

## Features

- Bi-Directional ESD Protection of One Line
- Low Capacitance
- 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

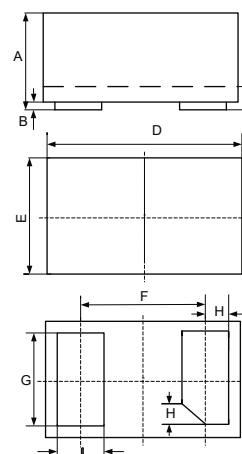
|  |                  |                 |
|--|------------------|-----------------|
| IEC61000-4-2 (ESD)                           | Air              | ±20KV           |
|  | Contact          | ±20KV           |
| Peak Pulse Current (8/20μs)                  | I <sub>PP</sub>  | 2.5A            |
| Peak Pulse Power (8/20μs) <sup>(Note2)</sup> | P <sub>PK</sub>  | 110W            |
| 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.

# ESD Protection Device

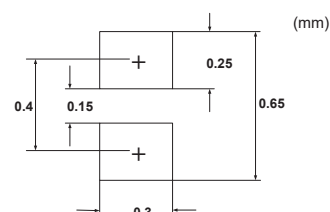
0201-A



### DIMENSIONS

| DIM | INCHES |       | MM    |      | NOTE |
|-----|--------|-------|-------|------|------|
|     | MIN    | MAX   | MIN   | MAX  |      |
| A   | 0.009  | 0.013 | 0.23  | 0.33 |      |
| B   | 0.000  | 0.002 | 0.00  | 0.05 |      |
| C   | 0.005  | 0.007 | 0.12  | 0.18 |      |
| D   | 0.022  | 0.026 | 0.55  | 0.65 |      |
| E   | 0.010  | 0.014 | 0.25  | 0.35 |      |
| F   | 0.014  |       | 0.355 |      | TYP. |
| G   | 0.008  | 0.011 | 0.22  | 0.28 |      |
| H   | 0.003  |       | 0.079 |      | TYP. |
| L   | 0.006  | 0.009 | 0.16  | 0.22 |      |

### SUGGESTED SOLDER PAD LAYOUT



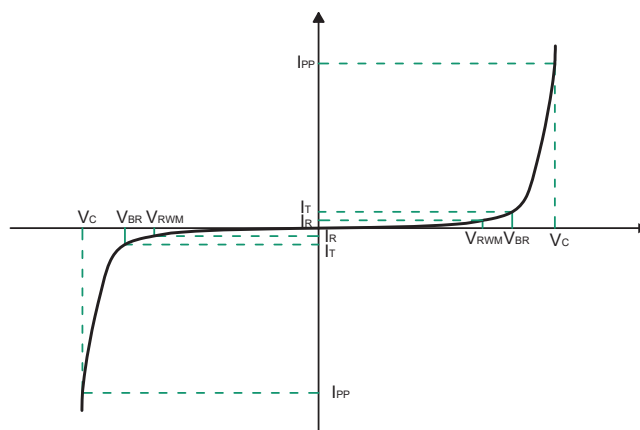
## Internal Structure



## Marking Information



| 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                |



### Electrical Characteristics @ 25°C (Unless Otherwise Specified)

| Parameter                           | Symbol    | Conditions                   | Min. | Typ. | Max. | Units    |
|-------------------------------------|-----------|------------------------------|------|------|------|----------|
| Reverse Working Voltage             | $V_{RWM}$ |                              |      |      | 18   | V        |
| Reverse Breakdown Voltage           | $V_{BR}$  | $I_T=1mA$                    | 19.5 |      |      | V        |
| Reverse Leakage Current             | $I_R$     | $V_{RWM}=18V$                |      |      | 0.2  | $\mu A$  |
| Clamping Voltage <sup>Note1</sup>   | $V_C$     | $I_{PP}=1A, t_p=8/20\mu s$   |      |      | 30   | V        |
| Clamping Voltage <sup>Note1</sup>   | $V_C$     | $I_{PP}=2.5A, t_p=8/20\mu s$ |      |      | 44   | V        |
| Junction Capacitance                | $C_J$     | $V_R=0V, f=1MHz$             |      | 8    |      | pF       |
| Dynamic Resistance <sup>Note2</sup> | $R_{DYN}$ | TLP, $t_p=100ns$             |      | 3.35 |      | $\Omega$ |

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

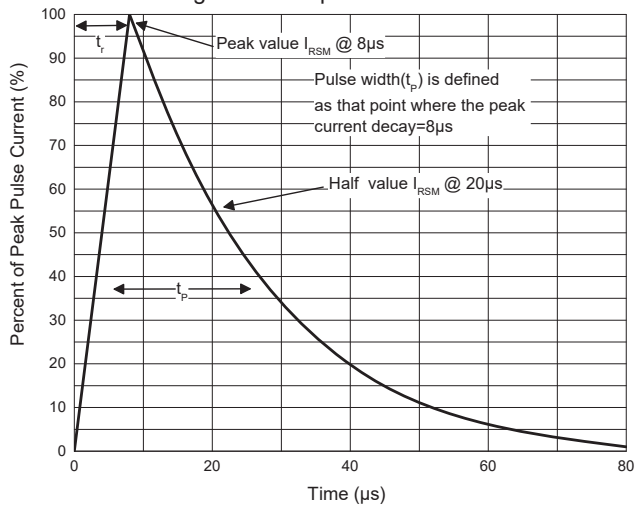


Fig. 2 - Non-Repetitive Peak Pulse Power

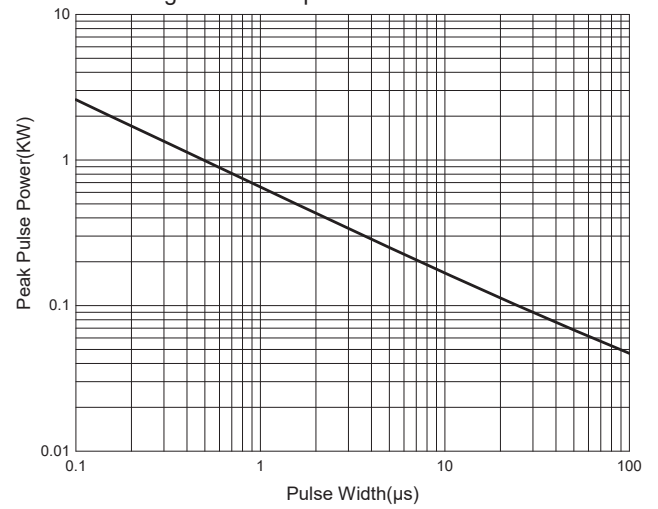


Fig. 3 - Capacitance Characteristics

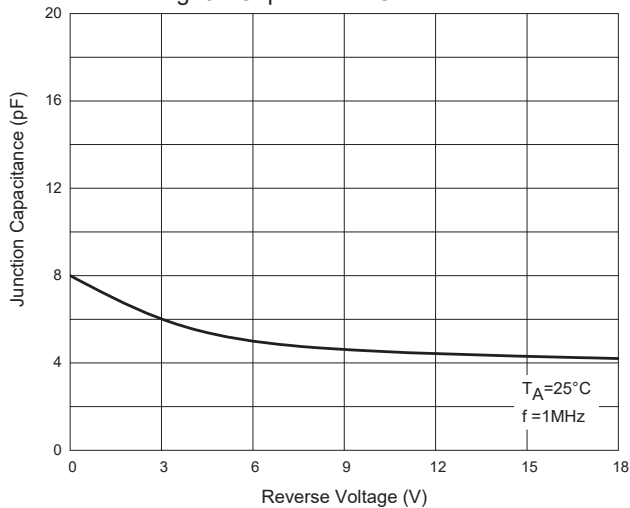


Fig. 4 - Clamping Voltage Characteristics

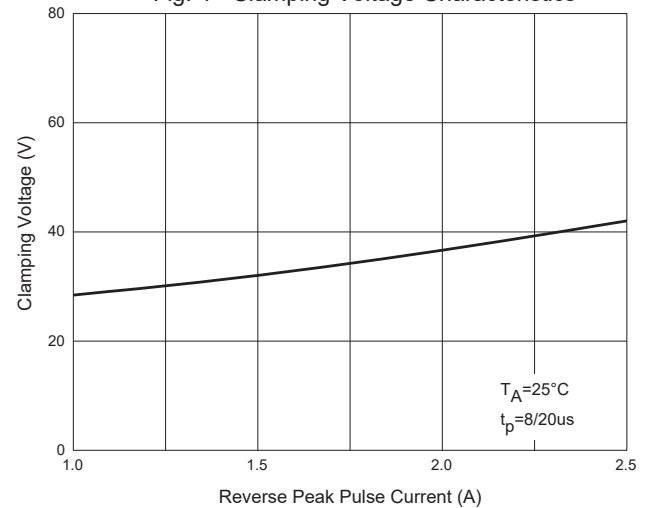


Fig. 5 - TLP Curve

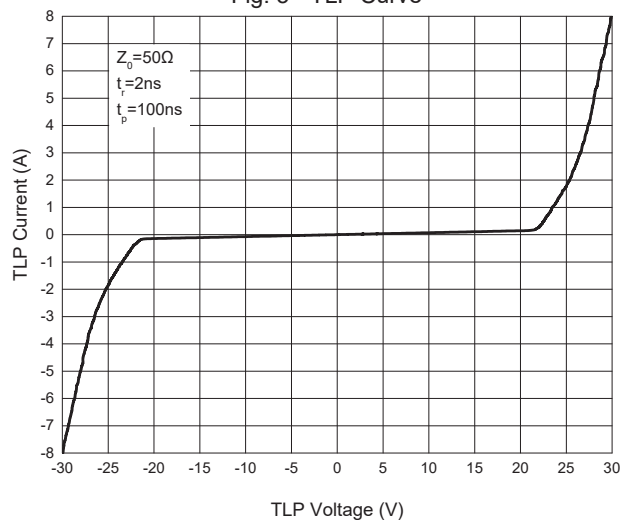
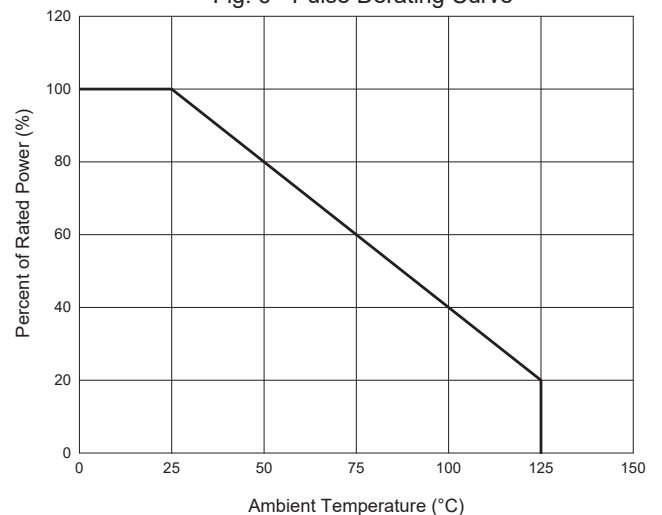


Fig. 6 - Pulse Derating Curve



## Ordering Information

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

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