

**Features**

- Designed For Signal Line Protection Only, Not Intended To Be Used Under Bias, Not For Application With A Power 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)

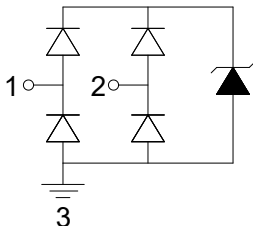
**Maximum Ratings**

IEC61000-4-2 (ESD)	Air	±30KV
	Contact	±30KV
Peak Pulse Current (8/20µs)	I <sub>PP</sub>	13A
Peak Pulse Power (8/20µs) <sup>(Note2)</sup>	P <sub>PK</sub>	65W
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

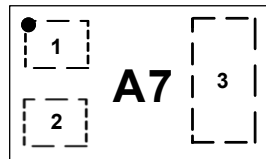
Note :

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**



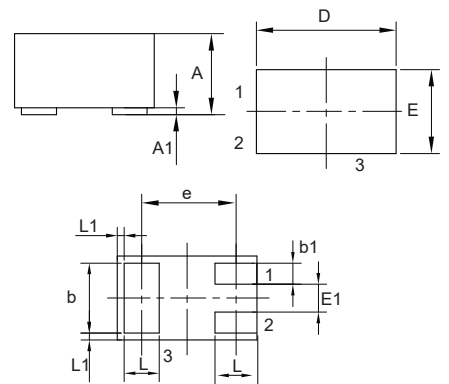
**Marking Code**



**Transparent top view**

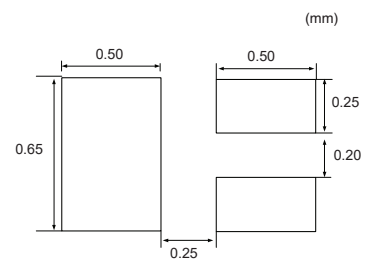
**Snap Back  
ESD Protection  
Device**

**DFN1006-3B**

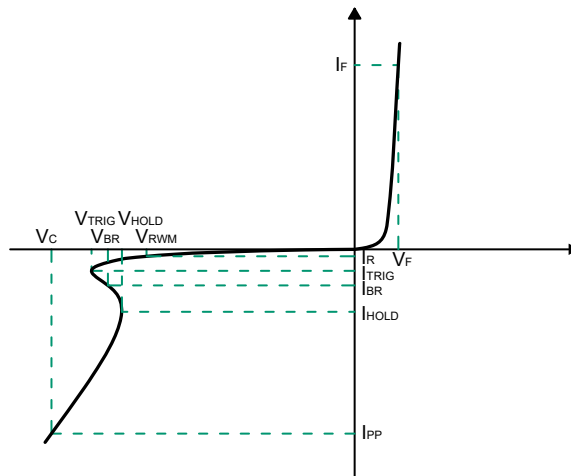


DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.018	0.022	0.45	0.55	
A1	0.000	0.002	0.00	0.05	
b	0.018	0.022	0.45	0.55	
b1	0.004	0.008	0.10	0.20	
D	0.037	0.041	0.95	1.05	
E	0.022	0.026	0.55	0.65	
E1	0.006	0.010	0.15	0.25	
e	0.026		0.675		TYP.
L	0.008	0.012	0.25	0.35	
L1	0.0002		0.05		TYP.

**SUGGESTED SOLDER PAD LAYOUT**



Symbol	Parameter
$V_{RWM}$	Peak Reverse Working Voltage
$I_R$	Reverse Leakage Current @ $V_{RWM}$
$V_{BR}$	Breakdown Voltage @ $I_T$
$I_{PP}$	Maximum Reverse Peak Pulse Current
$V_C$	Clamping Voltage @ $I_{PP}$
$V_{TRIG}$	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	$V_{RWM}$				5	V
Reverse Breakdown Voltage	$V_{BR}$	$I_T=1mA$	6			V
Reverse Leakage Current	$I_R$	$V_{RWM}=5V$			0.2	$\mu A$
Clamping Voltage <sup>Note1</sup>	$V_C$	$I_{PP}=1A, t_p=8/20\mu s$			2	V
Clamping Voltage <sup>Note1</sup>	$V_C$	$I_{PP}=13A, t_p=8/20\mu s$			5	V
Clamping Voltage <sup>Note2</sup>	$V_C$	$I_{PP} = 4A(TLP)$		2.1		V
Clamping Voltage <sup>Note2</sup>	$V_C$	$I_{PP} = 16A(TLP)$		3.9		V
Junction Capacitance	$C_J$	$V_{pin3}=0V, V_R=1.5V, f=1MHz, IO \text{ to } GND$		0.65	1	pF
Junction Capacitance	$C_J$	$V_{pin3}=0V, V_R=1.5V, f=1MHz, IO \text{ to } IO$		0.2	0.5	pF
Dynamic Resistance <sup>Note2</sup>	$R_{DYN}$	TLP, $t_p=100ns$		0.15		$\Omega$

Note :

1.Non-repetitive current pulse 8/20 $\mu s$  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 $\mu$ s Pulse Waveform

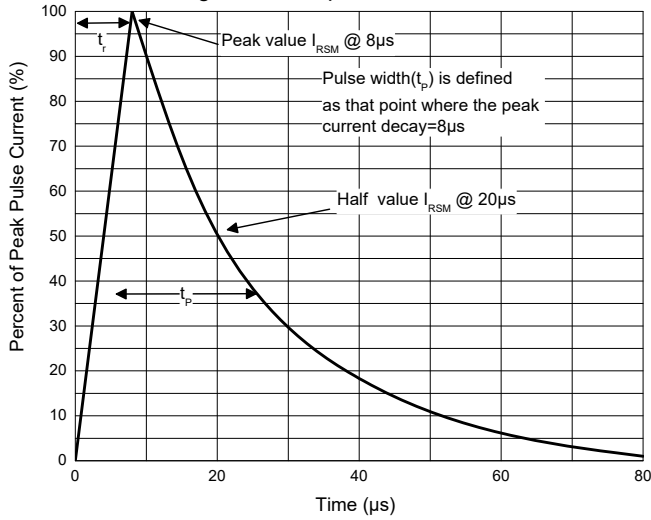


Fig. 2 - Non-Repetitive Peak Pulse Power



Fig. 3 - Capacitance Characteristics

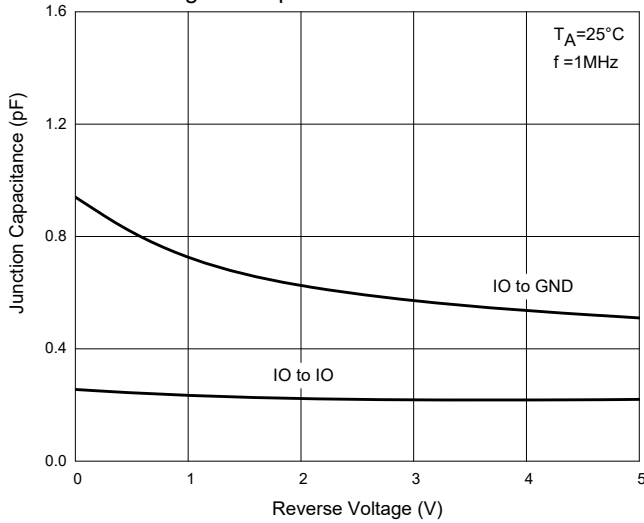


Fig. 4 - Clamping Voltage Characteristics

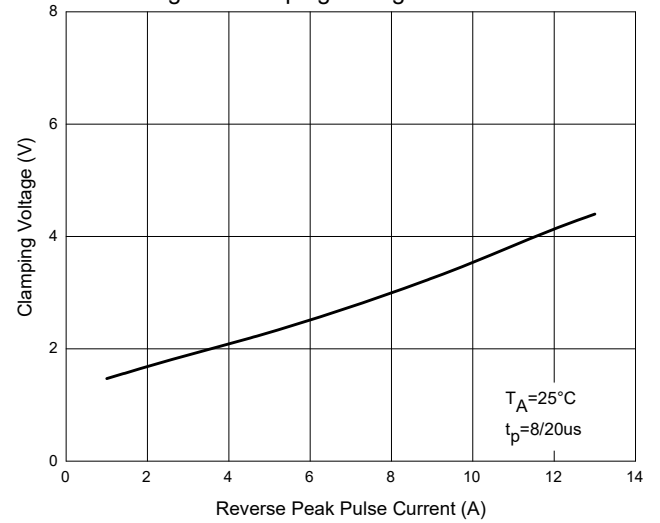


Fig. 5 - TLP Curve

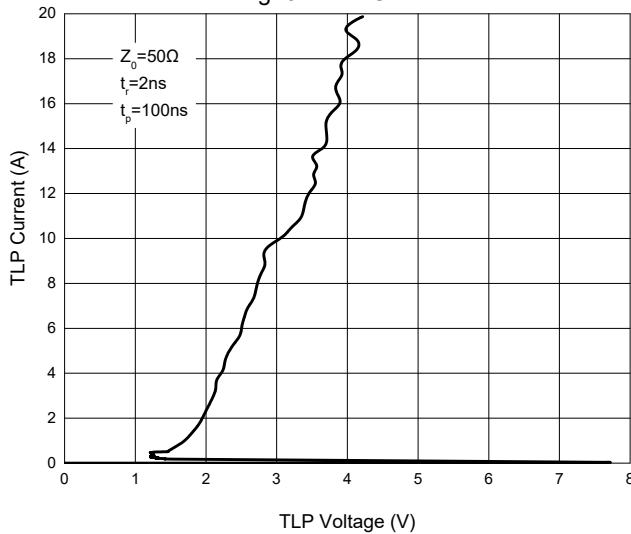
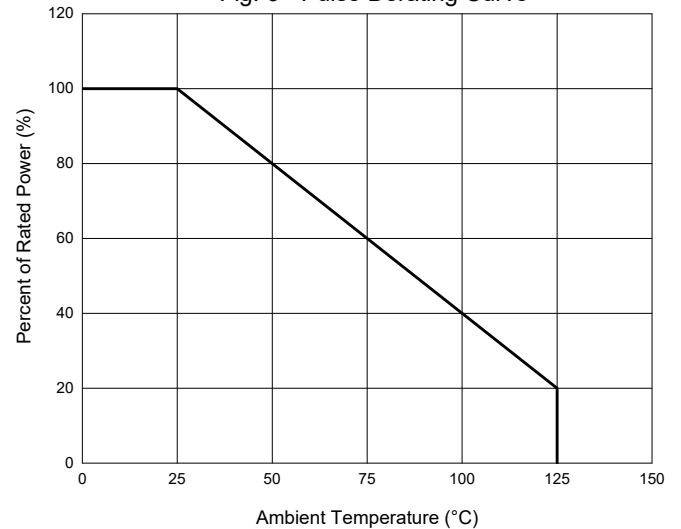


Fig. 6 - Pulse Derating Curve



## Ordering Information

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

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