

**Features**

- ESD Protection of One Line
- High Peak Pulse Current Capability
- 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)

**Maximum Ratings**

IEC61000-4-2 (ESD)	Air	±30KV
	Contact	±30KV
Peak Pulse Current (8/20µs)	I <sub>PP</sub>	35A
Peak Pulse Power (8/20µs) <sup>(Note2)</sup>	P <sub>PK</sub>	420W
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**

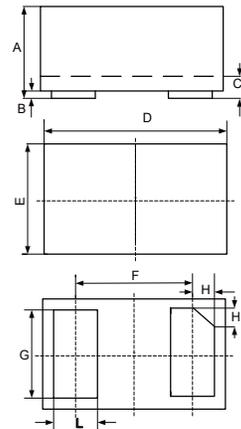


**Marking Code**



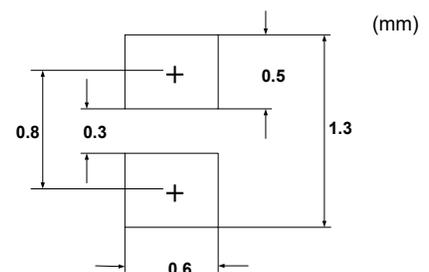
**ESD Protection Device**

**DFN1006-2**

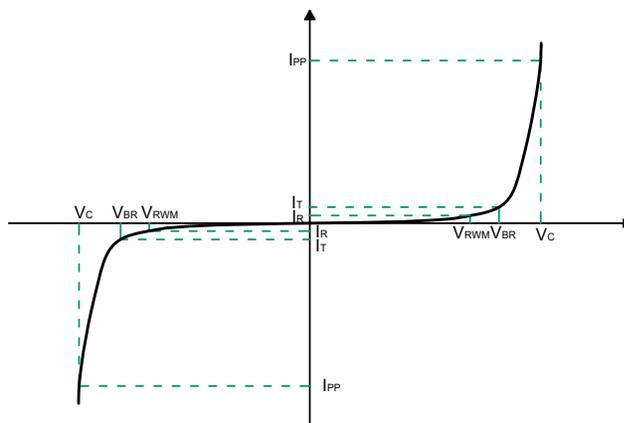


DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.018	0.022	0.45	0.55	
B	0.000	0.002	0.00	0.05	
C	0.005	0.007	0.12	0.18	
D	0.037	0.041	0.95	1.05	
E	0.022	0.026	0.55	0.65	
F	0.026		0.650		TYP.
G	0.018	0.022	0.45	0.55	
H	0.003	0.007	0.07	0.17	
L	0.008	0.012	0.20	0.30	

**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	$V_{RWM}$				3.3	V
Reverse Breakdown Voltage	$V_{BR}$	$I_T=1\text{mA}$	4		6.5	V
Reverse Leakage Current	$I_R$	$V_{RWM}=3.3\text{V}$			0.5	$\mu\text{A}$
Clamping Voltage <sup>Note1</sup>	$V_C$	$I_{PP}=1\text{A}, t_p=8/20\mu\text{s}$			6	V
Clamping Voltage <sup>Note1</sup>	$V_C$	$I_{PP}=30\text{A}, t_p=8/20\mu\text{s}$			11	V
Clamping Voltage <sup>Note1</sup>	$V_C$	$I_{PP}=35\text{A}, t_p=8/20\mu\text{s}$			12	V
Junction Capacitance	$C_J$	$V_R=0\text{V}, f=1\text{MHz}$		50	70	pF
Dynamic Resistance <sup>Note2</sup>	$R_{DYN}$	TLP, $t_p=100\text{ns}$		0.09		$\Omega$

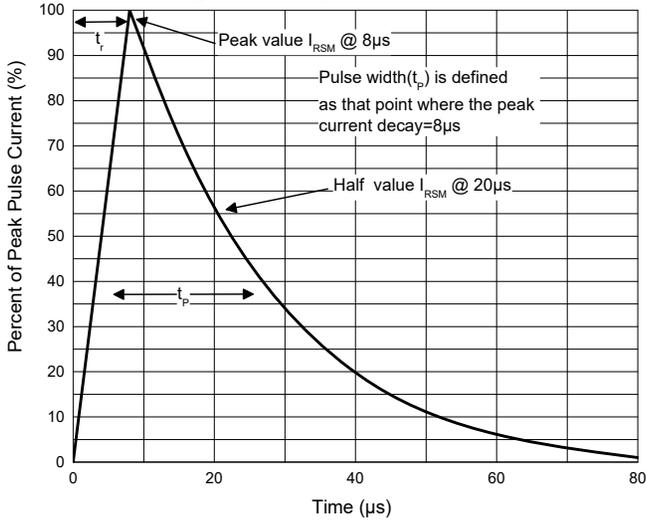
Note :

1.Non-repetitive current pulse 8/20 $\mu\text{s}$  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. RDYN is calculated from 4A to 16A.

**Curve Characteristics**

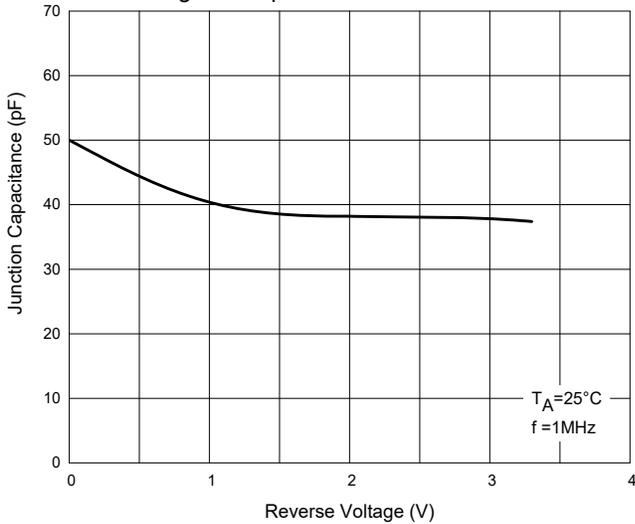
**Fig. 1 - 8 X 20µs Pulse Waveform**



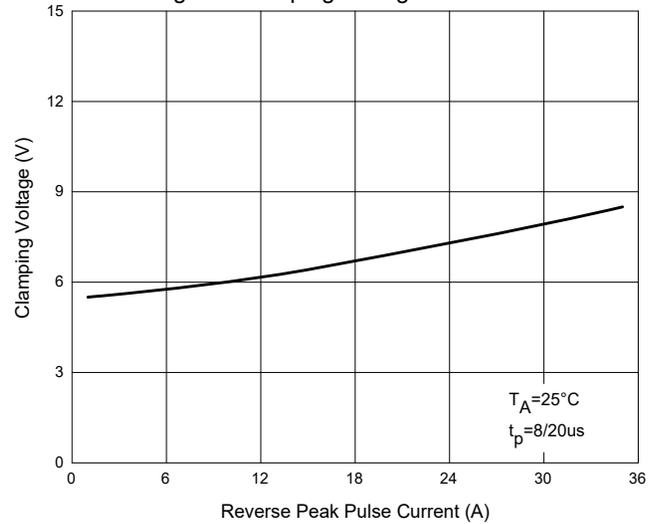
**Fig. 2 - Non-Repetitive Peak Pulse Power**



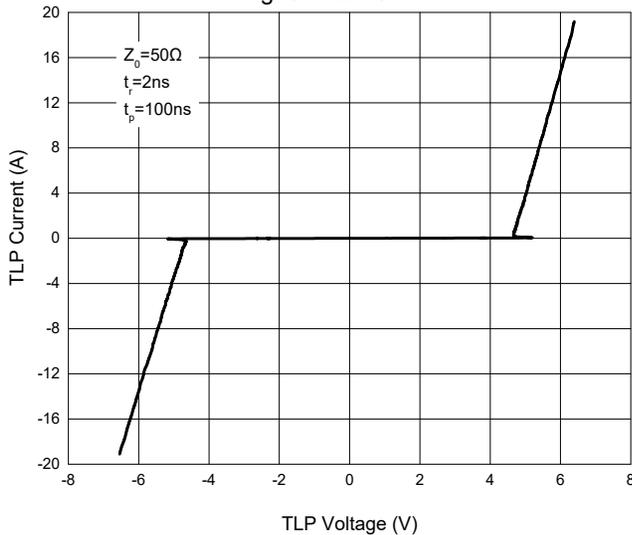
**Fig. 3 - Capacitance Characteristics**



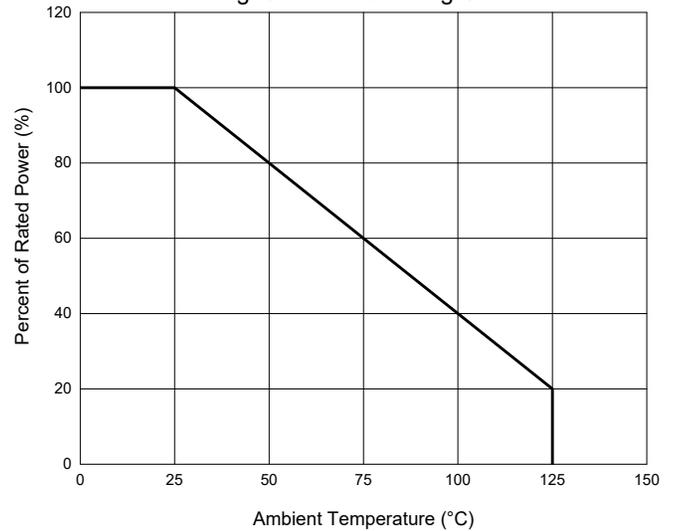
**Fig. 4 - Clamping Voltage Characteristics**



**Fig. 5 - TLP Curve**



**Fig. 6 - Pulse Derating Curve**



## Ordering Information

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

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