Snap Back ESD Protection Device

Features

- Low Leakage Current
- Low Clamping Voltage
- Ultra Low Capacitance
- 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)

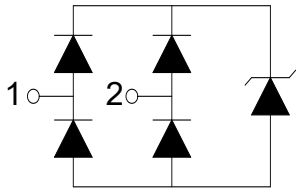
Maximum Ratings

IEC61000-4-2 (ESD)	Air	±30KV
	Contact	±30KV
Peak Pulse Current (8/20μs)	I_{PP}	12A
Peak Pulse Power (8/20μs)(Note2)	P_{PK}	200W
Operating Junction Temperature Range	T_J	-55°C to +125°C
Storage Temperature Range	T_{STG}	-55°C to +150°C

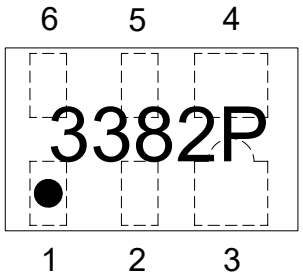
Note :

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



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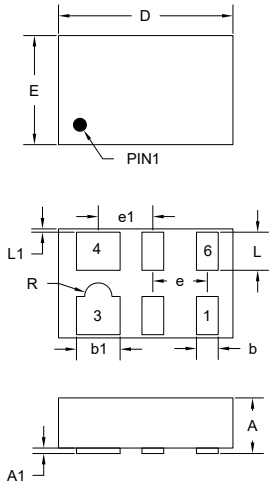
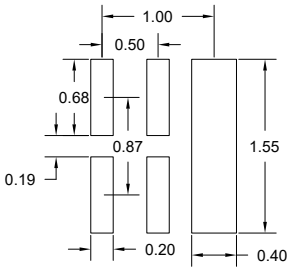


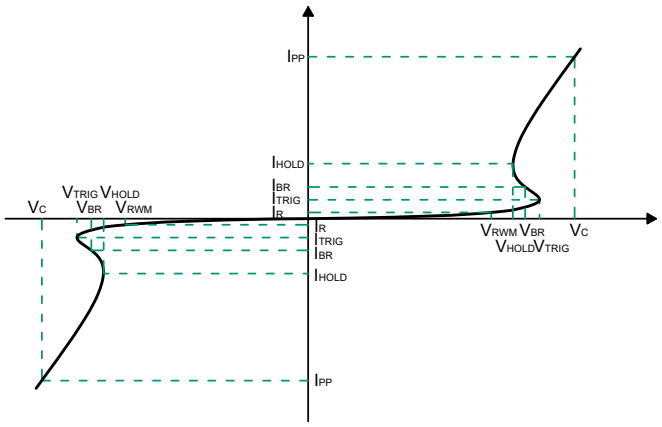
DIMENSIONS					
	INCH		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.018	0.022	0.450	0.550	
A1	0.001	0.003	0.025	0.075	
D	0.061	0.065	1.550	1.650	
E	0.037	0.041	0.950	1.050	
b	0.006	0.010	0.150	0.250	
b1	0.014	0.018	0.350	0.450	
L	0.012	0.016	0.300	0.400	
L1	0.000	0.002	0.000	0.060	
R	0.005		0.125		TYP
e	0.020		0.500		TYP
e1	0.020		0.500		TYP

SUGGESTED SOLDER PAD LAYOUT

(mm)



Symbol	Parameter
V_{RWM}	Peak Reverse Working Voltage
I_R	Reverse Leakage Current @ VRWM
V_{BR}	Breakdown Voltage @ IT
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ IPP
V_{TRIG}	Reverse Trigger Voltage
I_{TRIG}	Reverse Trigger Current
V_{HOLD}	Reverse Holding Voltage
I_{HOLD}	Reverse Holding Current
C_J	Junction Capacitance



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=2uA	3.8	4.6	6	V
Reverse Breakdown Voltage	V_{BR}	I_T=50mA	4	5	6.2	V
Reverse Leakage Current	I_R	V_{RWM}=3.3V			0.05	μA
Clamping Voltage Note1	V_C	I_{PP}=1A, t_P=8/20μs			8	V
Clamping Voltage Note1	V_C	I_{PP}=12A, t_P=8/20μs			16.5	V
Junction Capacitance	C_J	V_R=0V, f=1MHz		0.4	0.5	pF
Dynamic Resistance Note2	R_{DYN}	TLP, t_P=100ns		0.3		Ω

Note :

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

2.TLP parameter: Z_0=50Ω, tp=100ns, tr=2ns, averaging window from 60ns to 80ns. R_{DYN} is calculated from 4A to 16A.

3.All measured from Pin1 to Pin2

Curve Characteristics

Fig. 1 - 8 X 20μs Pulse Waveform

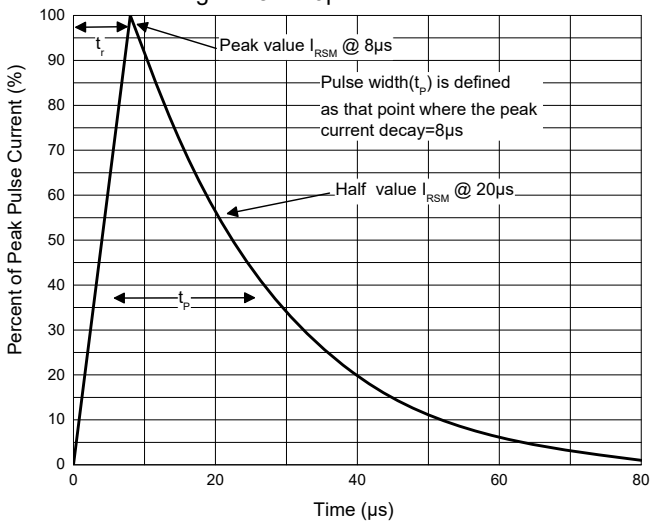


Fig. 2 - Non-Repetitive Peak Pulse Power

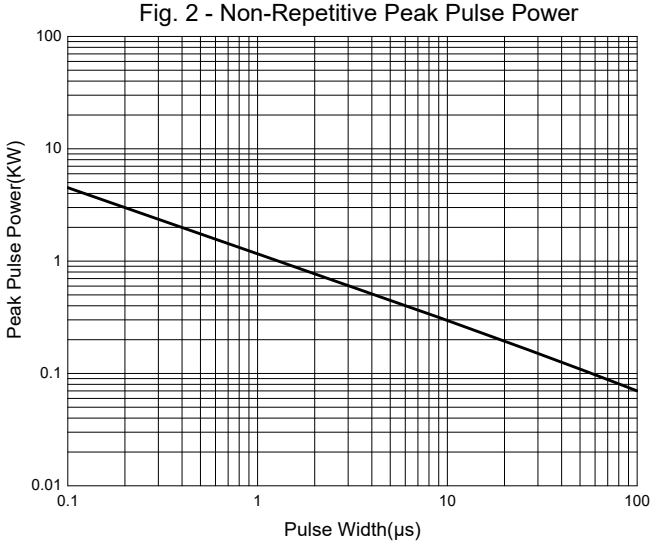


Fig. 3 - Capacitance Characteristics

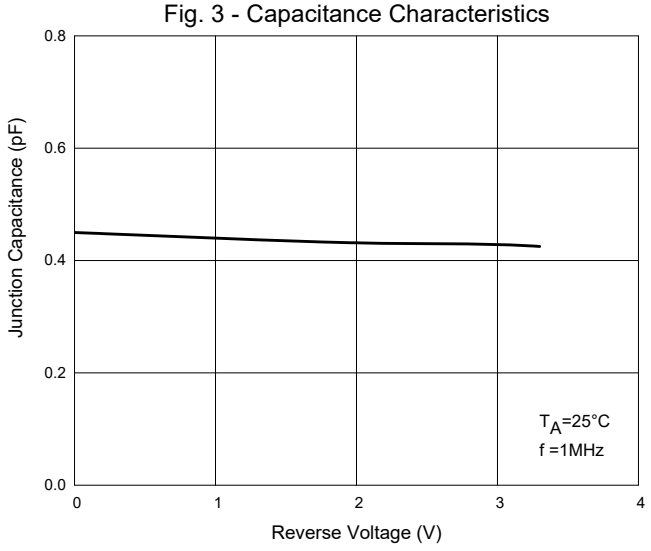


Fig. 4 - Clamping Voltage Characteristics

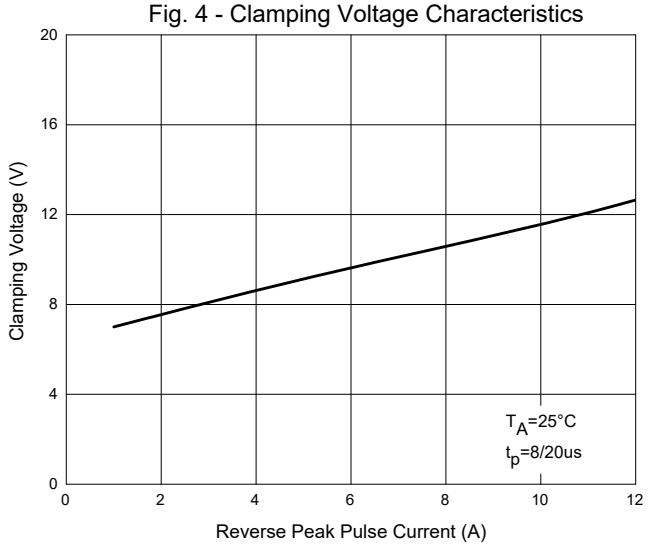


Fig. 5 - TLP Curve

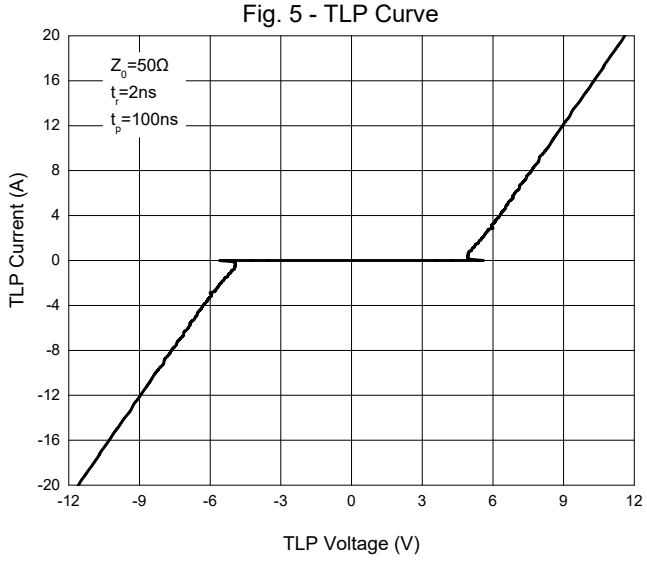
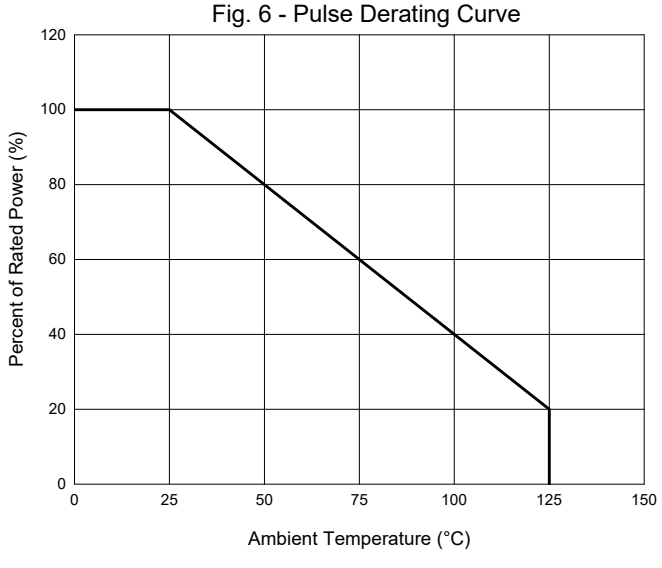


Fig. 6 - Pulse Derating Curve



Ordering Information

Device	Packing
Part Number-TP	Tape&Reel: 10Kpcs/Reel