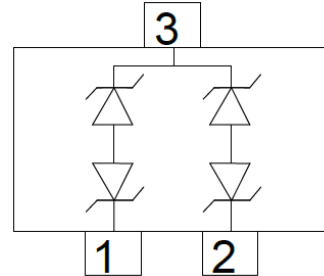


### 2-Line Bi-directional TVS Diode Array

#### Features

- IEC 61000-4-2 (ESD)  $\pm 30\text{kV}$  (air),  $\pm 30\text{kV}$  (contact)
- IEC 61000-4-5 (surge) 3A (8/20 $\mu\text{s}$ )
- ESD protection of two lines
- Low leakage current
- Low clamping voltage
- Response Time is  $< 1\text{ ns}$
- Working voltages : 24V

#### Circuit and Pin Schematic



#### Applications

- Data lines
- Industrial Controls
- Computers and peripherals
- Portable instrumentation
- Audio and video equipment
- Set-Top Box

#### Mechanical Characteristics

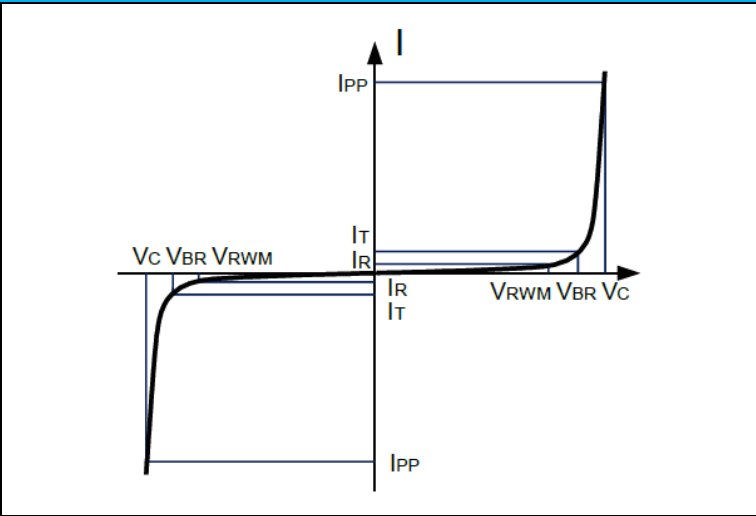
- Package: SOT-23
- Device Meets MSL 1 Requirements
- Material: RoHS compliant

#### Absolute Maximum Ratings ( $T_A = 25^\circ\text{C}$ Unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak Pulse Power ( $t_p=8/20\mu\text{s}$ waveform)	$P_{PP}$	110	W
Peak pulse current ( $t_p=8/20\mu\text{s}$ waveform)	$I_{PP}$	3	A
ESD per IEC 61000-4-2 (Air)	$V_{ESD}$	$\pm 30$	KV
ESD per IEC 61000-4-2 (Contact)		$\pm 30$	KV
Lead Soldering Temperature	$T_L$	260 (10 sec.)	$^\circ\text{C}$
Operating Temperature Range	$T_J$	-55 ~150	$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-55 ~150	$^\circ\text{C}$

**Electrical Parameters ( $T_A = 25^\circ\text{C}$  Unless otherwise noted)**

Symbol	Parameter
$I_{PP}$	Reverse Peak Pulse Current
$V_C$	Clamping Voltage @ $I_{PP}$
$V_{RWM}$	Reverse Stand-Off Voltage
$I_R$	Reverse Leakage Current @ $V_{RWM}$
$V_{BR}$	Breakdown Voltage @ $I_T$
$I_T$	Test Current



**Electrical Characteristics ( $T_A = 25^\circ\text{C}$  Unless otherwise noted)**

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Units
Reverse Working Voltage	$V_{RWM}$				24	V
Reverse breakdown Voltage	$V_{BR}$	$I_T = 1\text{mA}$ ,	26			V
Reverse leakage current	$I_R$	$V_{RWM} = 24\text{V}$			1	$\mu\text{A}$
Clamping Voltage	$V_C$	$I_{PP} = 1\text{A}$ ( $t_p = 8/20\mu\text{s}$ )		30	33	V
Clamping Voltage	$V_C$	$I_{PP} = 3\text{A}$ ( $t_p = 8/20\mu\text{s}$ )		36.5	40	V
Junction capacitance	$C_J$	$V_R = 0\text{V}$ , $f = 1\text{MHz}$ ,		13	20	pF

Typical Performance Characteristics ( $T_A = 25^\circ\text{C}$  Unless otherwise noted)

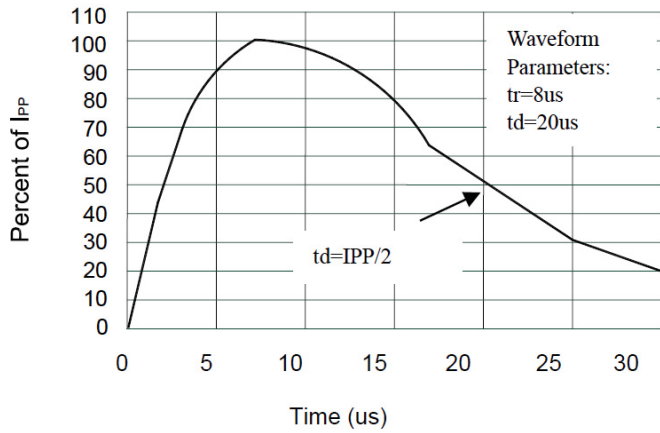


Fig 1. Pulse Waveform

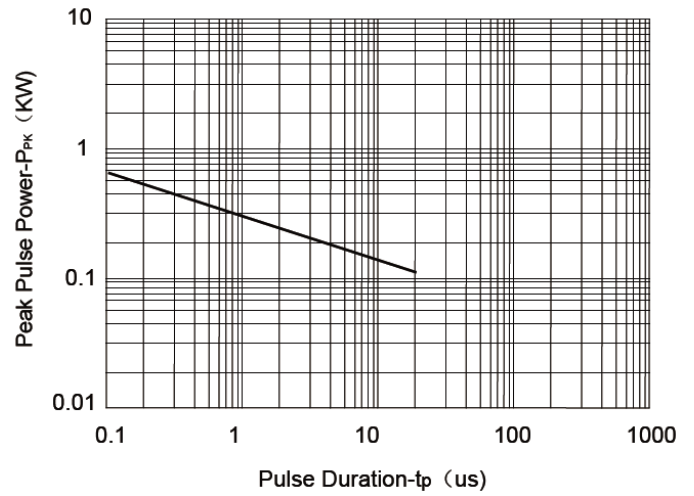


Fig 2. Non-Repetitive Peak Pulse Power vs. Pulse Time

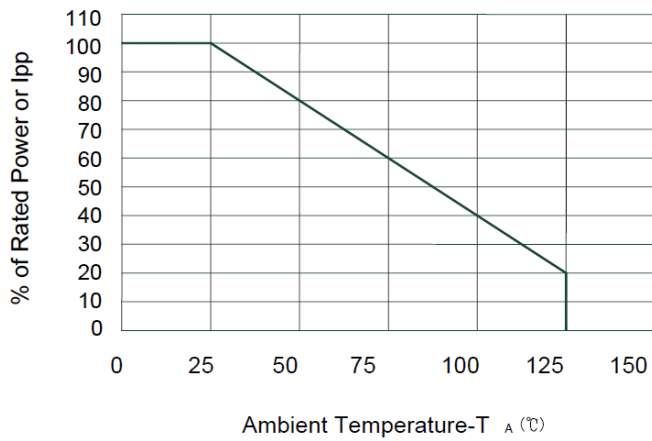
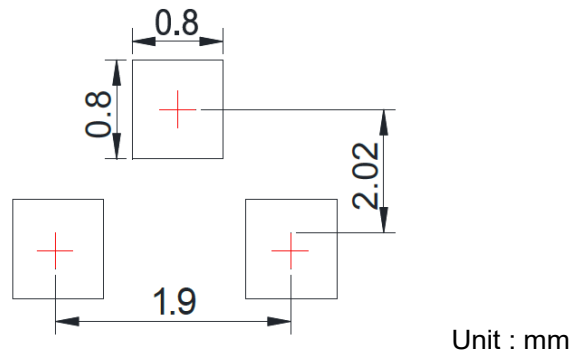


Fig 3. Power Derating Curve

### Package mechanical data

Symbol	Dimensions in millimeters	
	MIN	MAX
A	0.89	1.20
A1	0.00	0.10
b	0.30	0.50
c	0.08	0.19
D	2.80	3.04
E	1.20	1.40
E1	2.20	2.60
e	0.89	1.02
e1	1.78	2.04
L1	0.20 min	

### Recommended Pad outline



### Ordering information

Part Number	Marking code	Package	Base qty	Reel Size	Delivery mode
			(pcs)	(inch)	
SW24N2BTB	24BC	SOT-23	3,000	7	Tape and reel