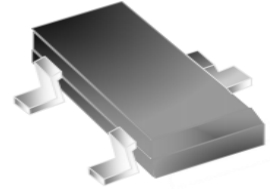




### FEATURES

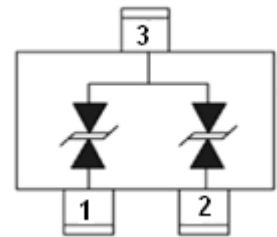
- ✧ 350 Watts peak pulse power per line ( $t_P=8/20\mu s$ )
- ✧ Protect for two I/O lines with bi-directional
- ✧ Low clamping voltage
- ✧ Working voltage:24V
- ✧ Low leakage current
- ✧ RoHS compliant



SOT-23

### MAIN APPLICATIONS

- ✧ RS-232, RS-422 & RS-485
- ✧ Servers, notebook, and desktop
- ✧ Cellular handsets and accessories
- ✧ Control & monitoring systems
- ✧ Portable electronics
- ✧ Wireless bus protection
- ✧ Set-top box



Pin Configuration

### PROTECTION SOLUTION TO MEET

- ✧ IEC61000-4-2 (ESD)  $\pm 30kV$  (air),  $\pm 30kV$  (contact)
- ✧ IEC61000-4-4 (EFT) 40A (5/50ns)
- ✧ IEC61000-4-5 (Lightning) 6A(8/20 $\mu s$ )

### MECHANICAL CHARACTERISTICS

- ✧ SOT-23 package
- ✧ Molding compound flammability rating : UL 94V-0
- ✧ Weight 8 milligrams (approximate)
- ✧ Quantity per reel : 3,000pcs
- ✧ Lead finish : lead free
- ✧ Marking code: CB2

**ABSOLUTE MAXIMUM RATINGS** ( $T_A=25^{\circ}\text{C}$ ,  $\text{RH}=45\%-75\%$ , unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak pulse power dissipation on 8/20 $\mu\text{s}$ waveform	$P_{PP}$	350	W
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	$V_{ESD}$	+/-30 +/-30	kV
Lead soldering temperature	$T_L$	260 (10 sec.)	$^{\circ}\text{C}$
Operating junction temperature range	$T_J$	-55 to +125	$^{\circ}\text{C}$
Storage temperature range	$T_{STG}$	-55 to +150	$^{\circ}\text{C}$

**ELECTRICAL CHARACTERISTICS** ( $T_A=25^{\circ}\text{C}$ )

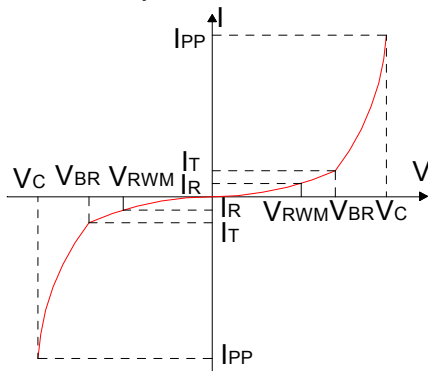
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Reverse working voltage	$V_{RWM}$				24	V
Reverse breakdown voltage	$V_{BR}$	$I_T=1\text{mA}$	26.7			V
Reverse leakage current	$I_R$	$V_{RWM}=24\text{V}$			1	$\mu\text{A}$
Clamping voltage	$V_C$	$I_{PP}^{\textcircled{1}}=1\text{A}, t_p=8/20\mu\text{s}$			43	V
		$I_{PP}^{\textcircled{1}}=6\text{A}, t_p=8/20\mu\text{s}$			60	V
Junction capacitance	$C_J^{\textcircled{2}}$	$V_{RWM}=0\text{V}, f=1\text{MHz}$		15		pF

① Surge waveform: 8/20 $\mu\text{s}$

②  $C_J$  measured @  $V_{RWM}=0\text{V}$ , 1MHz (pin 1 to pin3, pin 2 to pin3)

**RATINGS AND V-I CHARACTERISTICS CURVES** ( $T_A=25^{\circ}\text{C}$ , unless otherwise noted)

**FIG.1: V- I curve characteristics (Bi-directional)**



**FIG.2: Pulse waveform (8/20 $\mu\text{s}$ )**

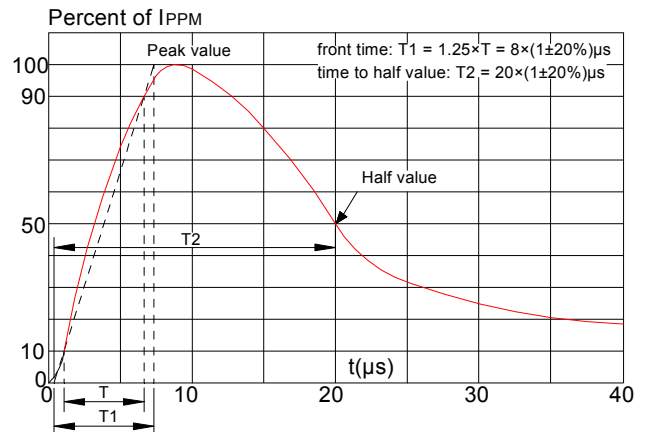


FIG.3: Pulse derating curve

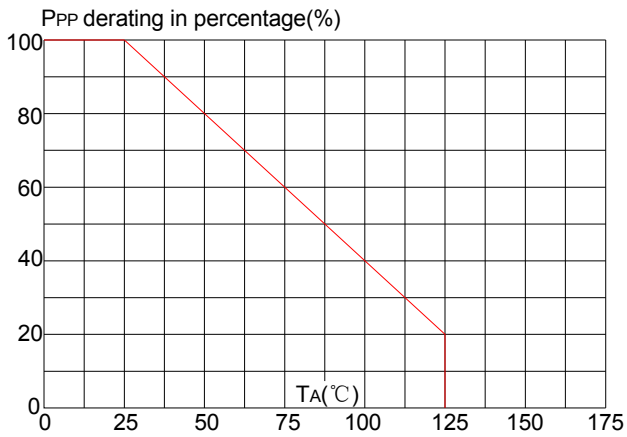
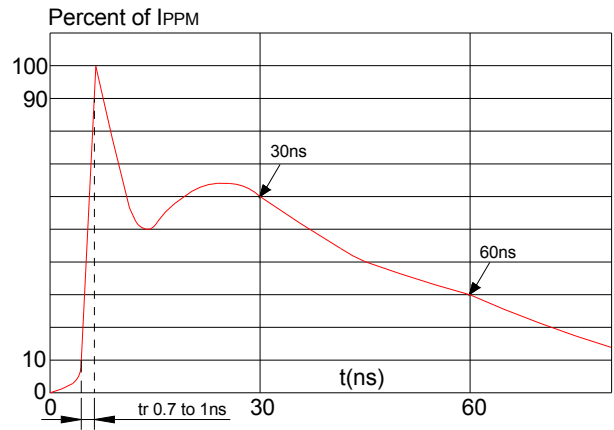
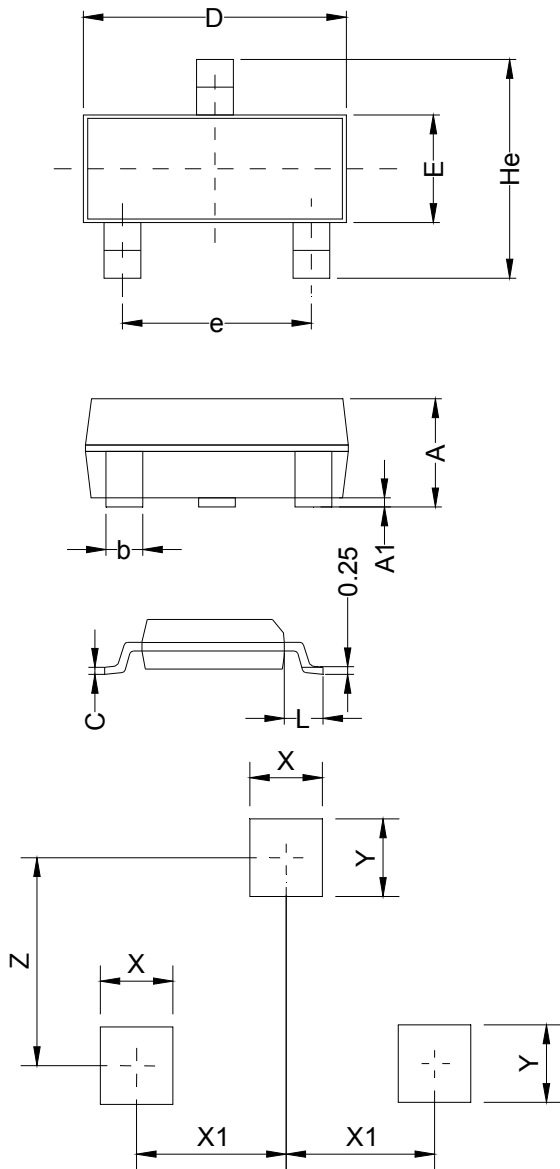


FIG.4: ESD clamping (30kV contact)



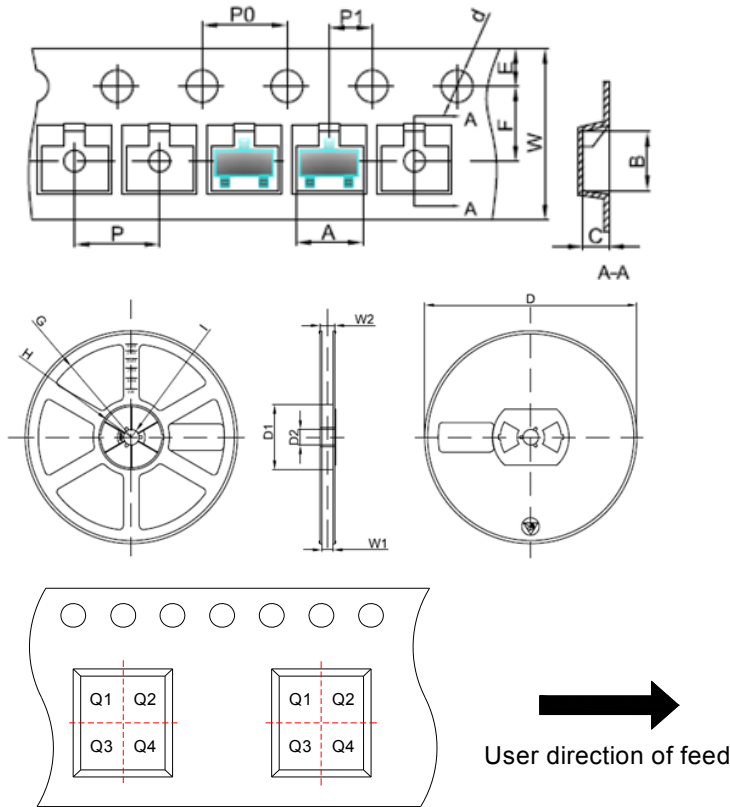
PACKAGE MECHANICAL DATA



Symbol	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.90	1.15	0.035	0.045
A1	0.00	0.10	0.000	0.004
b	0.25	0.325	0.010	0.013
C	0.22	0.25	0.009	0.010
D	2.80	3.00	0.110	0.118
e	1.80	1.90	0.071	0.075
E	1.20	1.40	0.047	0.055
L	0.30	0.50	0.012	0.020
He	2.25	2.55	0.089	0.100
X	0.80		0.031	
X1	0.95		0.037	
Y	0.80		0.031	
Z	2.02		0.080	

Land Pattern

**TAPE AND REEL SPECIFICATION-SOT-23**



Pin 1 quadrant: Q3

**Packaging Description:**

SOT-23 parts are shipped in tape. The carrier tape is made from a dissipative(carbon filled) polycarbonate resin. The cover tape is a multilayer film(heat activated adhesive in nature)primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 3,000units per 7" or 17.8cm diameter reel. The reels are clear in color and made of polystyrene plastic(anti-static coated).

Symbol	Millimeters	Inches
	Typ.	Typ.
A	3.15	0.124
B	2.77	0.109
C	1.22	0.048
d	Φ1.50	Φ0.059
E	1.75	0.069
F	3.50	0.138
P0	4.00	0.157
P	4.00	0.157
P1	2.00	0.079
W	8.00	0.315
D	Φ178	Φ7.008
D1	54.40	2.142
D2	13.00	0.512
G	R78.00	R3.071
H	R25.60	R1.008
I	R6.50	R0.256
W1	9.50	0.374
W2	12.30	0.484

**ORDERING INFORMATION**

PART No.	PACKAGE TYPE	QUANTITY(PCS) REEL	DESCRIPTION
JEB24T2B	SOT-23	3,000	7 inch reel pack



**MARKING CODE**

Part Number	Marking Code
JEB24T2B	