



P1CH3.3A-AU ~ P1CH36A-AU Series

SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR

Voltage

3.3~36 V

Power

150 W

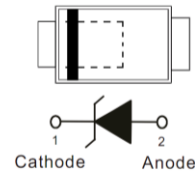
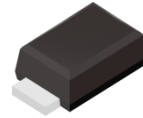
Features

- Ultra thin profile package for space constrained utilization.
- High temperature soldering : 260°C/10 seconds at terminals
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard
- AEC-Q101 qualified

Mechanical Data

- Case: Molded plastic, SOD-323HE
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Color Band denotes cathode end

SOD-323HE



Maximum Ratings and Thermal Characteristics (T_A = 25 °C unless otherwise noted)

| PARAMETER | SYMBOL | LIMIT | UNITS |
|---|----------------------------------|-------------|-------|
| Peak Pulse Power Dissipation(tp = 10/1000 us) | P _{PP} ^(1,2) | 150 | W |
| Peak Pulse Current on tp = 10/1000 us waveform ^(Fig.2) | I _{PPM} ⁽¹⁾ | See table 1 | A |
| ESD IEC61000-4-2(Air) | V _{ESD} | ±30 | kV |
| ESD IEC61000-4-2(Contact) | | ±30 | |
| Typical Thermal Resistance Junction to Ambient | R _{θJA} ⁽³⁾ | 300 | °C/W |
| Operating Junction Temperature Range | T _J | -55~150 | °C |
| Storage Temperature Range | T _{STG} | -55~150 | °C |



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Electrical Characteristics ($T_A = 25^\circ\text{C}$ unless otherwise noted)

| Part Number | V_{RWM} | V_{BR} | | | $I_R@V_{RWM}$ | $V_C@I_{PP}$ | | Marking Code |
|-----------------------------------|-----------|----------|------|-------|---------------|--------------|------|--------------|
| | | Min. | Max. | I_T | | V | A | |
| | V | V | V | mA | μA | | | |
| 150W Transient Voltage Suppressor | | | | | | | | |
| P1CH3.3A-AU | 3.3 | 5.2 | 6 | 10 | 50 | 8.5 | 17.6 | 2E1 |
| P1CH5.0A-AU | 5 | 6.4 | 7 | 10 | 5 | 9.2 | 16.3 | 2E2 |
| P1CH6.0A-AU | 6 | 6.67 | 7.37 | 10 | 5 | 10.3 | 14.5 | 2E3 |
| P1CH6.5A-AU | 6.5 | 7.22 | 7.98 | 10 | 4 | 11.2 | 13.4 | 2E4 |
| P1CH7.0A-AU | 7 | 7.78 | 8.6 | 10 | 4 | 12 | 12.5 | 2E5 |
| P1CH7.5A-AU | 7.5 | 8.33 | 9.21 | 1 | 3 | 12.9 | 11.6 | 2E6 |
| P1CH8.0A-AU | 8 | 8.89 | 9.83 | 1 | 2 | 13.6 | 11 | 2E7 |
| P1CH8.5A-AU | 8.5 | 9.44 | 10.4 | 1 | 2 | 14.4 | 10.4 | 2E8 |
| P1CH9.0A-AU | 9 | 10 | 11.1 | 1 | 1 | 15.4 | 9.7 | 2E9 |
| P1CH10A-AU | 10 | 11.1 | 12.3 | 1 | 1 | 17 | 8.8 | 2EA |
| P1CH11A-AU | 11 | 12.2 | 13.5 | 1 | 1 | 18.2 | 8.2 | 2EC |
| P1CH12A-AU | 12 | 13.3 | 14.7 | 1 | 1 | 19.9 | 7.5 | 2ED |
| P1CH13A-AU | 13 | 14.4 | 15.9 | 1 | 0.5 | 21.5 | 7 | 2EE |
| P1CH14A-AU | 14 | 15.6 | 17.2 | 1 | 0.5 | 23.2 | 6.5 | 2EF |
| P1CH15A-AU | 15 | 16.7 | 18.5 | 1 | 0.5 | 24.4 | 6.1 | 2EH |
| P1CH16A-AU | 16 | 17.8 | 19.7 | 1 | 0.5 | 26 | 5.8 | 2EJ |
| P1CH17A-AU | 17 | 18.9 | 20.9 | 1 | 0.5 | 27.6 | 5.3 | 2EK |
| P1CH18A-AU | 18 | 20 | 22.1 | 1 | 0.5 | 29.2 | 5.1 | 2EL |
| P1CH20A-AU | 20 | 22 | 24.5 | 1 | 0.5 | 32.4 | 4.6 | 2EM |
| P1CH22A-AU | 22 | 24.4 | 26.9 | 1 | 0.5 | 35.5 | 4.2 | 2EN |
| P1CH24A-AU | 24 | 26.7 | 29.5 | 1 | 0.5 | 38.9 | 3.9 | 2EP |
| P1CH26A-AU | 26 | 28.9 | 31.9 | 1 | 0.5 | 42.1 | 3.6 | 2ER |
| P1CH28A-AU | 28 | 31.1 | 34.4 | 1 | 0.5 | 45.4 | 3.3 | 2ET |
| P1CH30A-AU | 30 | 33.3 | 36.8 | 1 | 0.5 | 48.4 | 3.1 | 2EU |
| P1CH33A-AU | 33 | 36.7 | 40.6 | 1 | 0.5 | 53.3 | 2.8 | 2EV |
| P1CH36A-AU | 36 | 40 | 44.2 | 1 | 0.5 | 58.1 | 2.6 | 2EW |

NOTES:

1. Non-repetitive current pulse, per Fig.3 and derated above $T_A = 25^\circ\text{C}$ per Fig.2
2. Mounted on a FR-4 PCB, single-sided copper, with 100cm^2 copper pad area
3. Mounted on a FR4 PCB, single-sided copper, mini pad
4. TVS is a transient protection device, it is strongly recommended not to use as a Zener.



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TYPICAL CHARACTERISTIC CURVES

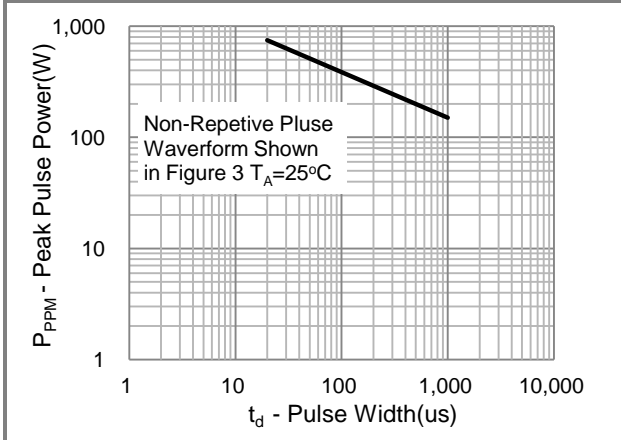


Fig.1 Pulse Power Rating Curve

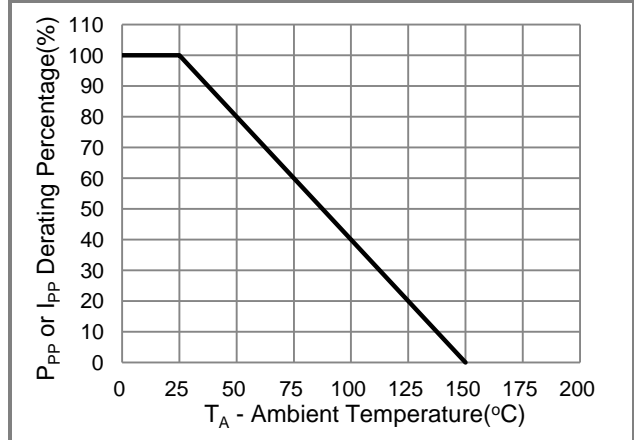


Fig.2 Derating Curve

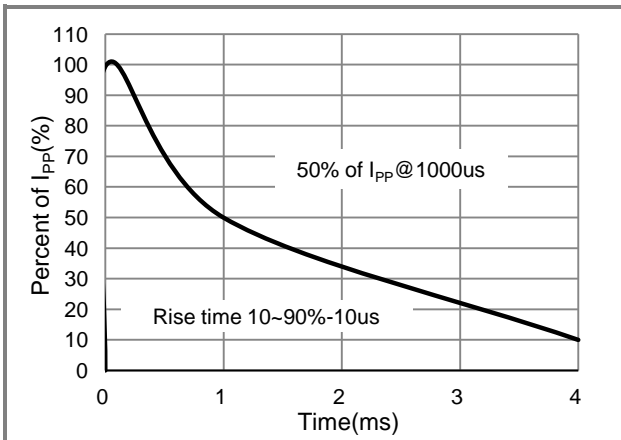


Fig.3 Pulse Waveform

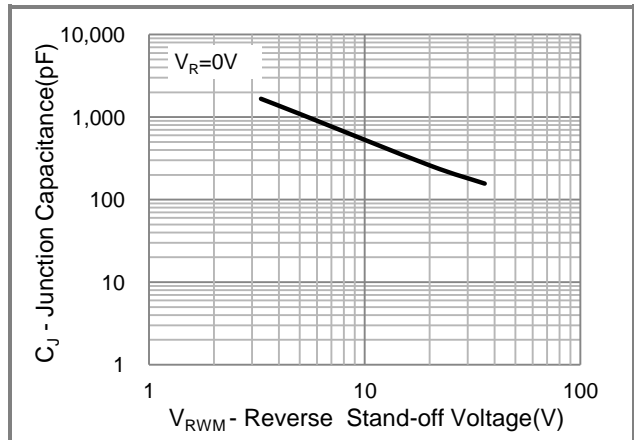


Fig.4 Typical Capacitance

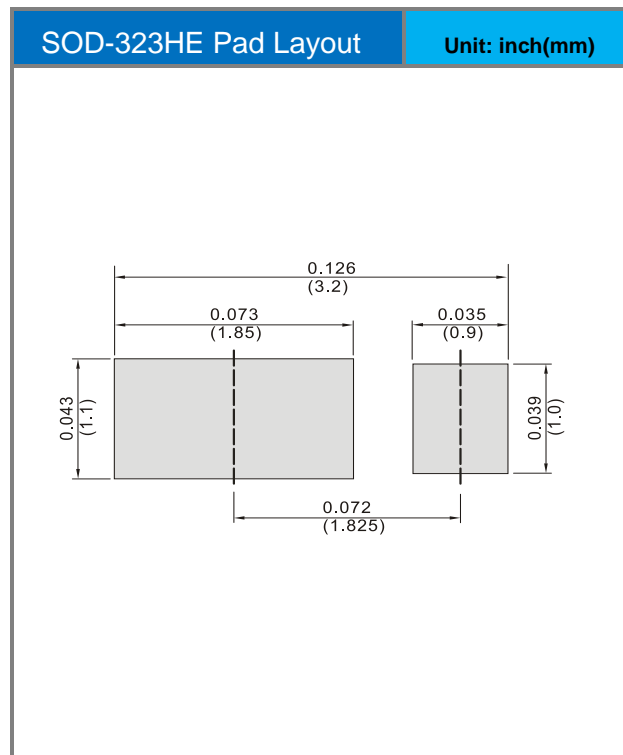
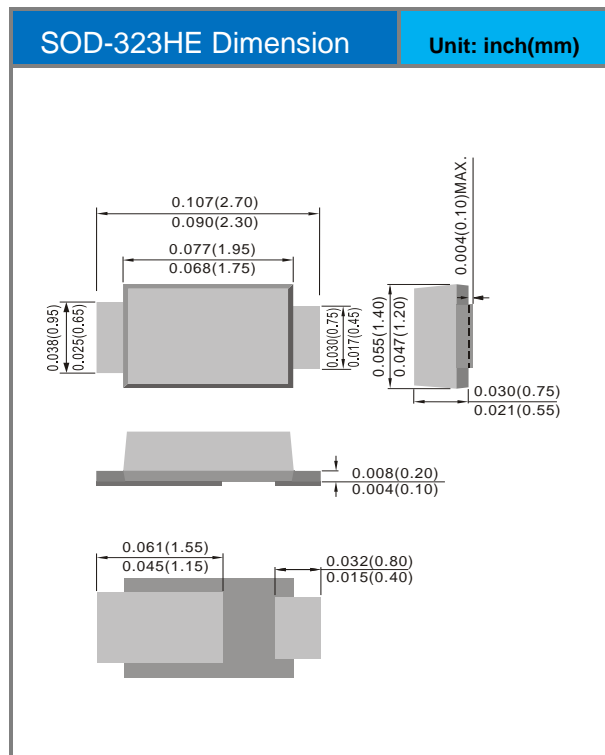


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Part No Packing Code Version

| Part No Packing Code | Package Type | Packing Type | Marking | Version |
|----------------------|--------------|------------------|-----------|--------------|
| P1CHxxxA-AU_R1_000A1 | SOD-323HE | 5K pcs / 7" reel | See Table | Halogen free |

Packaging Information & Mounting Pad Layout





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