

**Features**

- ESD Protection of Two Lines
- Low Capacitance
- Low Leakage Current
- Moisture Sensitivity Level 1
- Halogen Free. "Green" Device (Note 1)
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

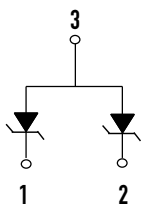
**Maximum Ratings**

IEC61000-4-2 (ESD)	Air	±20KV
	Contact	±20KV
Peak Pulse Current (8/20µs)	I <sub>PP</sub>	5A
Peak Pulse Power (8/20µs) <sup>(Note2)</sup>	P <sub>PK</sub>	125W
Operating Junction Temperature Range	T <sub>J</sub>	-55°C to +125°C
Storage Temperature Range	T <sub>STG</sub>	-55°C to +150°C

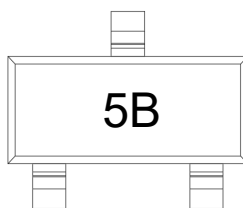
Note :

1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
2. Non-repetitive current pulse 8/20 µs exponential decay waveform according to IEC61000-4-5.

**Internal Structure**

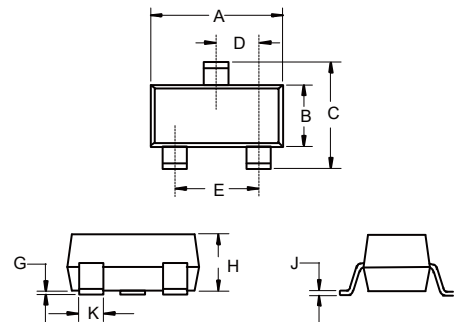


**Marking Code**



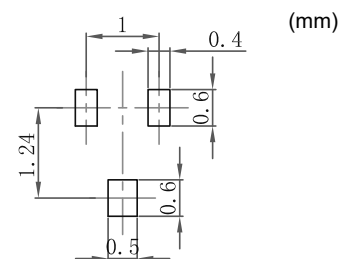
**ESD Protection Device**

**SOT-523**

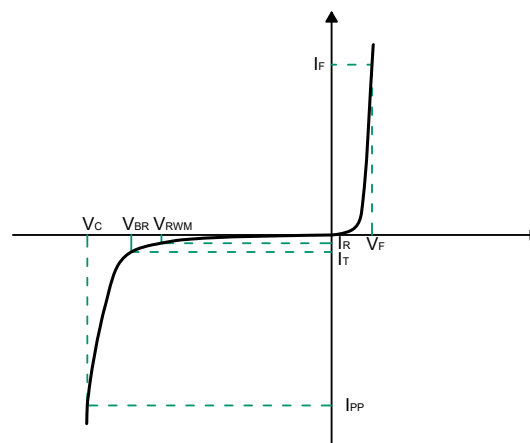


DIM	DIMENSIONS				NOTE
	INCHES		MM		
	MIN	MAX	MIN	MAX	
A	0.059	0.067	1.50	1.70	
B	0.030	0.033	0.75	0.85	
C	0.057	0.069	1.45	1.75	
D	0.020		0.50		TYP.
E	0.035	0.043	0.90	1.10	
G	0.000	0.004	0.00	0.10	
H	0.024	0.031	0.60	0.80	
J	0.004	0.008	0.10	0.20	
K	0.006	0.014	0.15	0.35	

**SUGGESTED SOLDER PAD LAYOUT**



Symbol	Parameter
$V_{RWM}$	Peak Reverse Working Voltage
$I_R$	Reverse Leakage Current @ $V_{RWM}$
$V_{BR}$	Breakdown Voltage @ $I_T$
$I_T$	Test Current
$I_{PP}$	Maximum Reverse Peak Pulse Current
$V_C$	Clamping Voltage @ $I_{PP}$
$P_{PK}$	Peak Pulse Power
$C_J$	Junction Capacitance
$I_F$	Forward Current
$V_F$	Forward Voltage @ $I_F$



### Electrical Characteristics @ 25°C (Unless Otherwise Specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse Working Voltage	$V_{RWM}$	Pin 1 or pin 2 to pin 3 and between pin 1 and pin 2			5	V
Reverse Breakdown Voltage	$V_{BR}$	$I_T=1mA$ , pin 1 or pin 2 to pin 3	6			V
Reverse Leakage Current	$I_R$	$V_{RWM}=5V$ pin 1 or pin 2 to pin 3 and between pin 1 and pin 2			0.5	$\mu A$
Clamping Voltage <sup>Note1</sup>	$V_C$	$I_{PP}=1A$ , $t_p=8/20\mu s$ pin 1 or pin 2 to pin 3			9	V
Clamping Voltage <sup>Note1</sup>	$V_C$	$I_{PP}=5A$ , $t_p=8/20\mu s$ pin 1 or pin 2 to pin 3			20	V
Clamping Voltage <sup>Note1</sup>	$V_C$	$I_{PP}=5A$ , $t_p=8/20\mu s$ between pin 1 and pin 2			25	V
Junction Capacitance	$C_J$	$V_R=0V$ , $f=1MHz$ pin1 to pin2		0.3	0.6	pF
Junction Capacitance	$C_J$	$V_R=0V$ , $f=1MHz$ pin 1 or pin 2 to pin 3			0.8	pF
Dynamic Resistance <sup>Note2</sup>	$R_{DYN}$	TLP, $t_p=100ns$		0.7		$\Omega$

Note :

1.Non-repetitive current pulse 8/20 $\mu s$  exponential decay waveform according to IEC61000-4-5.

2.TLP parameter:  $Z_0=50\Omega$ ,  $t_p=100ns$ ,  $t_r=2ns$ , averaging window from 60ns to 80ns.  $R_{DYN}$  is calculated from 4A to 16A.

## Curve Characteristics

Fig. 1 - 8 X 20 $\mu$ s Pulse Waveform

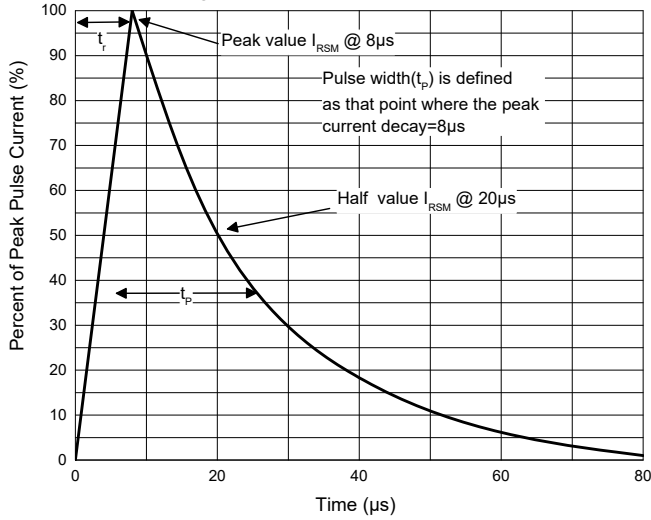


Fig. 2 - Non-Repetitive Peak Pulse Power

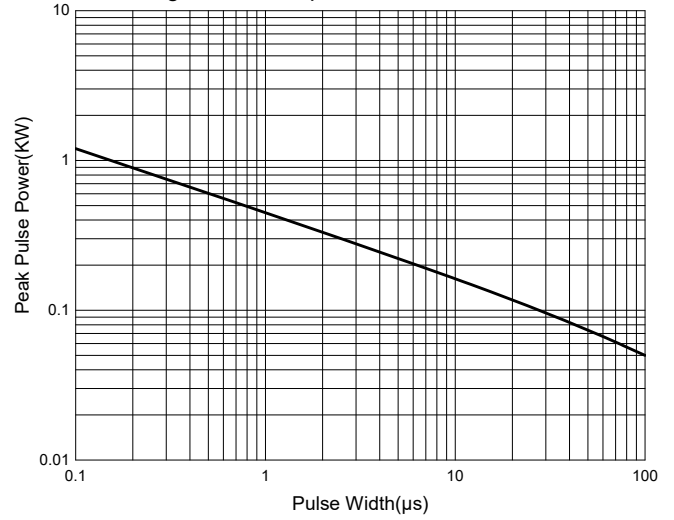


Fig. 3 - Capacitance Characteristics

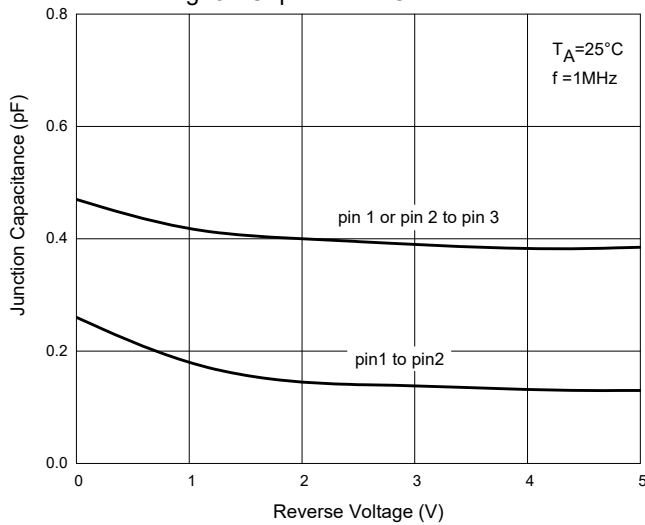


Fig. 4 - Clamping Voltage Characteristics

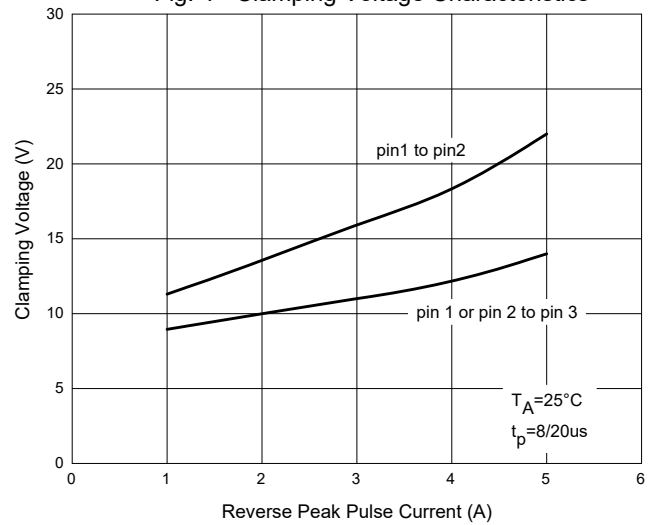


Fig. 5 - TLP Curve

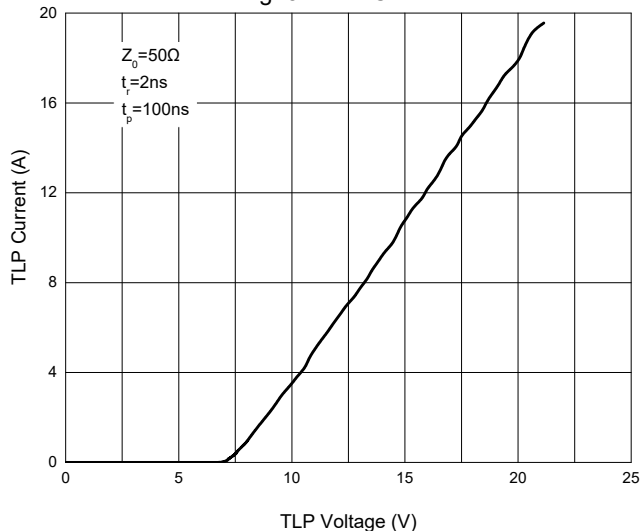
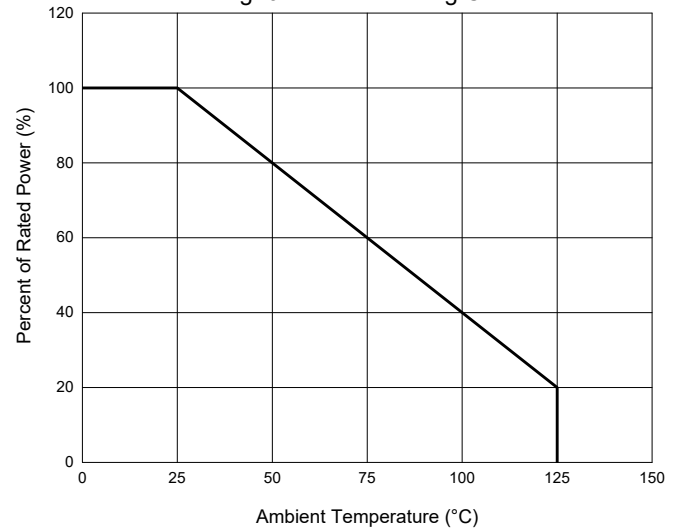


Fig. 6 - Pulse Derating Curve



## Ordering Information

Device	Packing
Part Number-TP	Tape&Reel: 3Kpcs/Reel

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