

Features

- Uni-Directional ESD Protection of Two Line
- Ultra Low Capacitance
- Low Clamping Voltage
- 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)

ESD Protection Device

Maximum Ratings

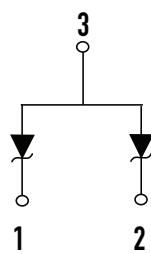
IEC61000-4-2 (ESD)	Air	$\pm 20\text{KV}$
	Contact	$\pm 20\text{KV}$
Peak Pulse Current (8/20 μs)	I_{PP}	3.5A
Peak Pulse Power (8/20 μs) ^(Note 2)	P_{PK}	42W
Junction Temperature Range	T_J	-40°C to +125°C
Storage Temperature Range	T_{STG}	-55°C to +150°C

Note :

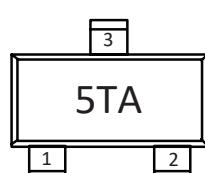
1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

2. Non-repetitive current pulse 8/20 μs exponential decay waveform according to IEC61000-4-5.

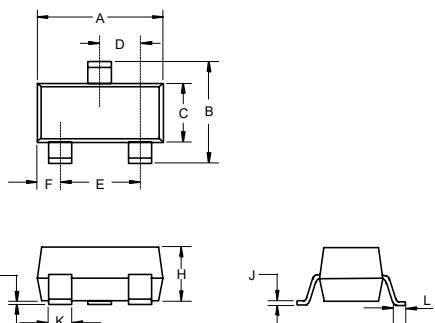
Internal Structure



Marking Code



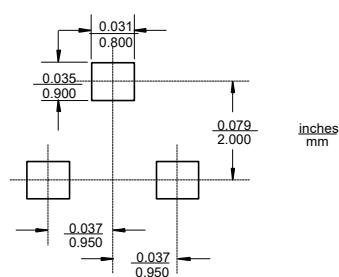
SOT-23



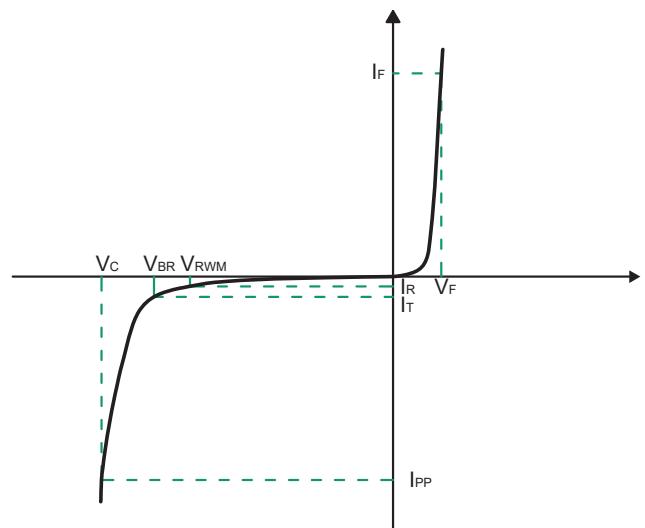
DIMENSIONS

DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.110	0.120	2.80	3.04	
B	0.083	0.104	2.10	2.64	
C	0.047	0.055	1.20	1.40	
D	0.034	0.041	0.85	1.05	
E	0.067	0.083	1.70	2.10	
F	0.018	0.024	0.45	0.60	
G	0.0004	0.006	0.01	0.15	
H	0.035	0.043	0.90	1.10	
J	0.003	0.007	0.08	0.18	
K	0.012	0.020	0.30	0.51	
L	0.007	0.020	0.20	0.50	

Suggested Solder Pad Layout



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



Electrical Characteristics @ 25°C (Unless Otherwise Specified)

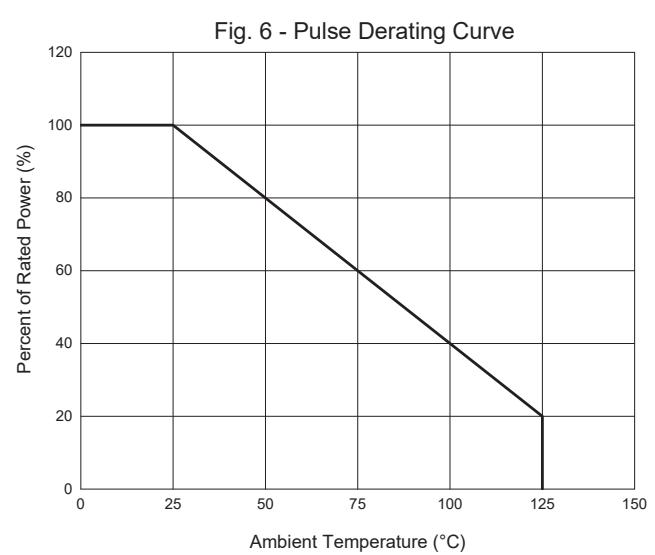
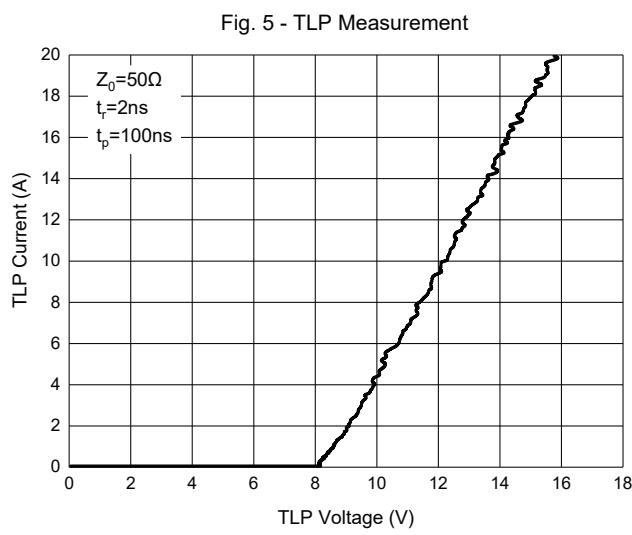
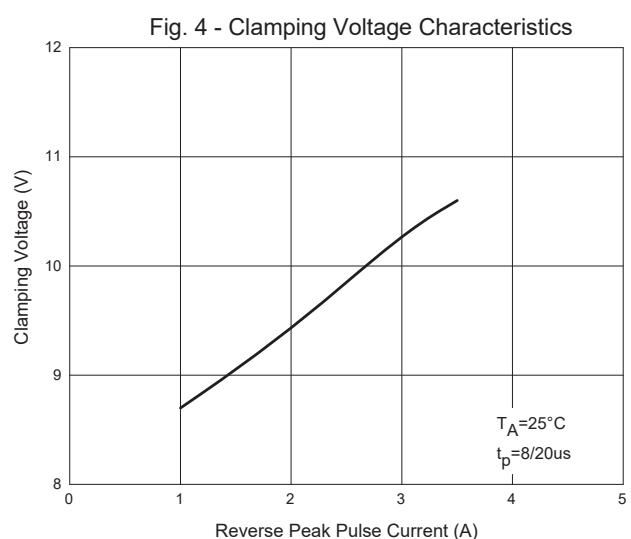
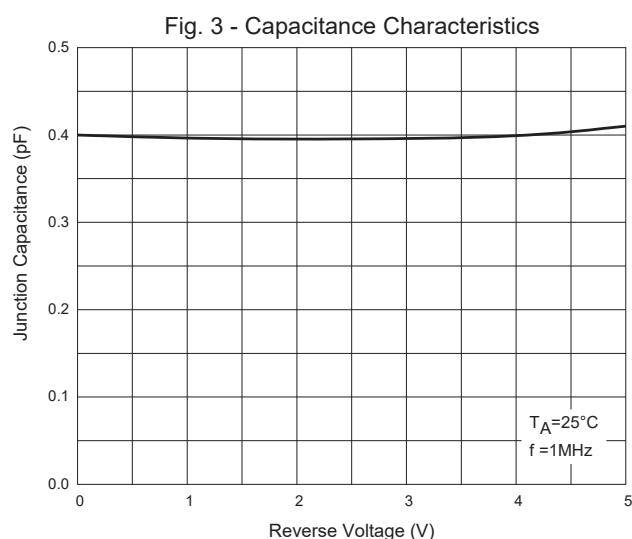
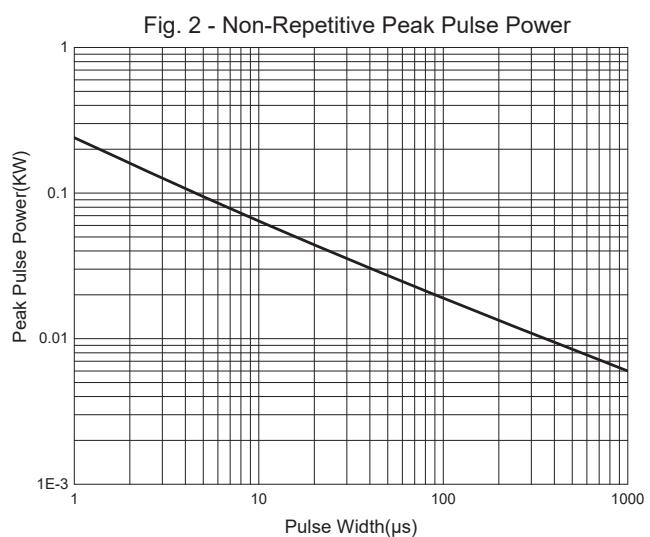
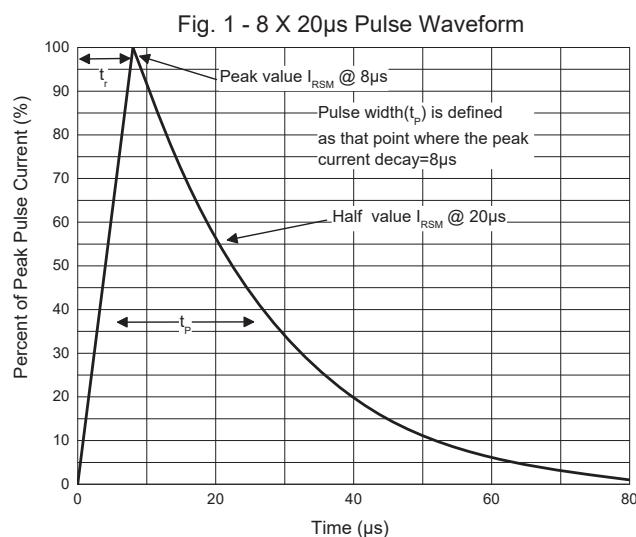
Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse Working Voltage	V_{RWM}				5	V
Reverse Breakdown Voltage	V_{BR}	$I_T=1\text{mA}$	7		9	V
Reverse Leakage Current	I_R	$V_{RWM}=5\text{V}$			0.1	μA
Forward Voltage	V_F	$I_F=10\text{mA}$	0.6		1.2	V
Clamping Voltage ^{Note1}	V_C	$I_{PP}=1\text{A}, t_p=8/20\mu\text{s}$			10	V
Clamping Voltage ^{Note1}	V_C	$I_{PP}=3.5\text{A}, t_p=8/20\mu\text{s}$			12	V
Junction Capacitance	C_J	$V_R=0\text{V}, f=1\text{MHz}$		0.4	0.65	pF
Dynamic Resistance ^{Note2}	R_{DYN}	TLP, $t_p=100\text{ns}$		0.33		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



Ordering Information

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

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