Features

- ESD Protection of One 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	±20KV
	Contact	±15KV
Peak Pulse Current (8/20μs)	I_{PP}	3.5A
Peak Pulse Power (8/20μs)(Note2)	P_{PK}	70W
Operating Junction Temperature Range	T_J	-55°C to +125°C
Storage Temperature Range	T_{STG}	-55°C to +150°C

Note :

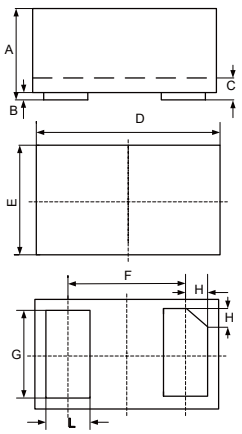
1. Halogen free "Green” products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
2. Non-repetitive current pulse 8/20 μs exponential decay waveform according to IEC61000-4-5.

Internal Structure

Marking Code

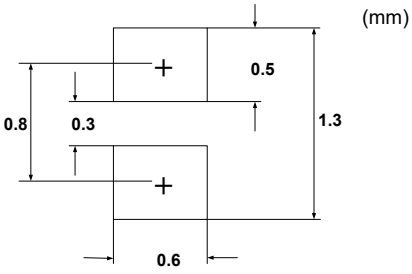
21

CSP1006-2

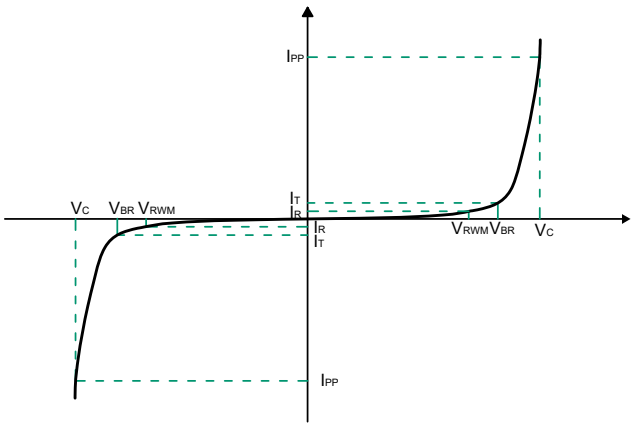


DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.016	0.022	0.40	0.55	
B	0.000	0.002	0.00	0.05	
C	0.005	0.007	0.12	0.18	
D	0.037	0.041	0.95	1.05	
E	0.022	0.026	0.55	0.65	
F	0.026		0.650		TYP.
G	0.018	0.022	0.45	0.55	
H	0.003	0.007	0.07	0.17	
L	0.008	0.012	0.20	0.30	

SUGGESTED SOLDER PAD LAYOUT



Symbol	Parameter
V_{RWM}	Peak Reverse Working Voltage
I_R	Reverse Leakage Current @ VRWM
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



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=1mA	6		9	V
Reverse Leakage Current	I_R	V_{RWM}=5V			0.2	μA
Clamping Voltage[Note1]	V_C	I_{PP}=1A, t_P=8/20μs		10	12	V
Clamping Voltage[Note1]	V_C	I_{PP}=3.5A, t_P=8/20μs		17	20	V
Junction Capacitance	C_J	V_R=0V, f=1MHz		0.3	0.5	pF
Dynamic Resistance [Note2]	R_{DYN}	TLP, t_P=100ns		1		Ω

Note :

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

2.TLP parameter: Z0=50Ω, tp=100ns, tr=2ns, averaging window from 60ns to 80ns. RDYN is calculated from 4A to 16A.

Curve Characteristics

Fig. 1 - 8 X 20μs Pulse Waveform

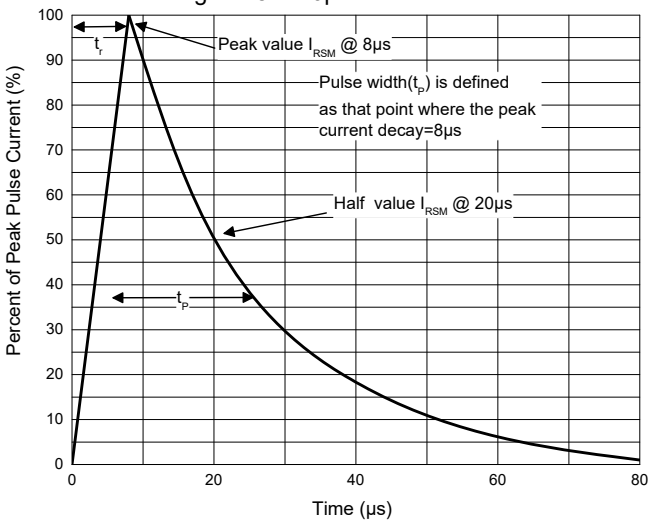


Fig. 2 - Non-Repetitive Peak Pulse Power

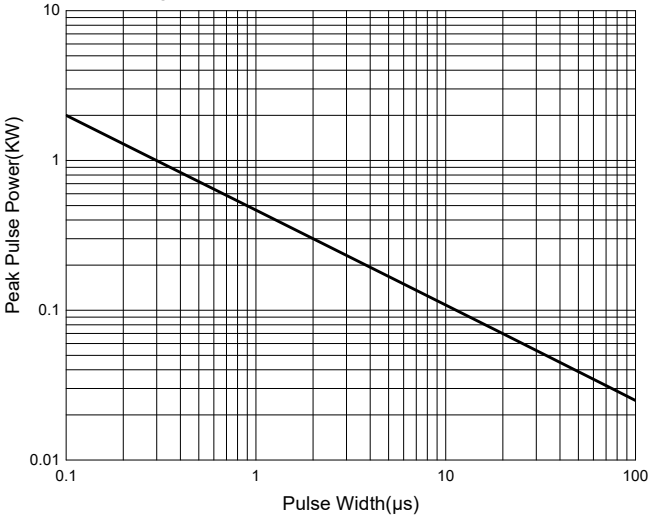


Fig. 3 - Capacitance Characteristics

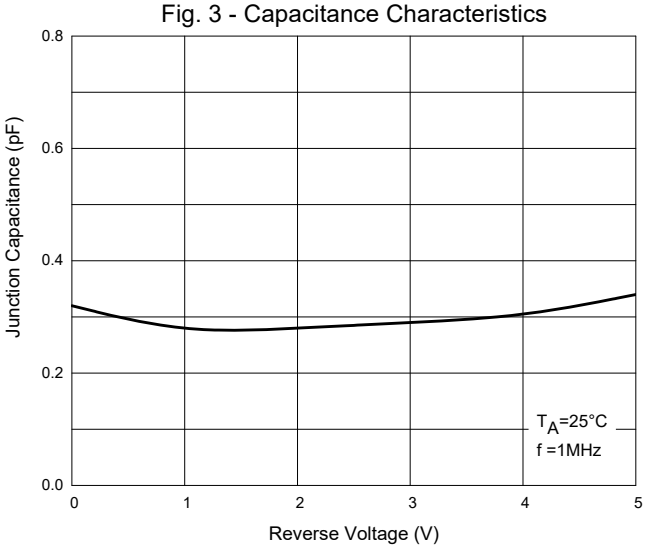


Fig. 4 - Clamping Voltage Characteristics

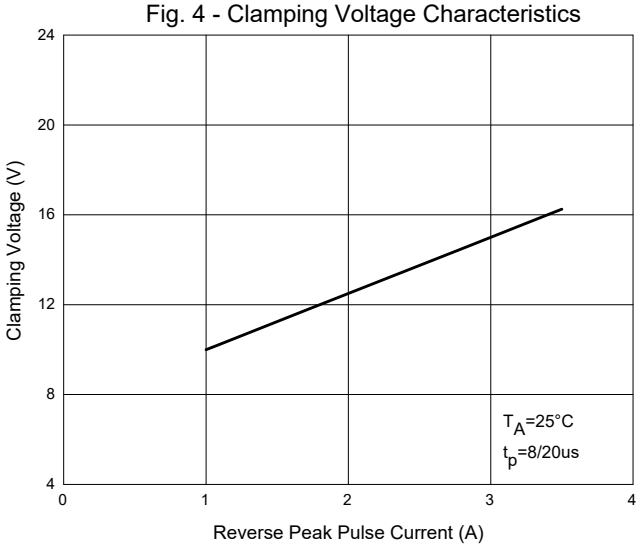


Fig. 5 - TLP Curve

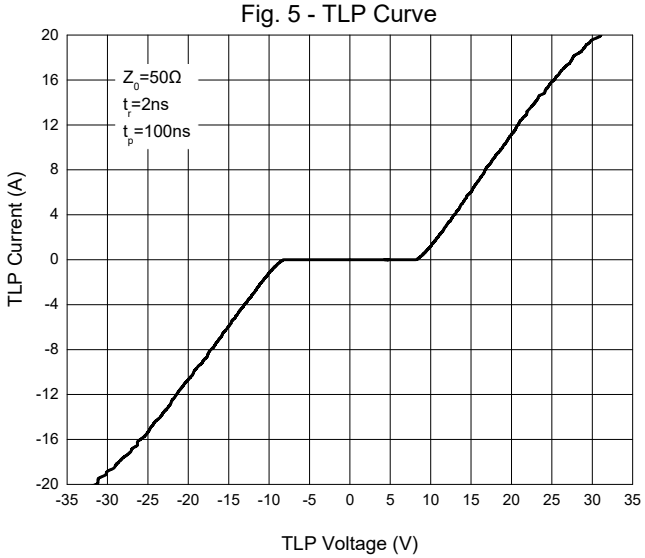
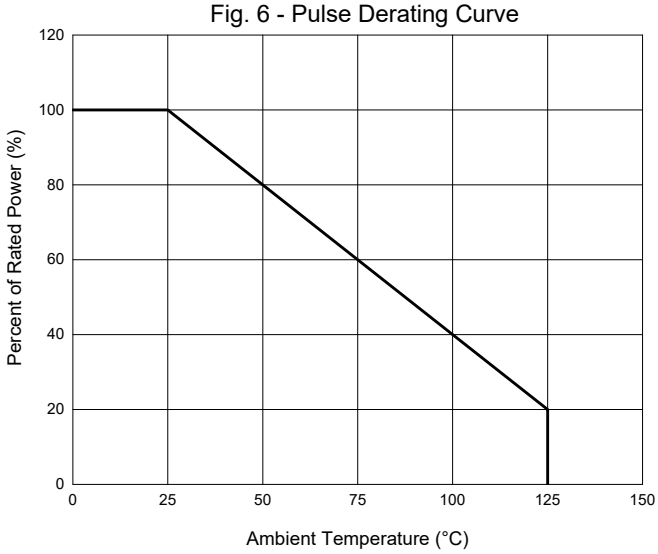


Fig. 6 - Pulse Derating Curve



Ordering Information

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