

Features

- Uni-Directional ESD Protection of One Line
- Low Leakage Current
- 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

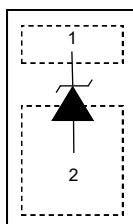
IEC61000-4-2 (ESD)	Air	±30KV
	Contact	±30KV
Peak Pulse Current (8/20µs)	I _{PP}	45A
Peak Pulse Power (8/20µs) ^(Note2)	P _{PK}	990W
Operating Junction Temperature Range	T _J	-55°C to +125°C
Storage Temperature Range	T _{STG}	-55°C to +150°C

Note :

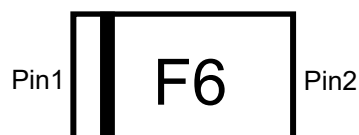
1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

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

Internal Structure

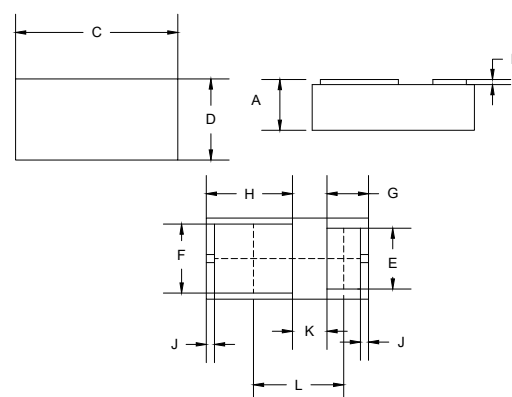


Marking Code



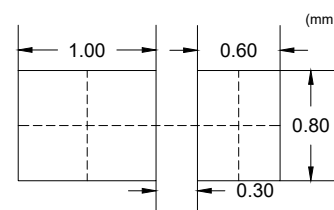
ESD Protection Device

DFN1608-2

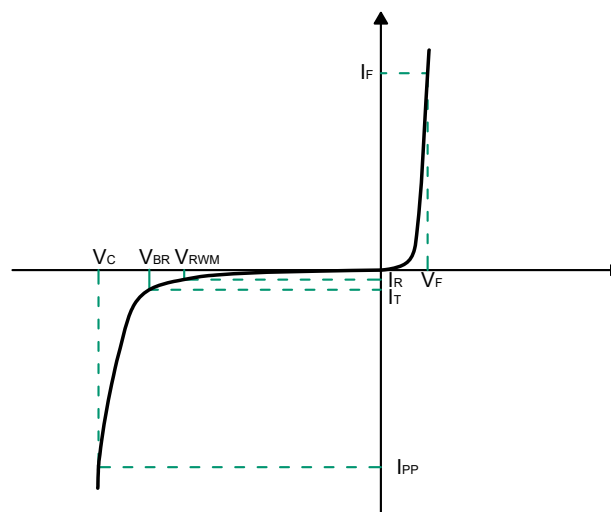


DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.018	0.022	0.45	0.55	
B	0.000	0.004	0.01	0.09	
C	0.061	0.065	1.55	1.65	
D	0.030	0.033	0.75	0.85	
E	0.020	0.027	0.52	0.68	
F	0.024	0.030	0.60	0.76	
G	0.016		0.41		REF.
H	0.033		0.85		REF.
J	0.003		0.08		REF.
K	0.013		0.34		REF.
L	0.035	0.039	0.90	1.00	

Suggested Solder Pad Layout



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



Electrical Characteristics @ 25°C (Unless Otherwise Specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse Working Voltage	V_{RWM}				12	V
Reverse Breakdown Voltage	V_{BR}	$I_T=1mA$	12			V
Reverse Leakage Current	I_R	$V_{RWM}=12V$			0.5	μA
Forward Voltage	V_F	$I_F=10mA$			1.2	V
Clamping Voltage ^{Note1}	V_C	$I_{PP}=5A, t_p=8/20\mu s$			16	V
Clamping Voltage ^{Note1}	V_C	$I_{PP}=45A, t_p=8/20\mu s$			22	V
Junction Capacitance	C_J	$V_R=0V, f=1MHz$		260		pF
Dynamic Resistance ^{Note2}	R_{DYN}	TLP, $t_p=100ns$		0.13		Ω

Note :

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

2.TLP parameter: $Z_0=50\Omega$, $t_p=100ns$, $t_r=2ns$, 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

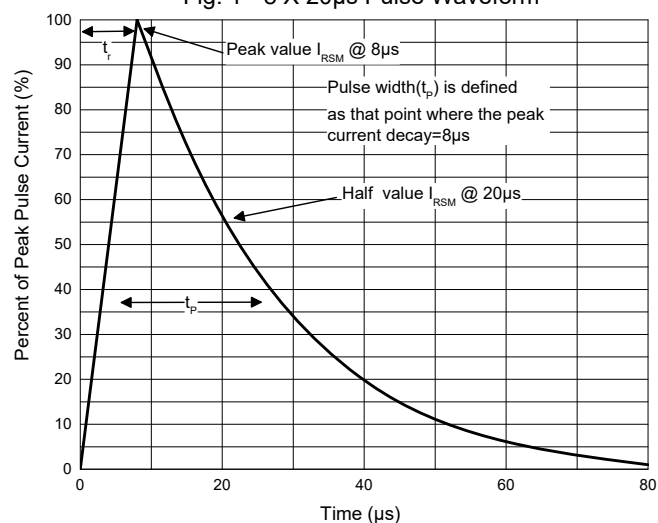


Fig. 2 - Non-Repetitive Peak Pulse Power

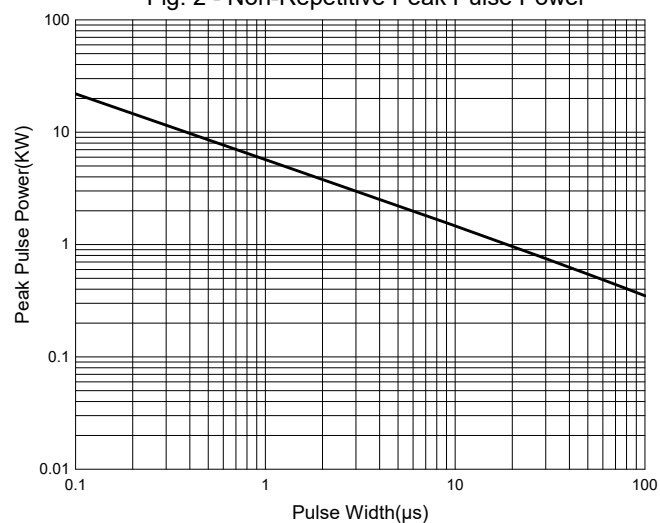


Fig. 3 - Capacitance Characteristics

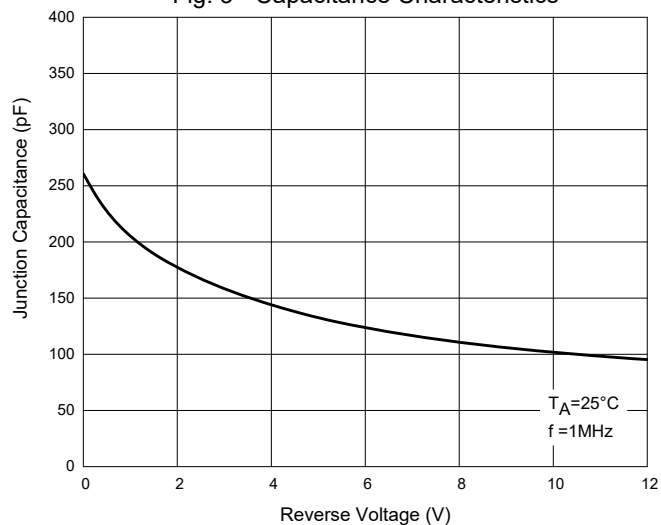


Fig. 4 - Clamping Voltage Characteristics

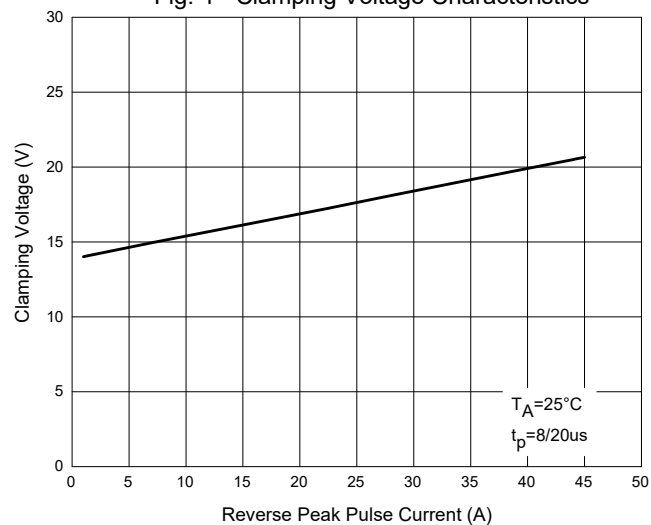


Fig. 5 - TLP Curve

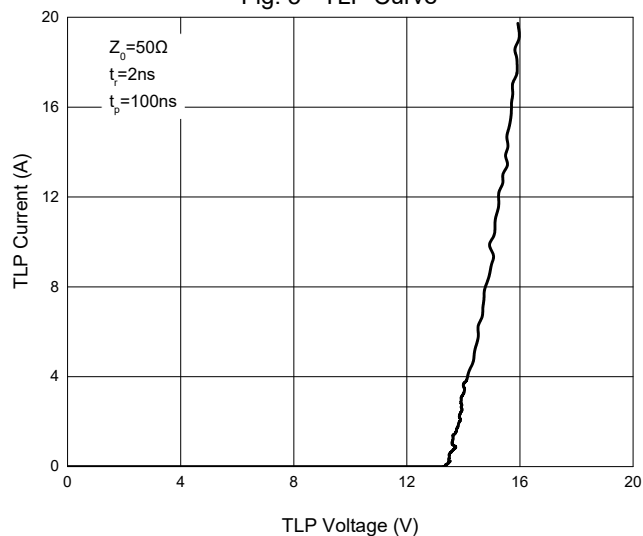
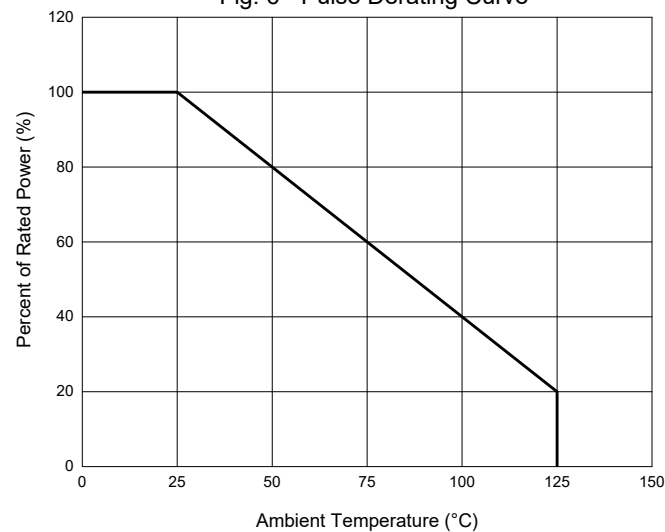


Fig. 6 - Pulse Derating Curve



Ordering Information

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

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