

### Features

- Solid-state Silicon technology
- Ultra Low Capacitance
- Ultra Low Clamping Voltage
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Halogen Free. "Green" Device (Note 1)
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

### Maximum Ratings

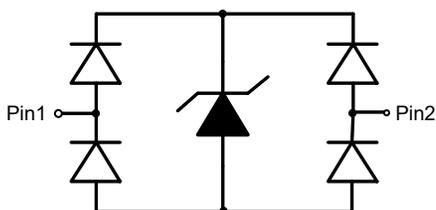
- Operating Junction Temperature Range: -55°C to +125°C
- Storage Temperature Range: -55°C to +150°C

| MCC Part Number | Device Marking |
|-----------------|----------------|
| ESDSBSLC3V3LB   | 3U             |

|                            |                 |                |
|----------------------------|-----------------|----------------|
| IEC61000-4-2(ESD)          | Air Contact     | ±30KV<br>±30KV |
| Peak Pulse Current(8/20µs) | I <sub>PP</sub> | 4A             |
| Peak Pulse Power (8/20µs)  | P <sub>PK</sub> | 34W            |

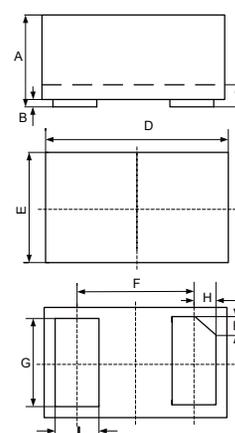
Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

### Internal Structure



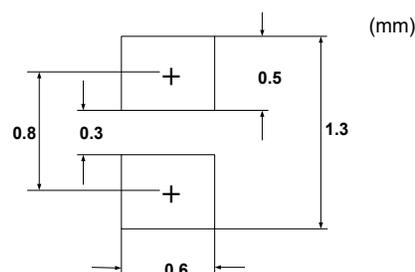
## Snap Back ESD Protection Device

### DFN1006-2



| 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             | $V_{BR}$  | $I_T = 1mA$                | 7    | 10   |      | V        |
| Reverse Leakage Current               | $I_R$     | $V_{RWM}=3.3V$             |      | <1   | 50   | nA       |
| Clamping Voltage <sup>(Note 2)</sup>  | $V_C$     | $I_{PP}=16A, t_p=100ns$    |      | 9    |      | V        |
| Dynamic Resistance <sup>(Note2)</sup> | $R_{DYN}$ |                            |      | 0.25 |      | $\Omega$ |
| Clamping Voltage <sup>(Note 3)</sup>  | $V_C$     | $V_{ESD}=8KV$              |      | 9    |      | V        |
| Clamping Voltage <sup>(Note 4)</sup>  | $V_C$     | $I_{PP}=1A, t_p=8/20\mu s$ |      | 4.5  | 5.5  | V        |
| Clamping Voltage <sup>(Note 4)</sup>  | $V_C$     | $I_{PP}=4A, t_p=8/20\mu s$ |      | 7    | 8.5  | V        |
| Junction Capacitance                  | $C_J$     | $V_R=0V, f=1MHz$           |      | 0.35 | 0.5  | pF       |

Note:

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.
3. Contact Discharge Mode, According to IEC61000-4-2.
4. Non-repetitive Current Pulse, According to IEC61000-4-5.

## Curve Characteristics

Fig. 1 - 8 X 20µs Pulse Waveform

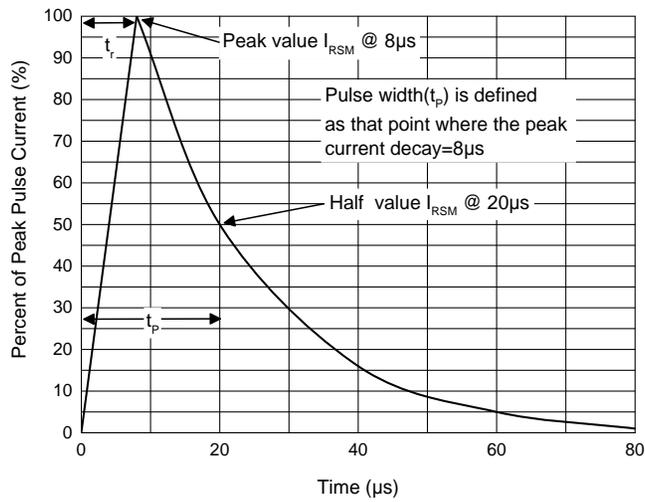


Fig. 2 - Non-Repetitive Peak Pulse Power

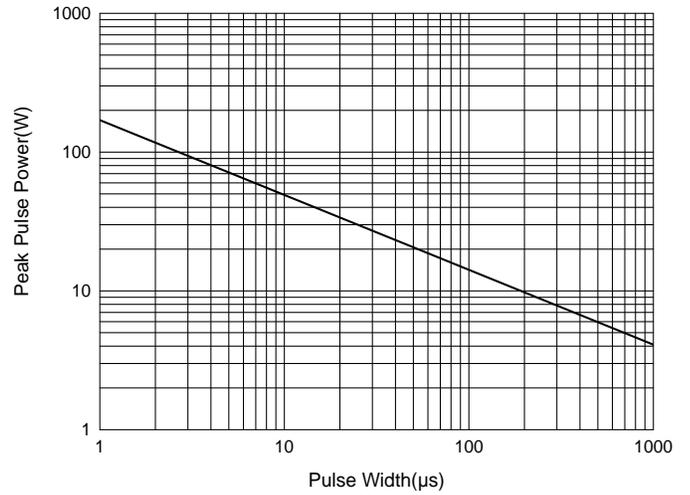


Fig. 3 - Capacitance Characteristics

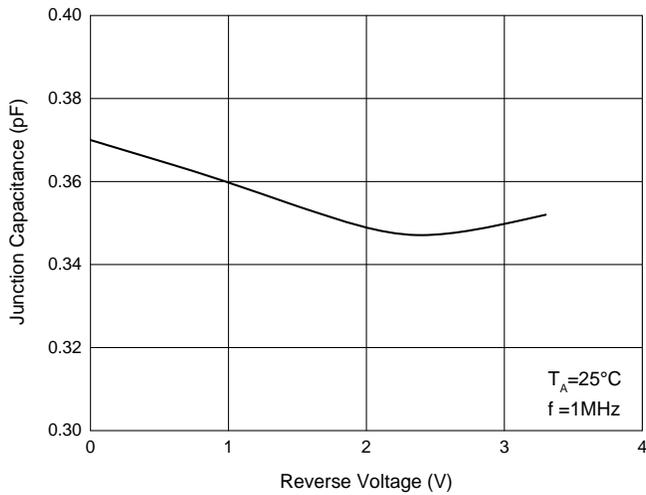


Fig. 4 - Clamping Voltage Characteristics

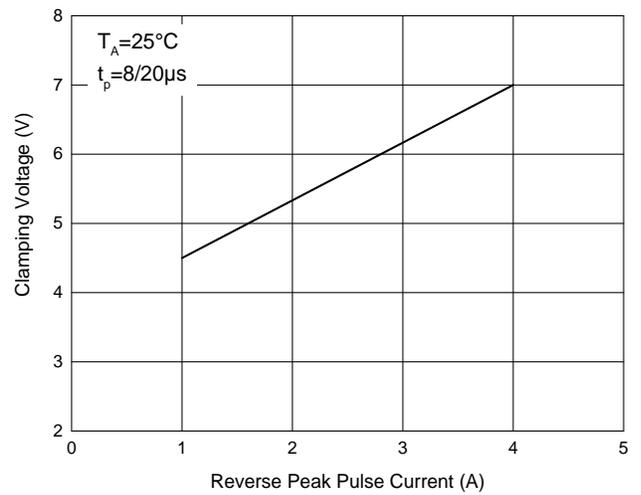


Fig. 5 - Pulse Derating Curve

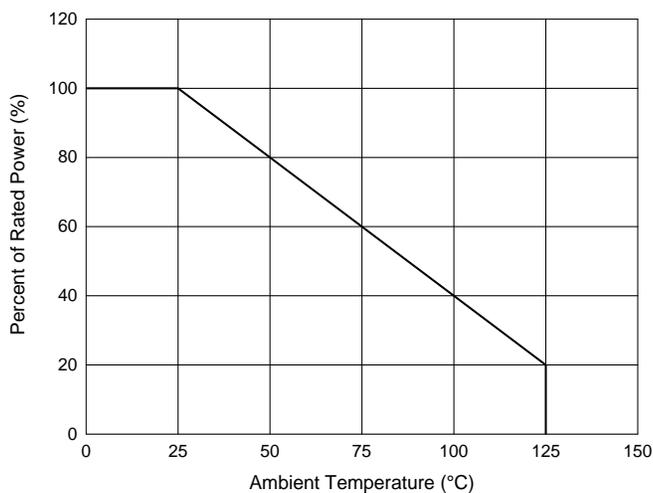
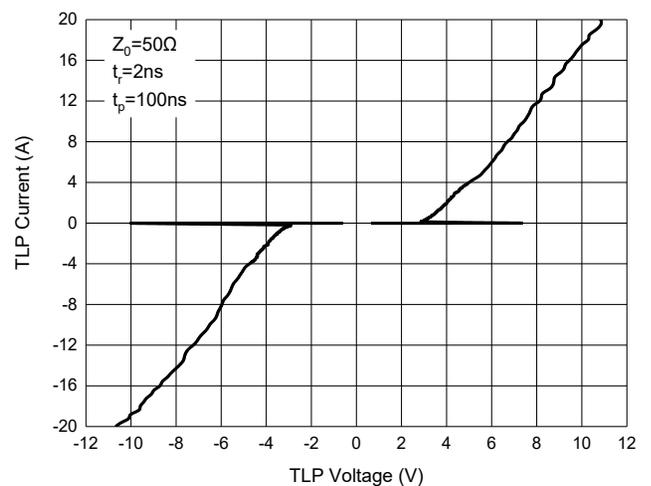


Fig. 6 - TLP Measurement



## Ordering Information

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

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