

**Features**

- Uni-Directional ESD Protection of One Line
- 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              | ±8KV            |
|  | Contact          | ±8KV            |
| Peak Pulse Current (8/20µs)                  | I <sub>PP</sub>  | 2.5A            |
| Peak Pulse Power (8/20µs) <sup>(Note2)</sup> | P <sub>PK</sub>  | 200W            |
| Junction Temperature Range                   | T <sub>J</sub>   | -55°C to +150°C |
| Storage Temperature Range                    | T <sub>STG</sub> | -55°C to +150°C |

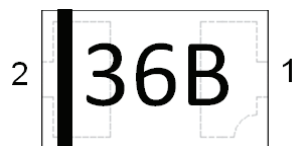
Note :

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**

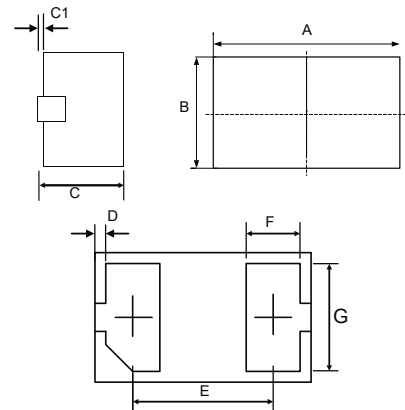


**Marking Code**



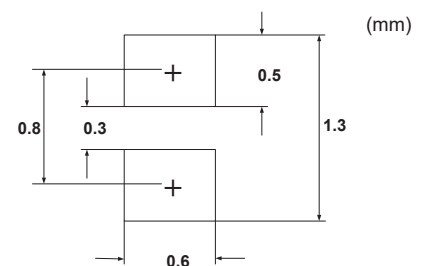
**ESD Protection Device**

**DFN1006-2L**

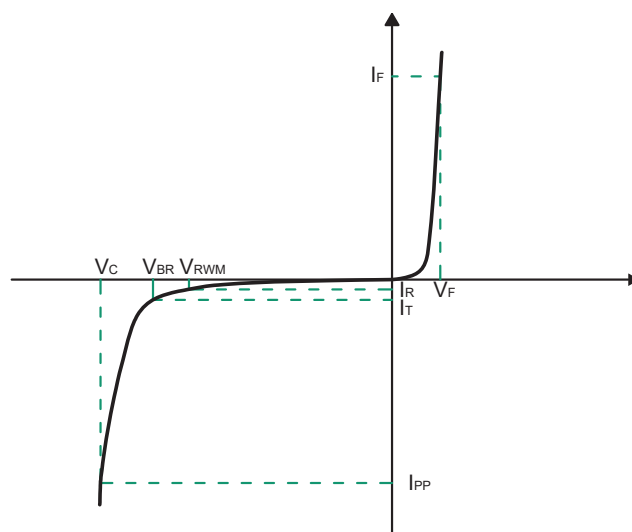


| DIM | INCHES |       | MM   |      | NOTE |
|-----|--------|-------|------|------|------|
|     | MIN    | MAX   | MIN  | MAX  |      |
| A   | 0.037  | 0.041 | 0.95 | 1.05 |      |
| B   | 0.022  | 0.026 | 0.55 | 0.65 |      |
| C   | 0.016  | 0.022 | 0.40 | 0.50 |      |
| C1  | ----   | 0.004 | ---- | 0.05 |      |
| D   | 0.001  | 0.003 | 0.02 | 0.08 |      |
| E   | 0.026  |       | 0.65 |      | TYP. |
| F   | 0.008  | 0.012 | 0.20 | 0.30 |      |
| G   | 0.018  | 0.022 | 0.45 | 0.55 |      |

**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)**

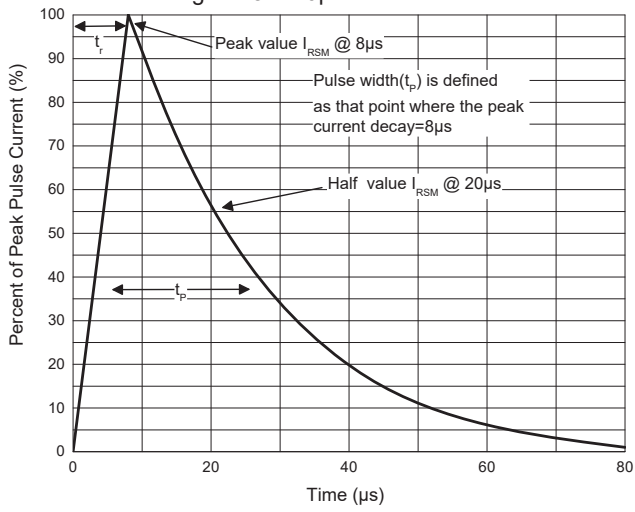
| Parameter                         | Symbol    | Conditions                   | Min. | Typ. | Max. | Units   |
|-----------------------------------|-----------|------------------------------|------|------|------|---------|
| Reverse Working Voltage           | $V_{RWM}$ |                              |      |      | 36   | V       |
| Reverse Breakdown Voltage         | $V_{BR}$  | $I_{BR}=1mA$                 | 38   |      | 48   | V       |
| Reverse Leakage Current           | $I_R$     | $V_{RWM}=36V$                |      |      | 0.5  | $\mu A$ |
| Forward Voltage                   | $V_F$     | $I_F=10mA$                   |      |      | 1.1  | V       |
| Clamping Voltage <sup>Note1</sup> | $V_C$     | $I_{PP}=1A, t_p=8/20\mu s$   |      | 60   | 65   | V       |
| Clamping Voltage <sup>Note1</sup> | $V_C$     | $I_{PP}=2.5A, t_p=8/20\mu s$ |      | 72   | 80   | V       |
| Junction Capacitance              | $C_J$     | $V_R=0V, f=1MHz$             |      | 12   |      | pF      |

Note :

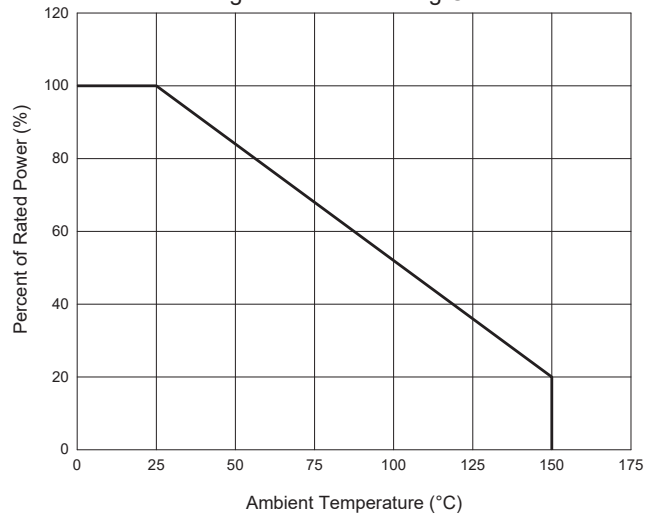
1.Non-repetitive current pulse 8/20 $\mu s$  exponential decay waveform according to IEC61000-4-5.

**Curve Characteristics**

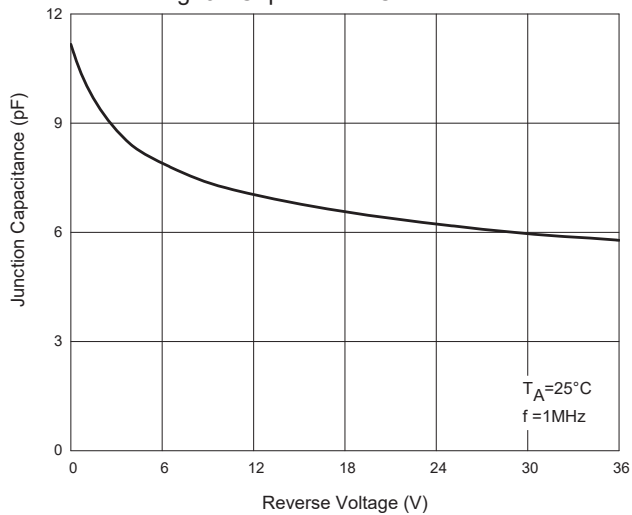
**Fig. 1 - 8 X 20µs Pulse Waveform**



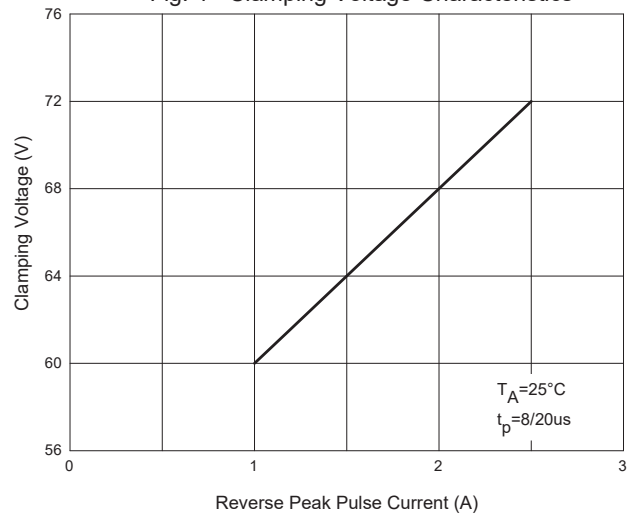
**Fig. 2 - Pulse Derating Curve**



**Fig. 3 - Capacitance Characteristics**



**Fig. 4 - Clamping Voltage Characteristics**



## Ordering Information

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

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