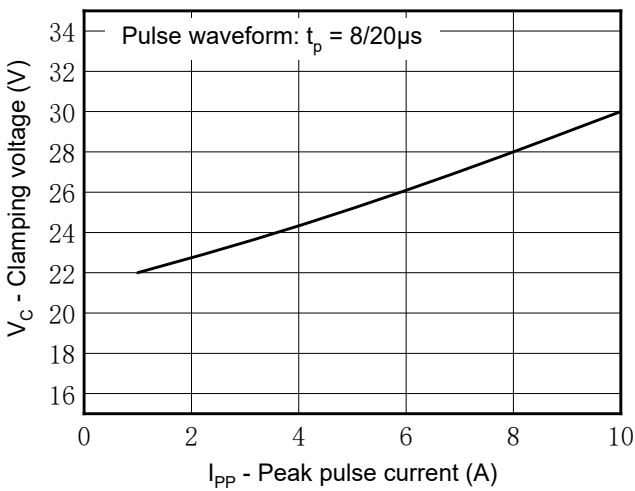
### 8/20μs waveform per IEC61000-4-5



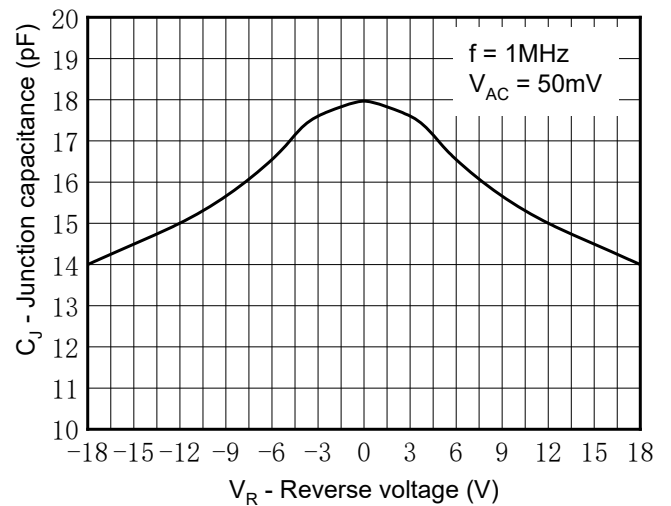
### Contact discharge current waveform per IEC61000-4-2



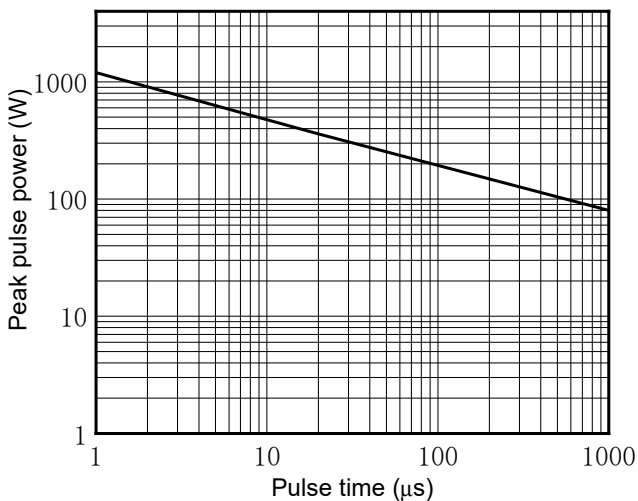
### Clamping voltage vs. Peak pulse current



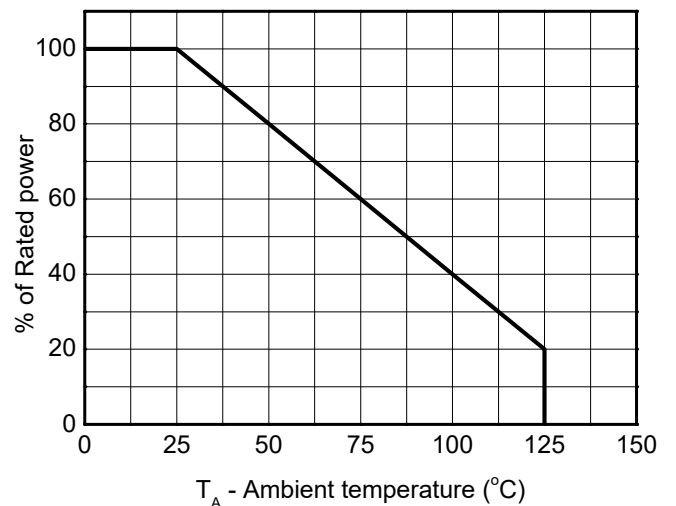
### Capacitance vs. Reverse voltage



### Non-repetitive peak pulse power vs. Pulse time



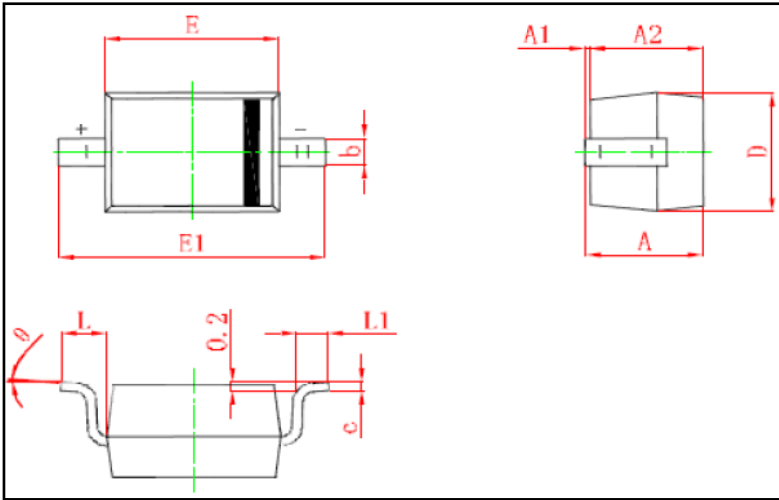
### Power derating vs. Ambient temperature





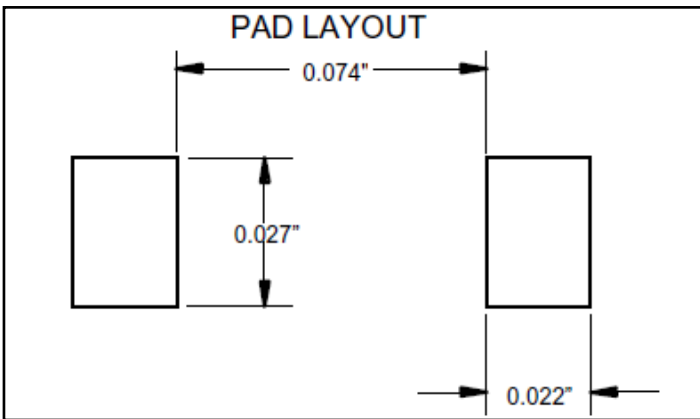
# ESD18VD3B

## ■ 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
$\theta$	0°	8°

## ■ Soldering Footprint



Unit: inches



## ESD18VD3B

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