

Features

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

Maximum Ratings

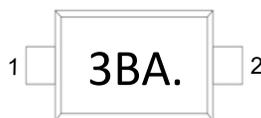
IEC61000-4-2(ESD)	Air	±30KV
	Contact	±30KV
Peak Pulse Power (8/20µs)	PPK	180W
Peak Pulse Current (8/20µs)(Note 2)	I _{PP}	18A
Operating Junction Temperature Range	T _J	-45°C to +125°C
Storage Temperature Range	T _{STG}	-55°C to +150°C

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

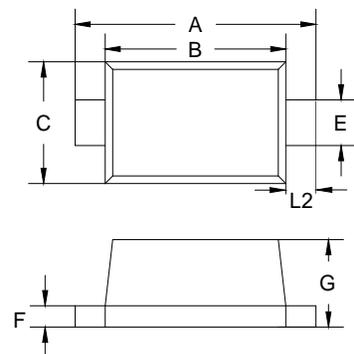


Marking Code

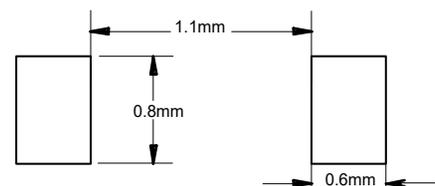


ESD Protection Device

SOD-523

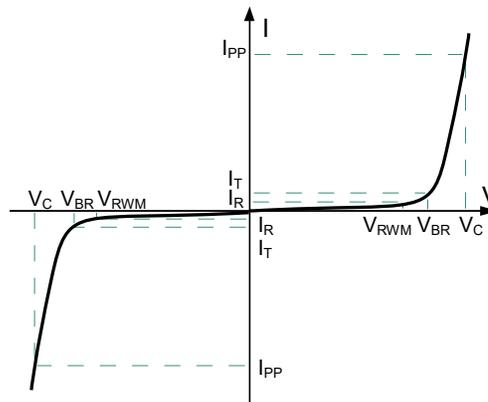


DIM	DIMENSIONS				NOTE
	INCHES		MM		
	MIN	MAX	MIN	MAX	
A	0.059	0.067	1.50	1.70	
B	0.043	0.051	1.10	1.30	
C	0.030	0.033	0.75	0.85	
E	0.010	0.014	0.25	0.35	
F	0.003	0.008	0.08	0.20	
G	0.020	0.026	0.50	0.65	
L2	0.004	0.012	0.01	0.03	



ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Working Peak Reverse Voltage
I_R	Maximum Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
C	Capacitance @ $V_R=0$ and $f = 1\text{MHz}$



Electrical Characteristics @ 25°C (Unless Otherwise Specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse Working Voltage	V_{RWM}				3.3	V
Reverse Breakdown Voltage	V_{BR}	$I_T = 1\text{mA}$	3.7		6.0	V
Reverse Leakage Current	I_R	$V_{RWM} = 3.3\text{V}$			0.5	μA
Clamping Voltage ^{Note1}	V_C	$I_{PP}=1\text{A}, t_p=8/20\mu\text{s}$			6	V
Clamping Voltage ^{Note1}	V_C	$I_{PP}=10\text{A}, t_p=8/20\mu\text{s}$			8	V
Clamping Voltage ^{Note1}	V_C	$I_{PP}=18\text{A}, t_p=8/20\mu\text{s}$			10	V
Junction Capacitance	C_J	$V_R = 0\text{V}, f=1\text{MHz}$		45	60	pF
Clamping Voltage ^{Note2}	V_C	$I_{PP}=16\text{A}, t_p=100\text{ns}$			9	V
Dynamic Resistance ^{Note2}	R_{DYN}	TLP, $t_p=100\text{ns}$		0.28		Ω

Note:

1. Non-repetitive current pulse 8/20 μs exponential decay waveform according to IEC61000-4-5.
2. TLP parameter: $Z_0=50\Omega, t_p=100\text{ns}, t_r=2\text{ns}$, averaging window from 60ns to 80ns. R_{DYN} is calculated from 4A to 16A.

Curve Characteristics

Fig. 1 - 8 X 20 μ s Pulse Waveform

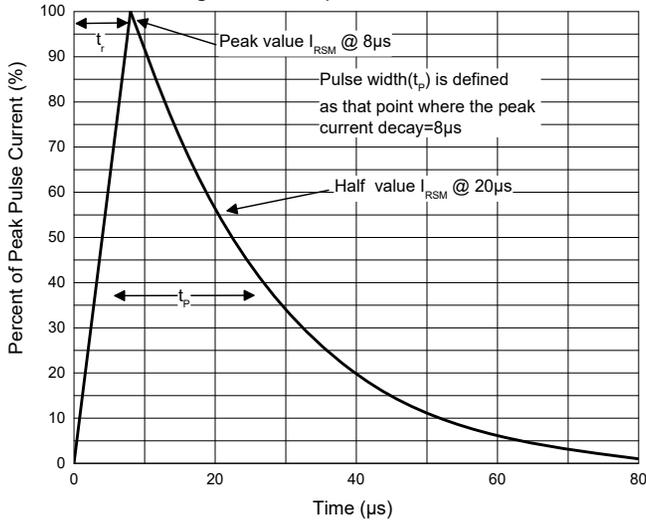


Fig. 2 - Non-Repetitive Peak Pulse Power

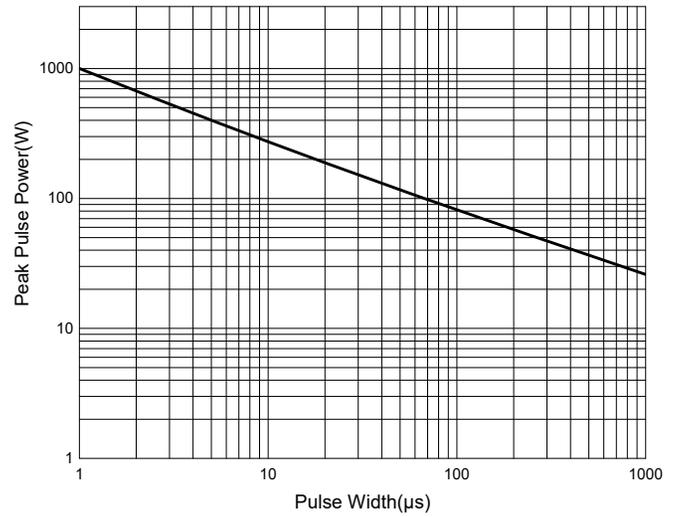


Fig. 3 - Capacitance Characteristics

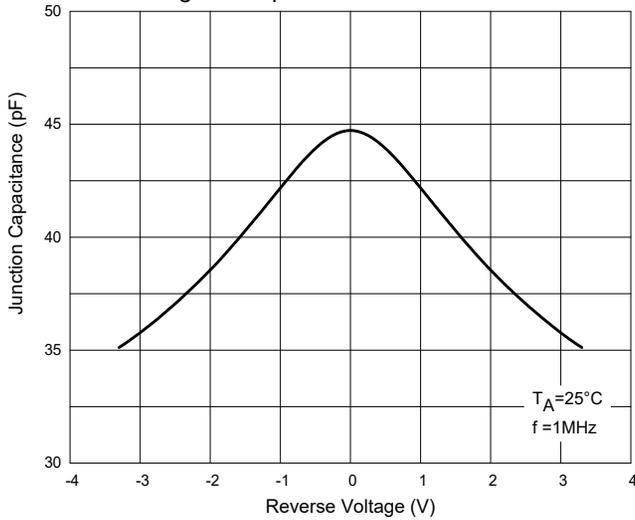


Fig. 4 - Clamping Voltage Characteristics

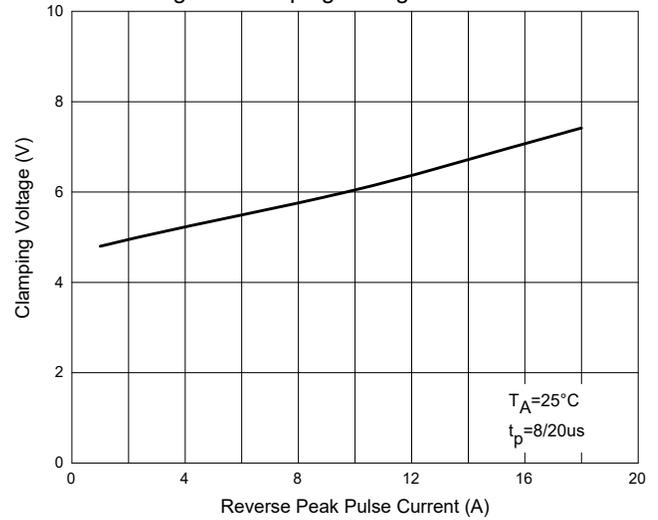


Fig. 5 - TLP Curve

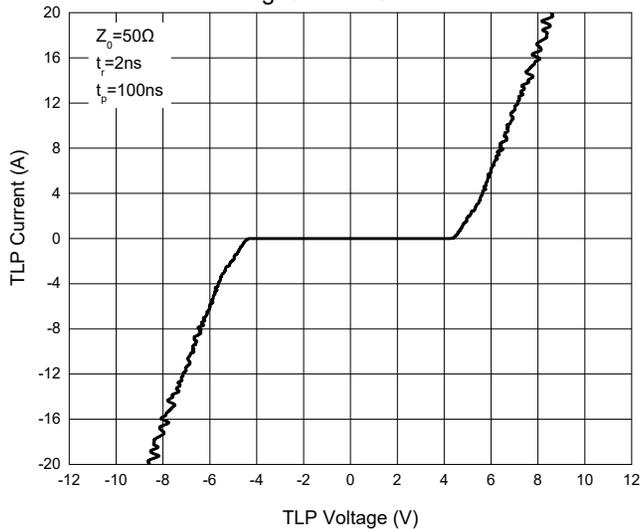
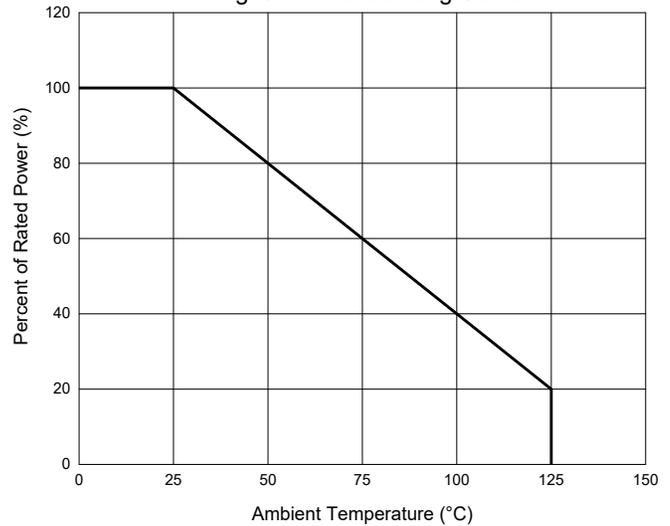


Fig. 6 - Pulse Derating Curve



Ordering Information

Device	Packing
Part Number-TP	Tape&Reel: 8Kpcs/Reel

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