

### Features

- Chip Scale Package
- Protects one Data or Power Line
- Ultra Low Leakage
- Low Clamping Voltage
- Halogen Free
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

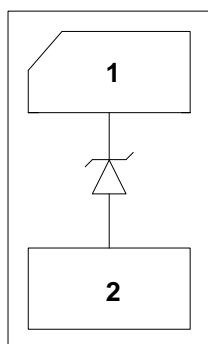
### Maximum Ratings

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

| MCC Part Number | Device Marking |
|-----------------|----------------|
| CSP3V3L         | 3V             |

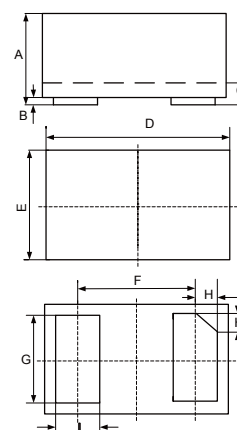
|                            |                 |                |
|----------------------------|-----------------|----------------|
| IEC61000-4-2(ESD)          | Air Contact     | ±30KV<br>±30KV |
| Peak Pulse Current(8/20µs) | I <sub>PP</sub> | 65A            |
| Peak Pulse Power (8/20µs)  | P <sub>PK</sub> | 600W           |

### Circuit and Pin Schematic



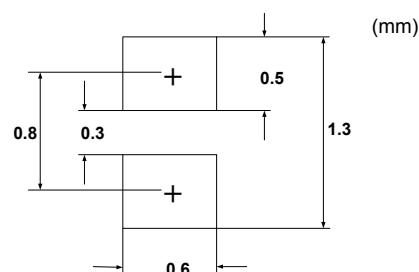
## ESD Protection Device

### CSP1006-2



| DIM | DIMENSIONS |       |       |      | NOTE |
|-----|------------|-------|-------|------|------|
|     | INCHES     |       | MM    |      |      |
|     | 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



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

| Parameter                 | Symbol    | Conditions                  | Min. | Typ. | Max. | Units   |
|---------------------------|-----------|-----------------------------|------|------|------|---------|
| Reverse Working Voltage   | $V_{RWM}$ |                             |      |      | 3.3  | V       |
| Reverse Breakdown Voltage | $V_{BR}$  | $I_T=1mA$                   | 3.6  | 4.2  | 5.5  | V       |
| Reverse Leakage Current   | $I_R$     | $V_{RWM}=3.3V$              |      |      | 0.5  | $\mu A$ |
| Forward Voltage           | $V_F$     | $I_F=10mA$                  | 0.6  | 1.0  | 1.5  | V       |
| Clamping Voltage          | $V_C$     | $I_{PP}=30A, t_p=8/20\mu s$ |      | 7.5  | 8.5  | V       |
| Clamping Voltage          | $V_C$     | $I_{PP}=65A, t_p=8/20\mu s$ |      | 9    | 10.5 | V       |
| Junction Capacitance      | $C_J$     | $V_R=0V, f=1MHz$            |      | 120  | 150  | pF      |

## Curve Characteristics

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

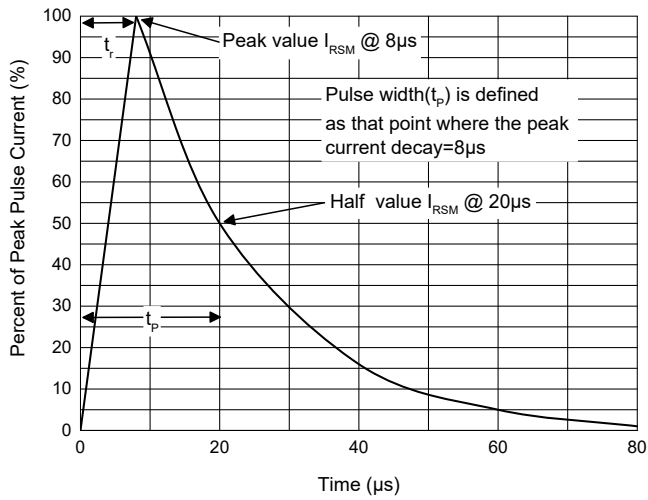


Fig. 2 - Non-Repetitive Peak Pulse Power

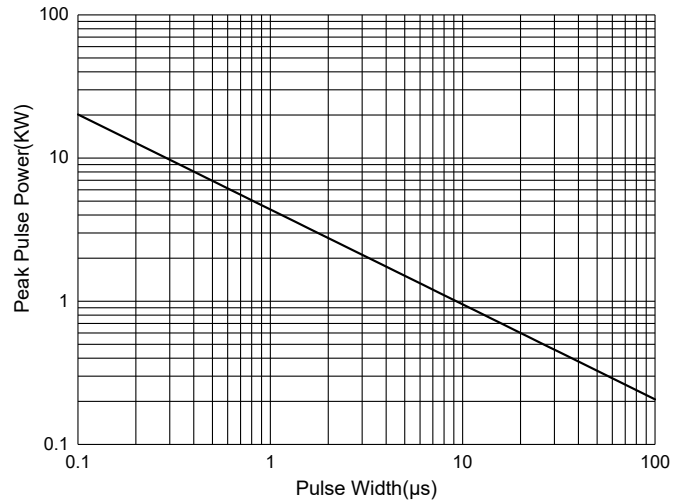


Fig. 3 - Capacitance Characteristics

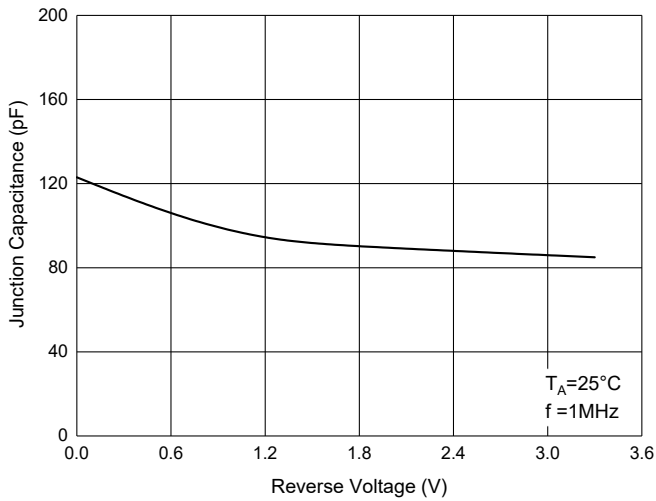


Fig. 4 - Clamping Voltage Characteristics

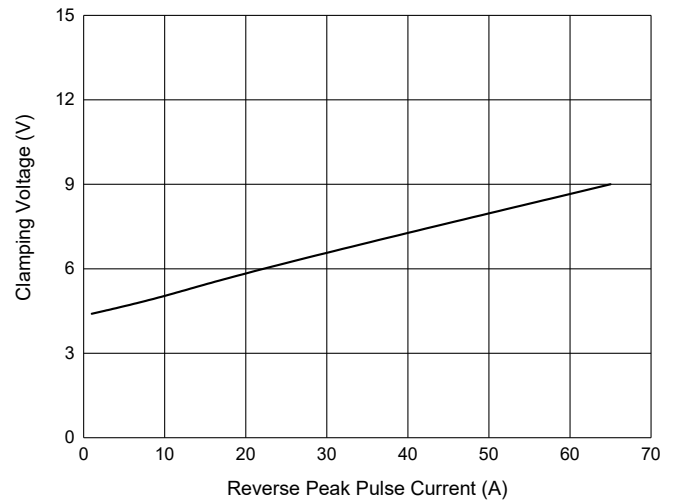
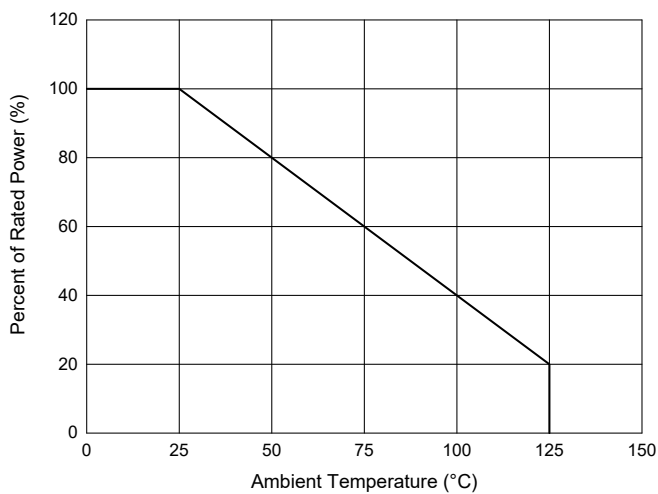


Fig. 5 - Pulse Derating Curve



## Ordering Information

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

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