

FEATURES

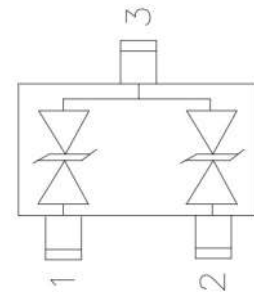
- ✧ 455 watts peak pulse power per line ($t_P=8/20\mu s$)
- ✧ Protect for two I/O lines with bi-directional
- ✧ Low clamping voltage
- ✧ Working voltages:15V
- ✧ Low leakage current
- ✧ RoHS compliant



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)

MECHANICAL CHARACTERISTICS

- ✧ SOT-23 package
- ✧ Molding compound flammability rating: UL 94V-0
- ✧ Weight 8 milligrams (approximate)
- ✧ Quantity per reel: 3,000 pcs
- ✧ Reel size: 7 inch
- ✧ Lead finish: lead free
- ✧ Marking code: BB2

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

Parameter	Symbol	Value	Unit
Peak pulse power dissipation on 8/20 μs waveform	P_{PP}	455	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}				15	V
Reverse breakdown voltage	V_{BR}	$I_T=1\text{mA}$	17.0		19.5	V
Reverse leakage current	I_R	$V_{RWM}=15\text{V}$			1.0	μA
Clamping voltage (pin1 to pin3, pin2 to pin3)	V_C	$I_{PP}^{①}=1\text{A}$, $t_P=8/20\mu\text{s}$			20	V
		$I_{PP}^{①}=13\text{A}$, $t_P=8/20\mu\text{s}$			35	V
Junction capacitance	$C_J^{②}$	$V_{RWM}=0\text{V}$, $f=1\text{MHz}$		30		pF
Junction capacitance	$C_J^{③}$	$V_{RWM}=0\text{V}$, $f=1\text{MHz}$		15		pF

① Surge waveform: 8/20 μs

② C_J measured @ $V_{RWM}=0\text{V}$, 1MHz (pin1 to pin3, pin2 to pin3)

③ C_J measured @ $V_{RWM}=0\text{V}$, 1MHz (pin1 to pin2, pin2 to pin1)

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

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

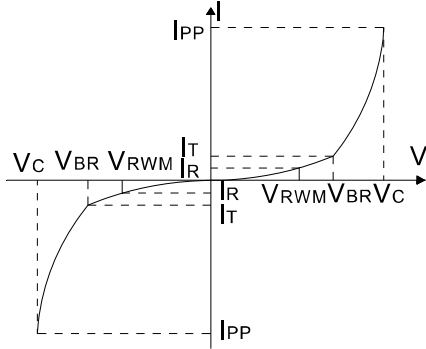


FIG.2: Pulse waveform (8/20 μs)

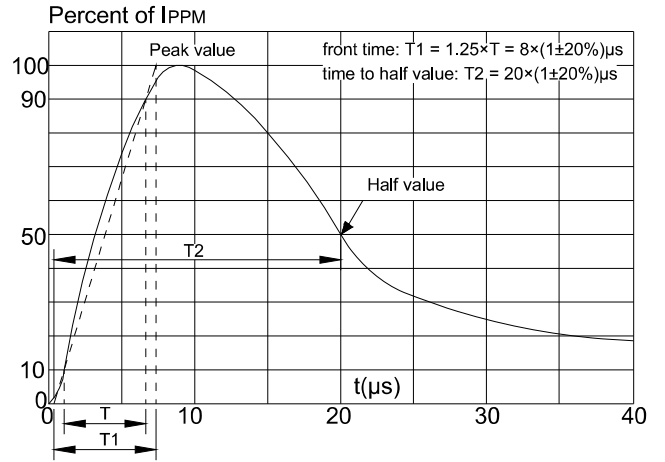


FIG.3: Pulse derating curve

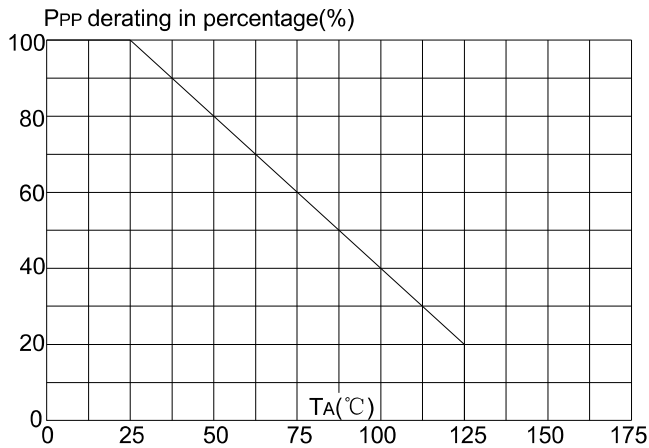
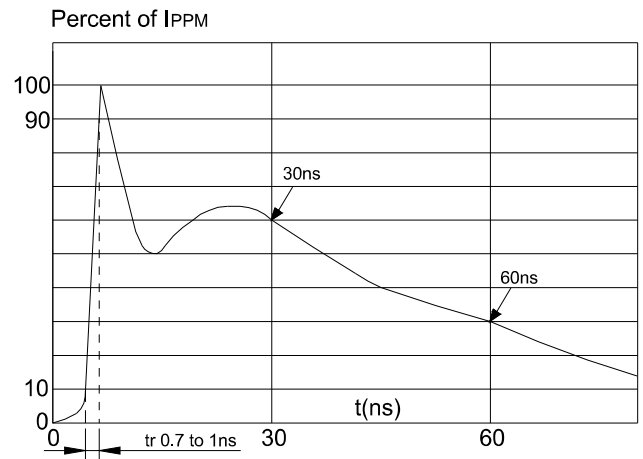
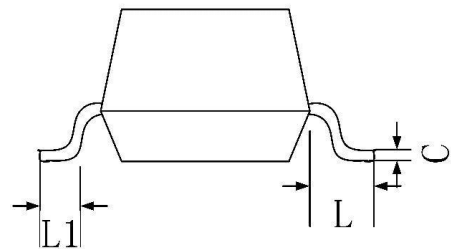
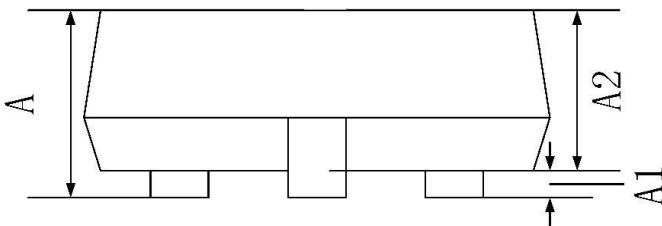
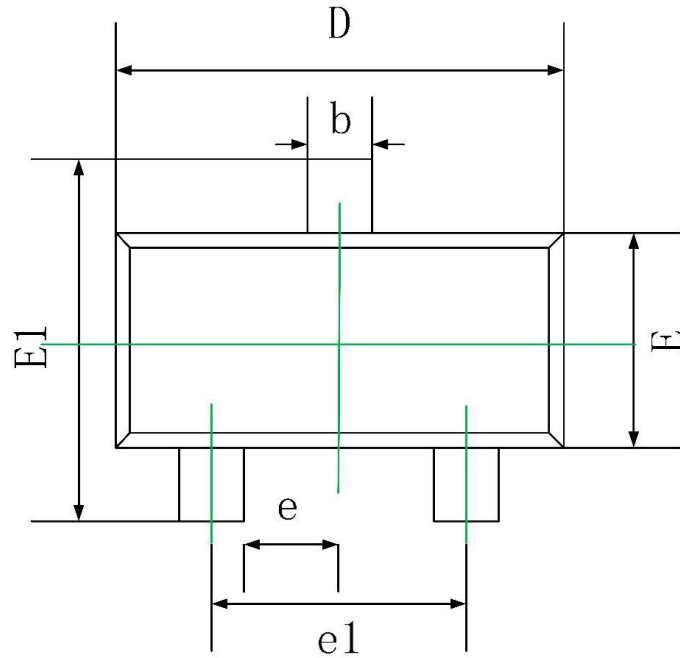


FIG.4: ESD clamping (30kV contact)



SOT-23 Package Information



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP.		0.037 TYP.	
e1	1.800	2.000	0.071	0.079
L	0.550 REF.		0.022 REF.	
L1	0.300	0.500	0.012	0.020