## Features

- Solid-state Silicon technology
- Ultra Low Capacitance
- Low Clamping Voltage
- 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

| MCC Part Number | Device Marking |
|---|---|
| ESDSB5V5AE2 | A6 |

| | | |
|---|---|---|
| IEC61000-4-2(ESD) | Air<br>Contact | ±30KV<br>±30KV |
| IEC61000−4−4 (EFT) @5/50ns | | 40A |
| Peak Pulse Current(8/20μs) | $I_{PP}$ | 6A |
| Peak Pulse Power (8/20μs) | $P_{PK}$ | 72W |

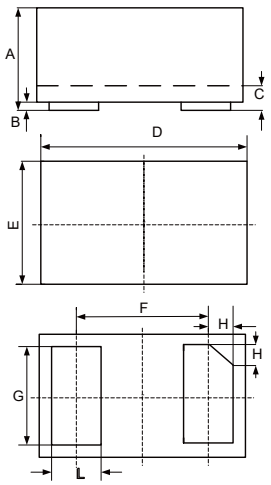
Note：

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**

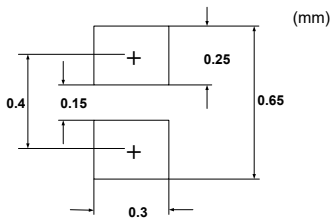
# Snap Back ESD Protection Device

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



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

| Parameter | Symbol | Conditions | Min. | Typ. | Max. | Units |
|---|---|---|---|---|---|---|
| Reverse Working Voltage | $V_{RWM}$ | | | | 5.5 | V |
| Reverse Breakdown Voltage | $V_{BR}$ | $I_T$=1mA | 6.1 | 7 | | V |
| Reverse Holding Voltage | $V_{HOLD}$ | $I_T$=50mA | 6.1 | 7 | | V |
| Reverse Leakage Current | $I_R$ | $V_{RWM}$=5.5V | | | 100 | nA |
| Clamping Voltage(Note 2) | $V_C$ | $I_{PP}$=16A, $t_P$=100ns | | 11 | | V |
| Dynamic Resistance(Note 2) | $R_{DYN}$ | | | 0.28 | | Ω |
| Clamping Voltage(Note 3) | $V_C$ | $V_{ESD}$=8KV | | 11 | | V |
| Clamping Voltage(Note 4) | $V_C$ | $I_{PP}$=1A, $t_P$=8/20μs | | | 8 | V |
| Clamping Voltage(Note 4) | $V_C$ | $I_{PP}$=6A, $t_P$=8/20μs | | | 12 | V |
| Junction Capacitance | $C_J$ | $V_R$=0V, f=1MHz | | 10 | 13 | pF |

Note:

2. TLP Parameter: $Z_0$=50Ω, $t_p$=100ns, $t_r$=2ns, Averaging Window from 60ns to 80ns. RDYN 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.



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## Curve Characteristics

Fig. 1 - 8 X 20μs Pulse Waveform

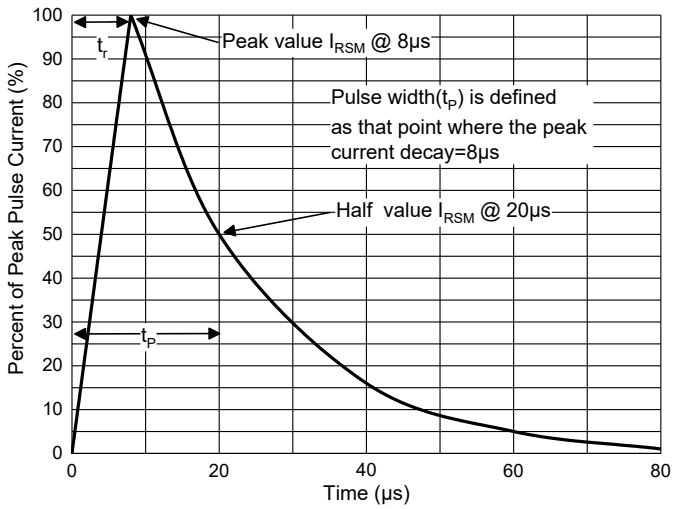



Fig. 2 - Non-Repetitive Peak Pulse Power

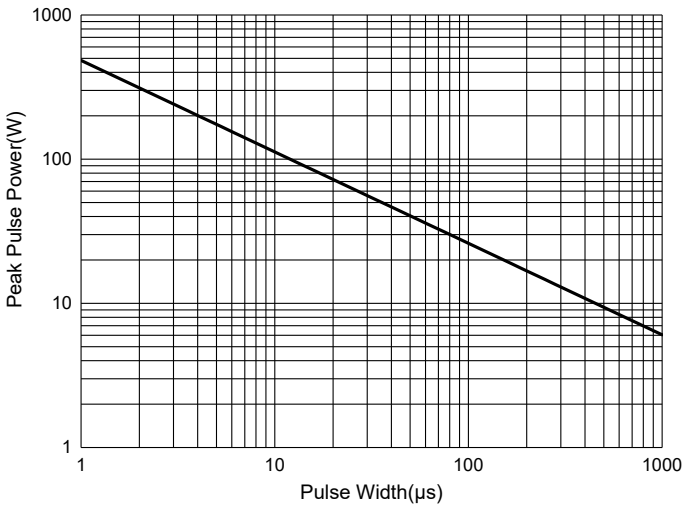



Fig. 3 - Capacitance Characteristics

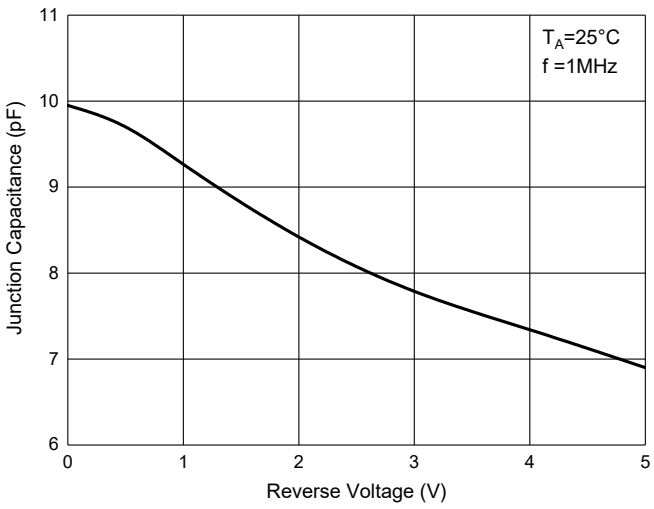



Fig. 4 - Clamping Voltage Characteristics

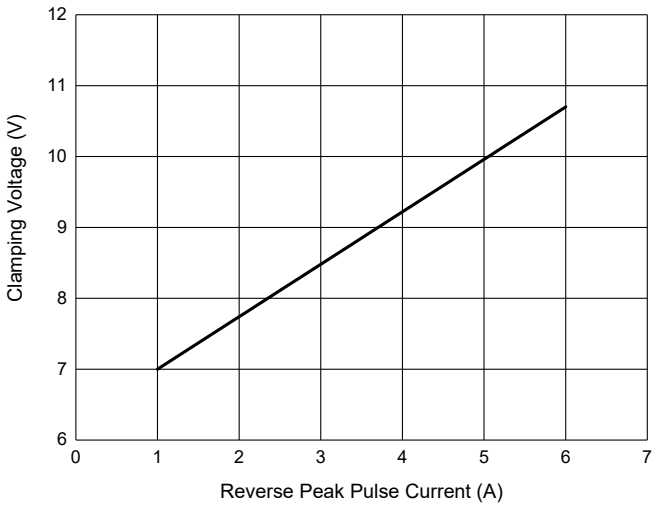



Fig. 5 - Pulse Derating Curve

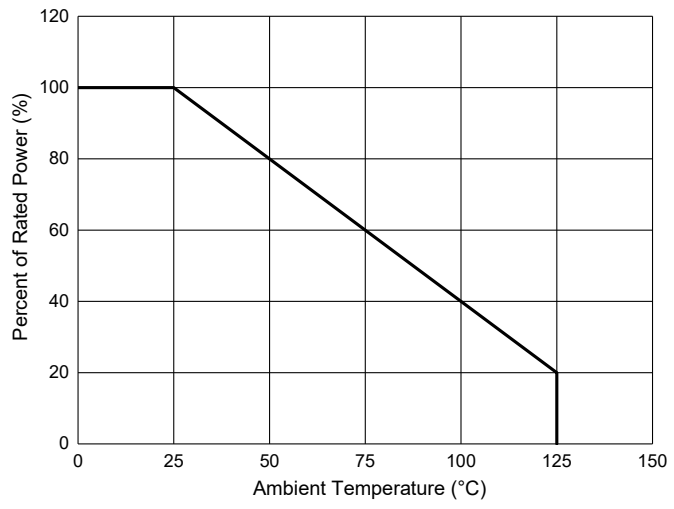
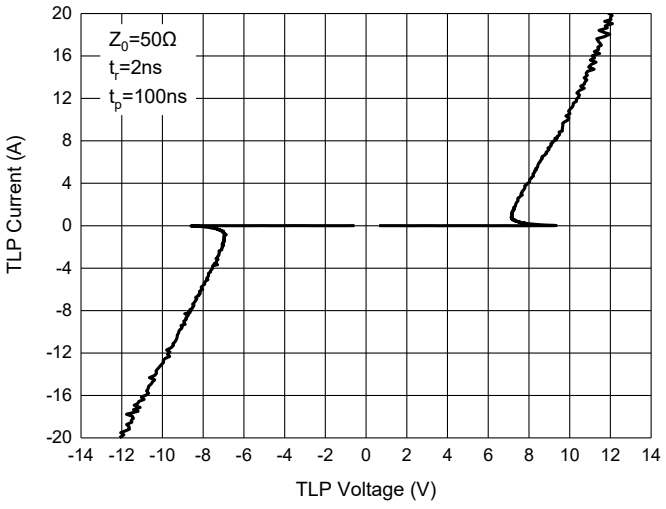



Fig. 6 - TLP Measurement



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## Ordering Information

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


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