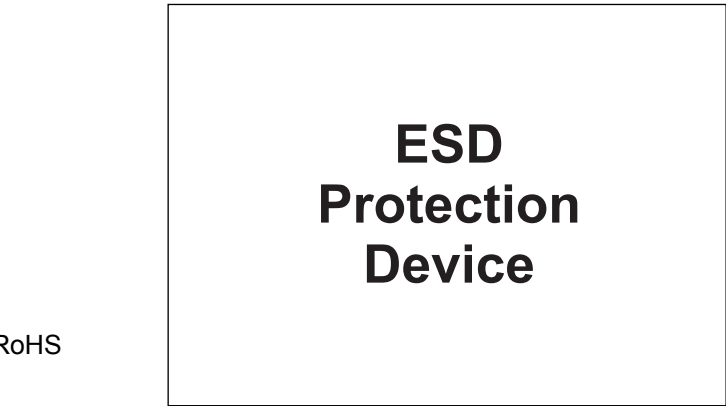


**Features**

- Protects One Data or Power Line
- Low Clamping Voltage
- Ultra Low Leakage: nA Level
- 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**

- Operating Junction Temperature Range: -55°C to +125°C
- Storage Temperature Range: -55°C to +150°C



**DFN1006-2**

**DIMENSIONS**

| 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**

(mm)

| MCC Part Number | Device Marking |
|-----------------|----------------|
| ESD12VLB        | T2             |

|                             |                 |                |
|-----------------------------|-----------------|----------------|
| IEC61000-4-2(ESD)           | Air Contact     | ±30KV<br>±30KV |
| IEC61000-4-4 (EFT) @5/50ns  |                 | 40A            |
| IEC61000-4-5(Surge) @8/20us | I <sub>PP</sub> | 14A            |
| Peak pulse power(tp=8/20us) | P <sub>PP</sub> | 350W           |

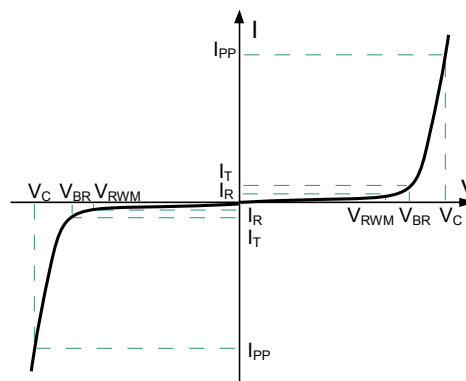
Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

**Internal Structure**



**ELECTRICAL CHARACTERISTICS** ( $T_A = 25^\circ\text{C}$  unless otherwise noted)

| Symbol    | Parameter                                   |
|-----------|---|
| $I_{PP}$  | Maximum Reverse Peak Pulse Current          |
| $V_C$     | Clamping Voltage @ $I_{PP}$                 |
| $V_{RWM}$ | Working Peak Reverse Voltage                |
| $I_R$     | Maximum Reverse Leakage Current @ $V_{RWM}$ |
| $V_{BR}$  | Breakdown Voltage @ $I_T$                   |
| $I_T$     | Test Current                                |
| C         | Capacitance @ $V_R=0$ and $f = 1\text{MHz}$ |



**Electrical Characteristics per line @ 25°C (Unless Otherwise Specified)**

| Parameter                 | Symbol    | Conditions                                  | Min. | Typ. | Max. | Units         |
|---------------------------|-----------|---|------|------|------|---------------|
| Reverse Stand-Off Voltage | $V_{RWM}$ |   |      |      | 12   | V             |
| Reverse Breakdown Voltage | $V_{BR}$  | $I_T=1\text{mA}$                            | 13.3 |      |      | V             |
| Reverse Leakage Current   | $I_R$     | $V_{RWM}=12\text{V}$                        |      |      | 0.1  | $\mu\text{A}$ |
| Clamping Voltage          | $V_C$     | $I_{PP}=1\text{A}$ , $t_p=8/20\mu\text{s}$  |      |      | 15   | V             |
| Clamping Voltage          | $V_C$     | $I_{PP}=14\text{A}$ , $t_p=8/20\mu\text{s}$ |      |      | 25   | V             |
| Junction Capacitance      | $C_J$     | $V_R = 0\text{V}$ , $f = 1\text{MHz}$       |      | 36   | 50   | pF            |

## Curve Characteristics

Fig. 1 - 8 X 20 $\mu$ s Pulse Waveform

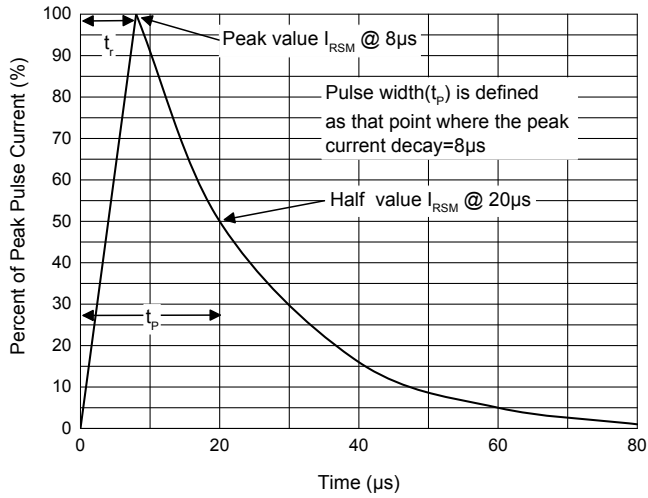


Fig. 2 - Pulse Derating Curve

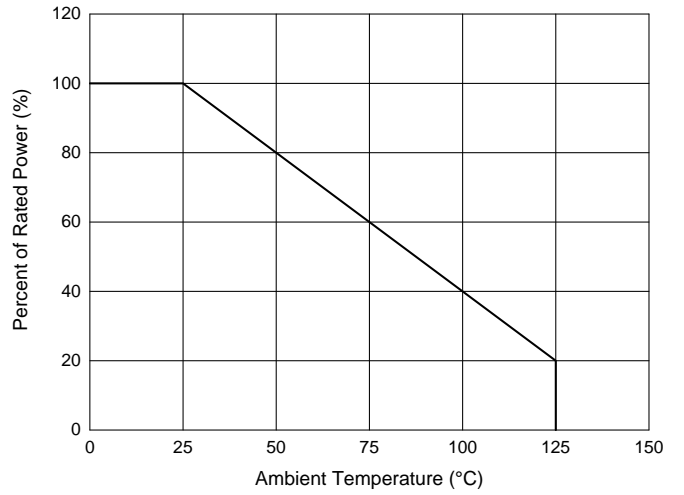


Fig. 3 - Capacitance Characteristics

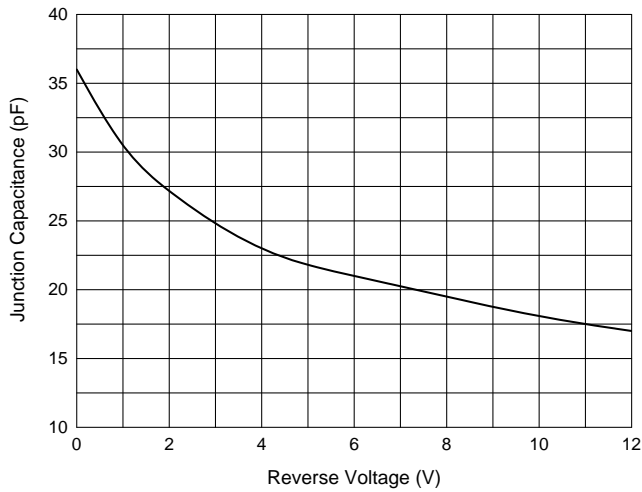
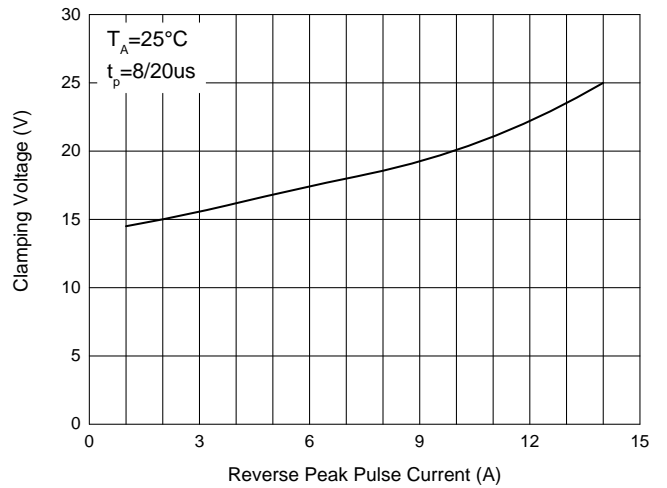


Fig. 4 - Clamping Voltage Characteristics



## Ordering Information

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

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