

**Features**

- Protects Two Data Lines and One Power Line
- Low Clamping Voltage
- Low Capacitance
- 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**

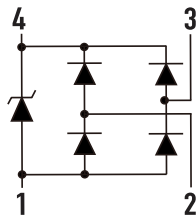
- Operating Junction Temperature Range: -55°C to +125°C
- Storage Temperature Range: -55°C to +150°C

| MCC Part Number | Device Marking |
|-----------------|----------------|
| SR05            | ASR05          |

|                            |                 |                |
|----------------------------|-----------------|----------------|
| IEC61000-4-2(ESD)          | Air Contact     | ±30KV<br>±30KV |
| IEC61000-4-4 (EFT) @5/50ns |                 | 40A            |
| Peak Pulse Current(8/20µs) | I <sub>PP</sub> | 25A            |
| Peak Pulse Power (8/20us)  | P <sub>PK</sub> | 500W           |

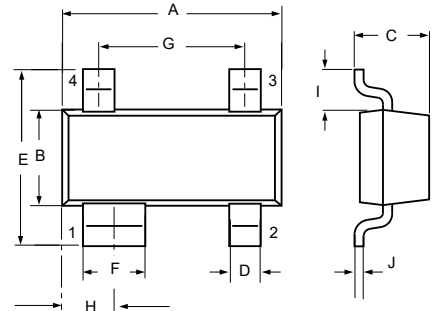
Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

**Internal Structure**



**ESD Protection Device**

**SOT-143**



| DIM | INCHES |       | MM   |      | NOTE |
|-----|--------|-------|------|------|------|
|     | MIN    | MAX   | MIN  | MAX  |      |
| A   | 0.110  | 0.120 | 2.80 | 3.04 |      |
| B   | 0.047  | 0.055 | 1.20 | 1.39 |      |
| C   | 0.031  | 0.048 | 0.80 | 1.22 |      |
| D   | 0.011  | 0.020 | 0.30 | 0.51 |      |
| E   | 0.082  | 0.104 | 2.10 | 2.64 |      |
| F   | 0.029  | 0.037 | 0.76 | 0.94 |      |
| G   | 0.070  | 0.080 | 1.78 | 2.03 |      |
| H   | 0.028  | 0.033 | 0.72 | 0.83 |      |
| I   | 0.015  | 0.024 | 0.40 | 0.60 |      |
| J   | 0.003  | 0.008 | 0.08 | 0.20 |      |

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

| Parameter                 | Symbol    | Conditions  | Min. | Typ. | Max. | Units         |
|---------------------------|-----------|---|------|------|------|---------------|
| Reverse Working Voltage   | $V_{RWM}$ |   |      |      | 5    | V             |
| Reverse Breakdown Voltage | $V_{BR}$  | $I_T = 1\text{mA}$                                      | 6    |      |      | V             |
| Reverse Leakage Current   | $I_R$     | $V_{RWM} = 5\text{V}$                                   |      |      | 0.5  | $\mu\text{A}$ |
| Clamping Voltage          | $V_C$     | $I_{PP} = 1\text{A}, t_p = 8/20\mu\text{s}$             |      |      | 9    | V             |
| Clamping Voltage          | $V_C$     | $I_{PP} = 25\text{A}, t_p = 8/20\mu\text{s}$            |      |      | 20   | V             |
| Junction Capacitance      | $C_J$     | $V_R = 0\text{V}, f = 1\text{MHz},$<br>I/O Pin to GND   |      |      | 6    | pF            |
| Junction Capacitance      | $C_J$     | $V_R = 0\text{V}, f = 1\text{MHz},$<br>Between I/O Pins |      | 3    |      | pF            |

## Curve Characteristics

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

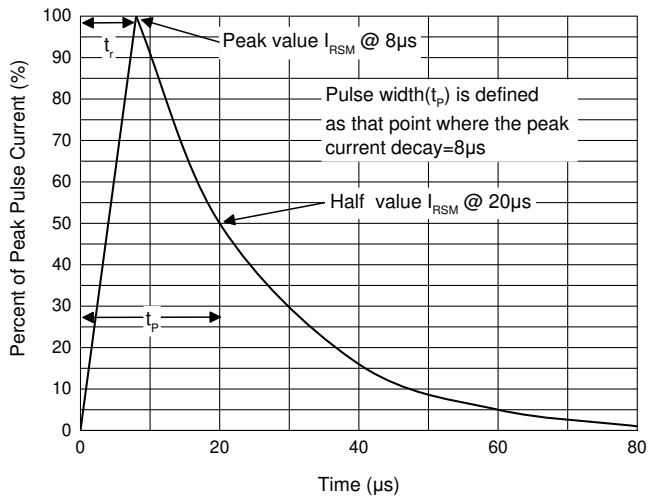


Fig. 2 - Pulse Derating Curve

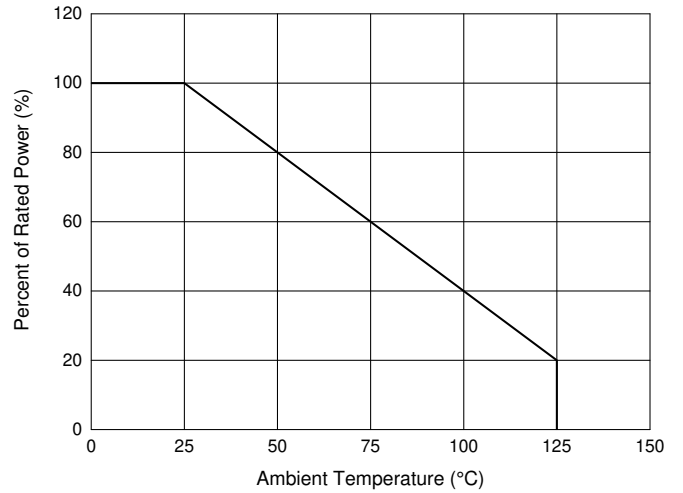


Fig. 3 - Capacitance Characteristics

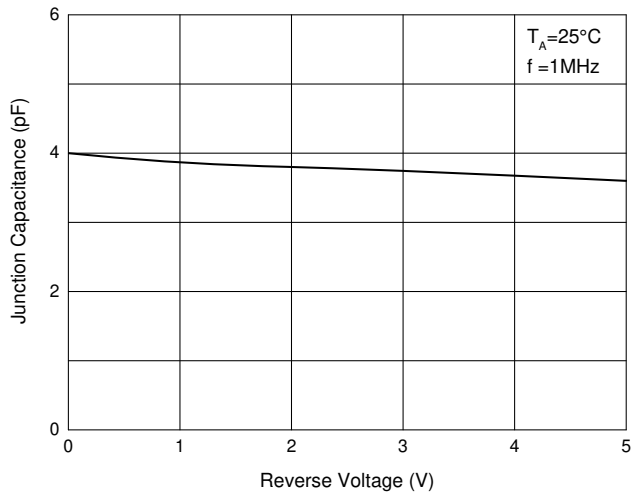
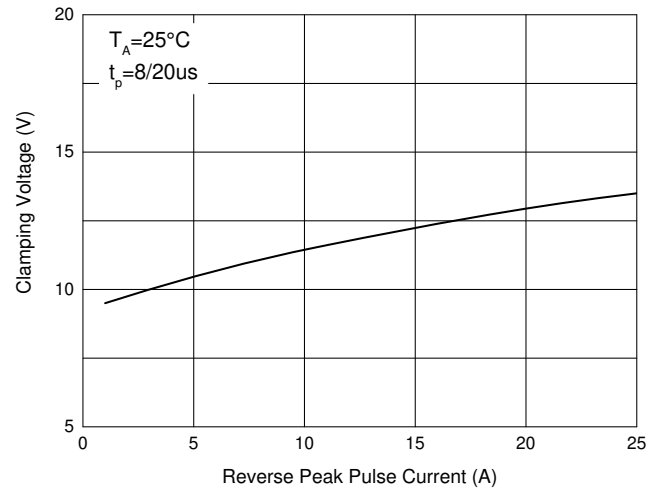


Fig. 4 - Clamping Voltage Characteristics



## Ordering Information

| Device         | Packing               |
|----------------|-----------------------|
| Part Number-TP | Tape&Reel: 3Kpcs/Reel |

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