

CDSOD323-TxxSC - TVS Diode Series



Electrical & Thermal Characteristics (@ $T_A = 25^\circ\text{C}$ Unless Otherwise Noted)

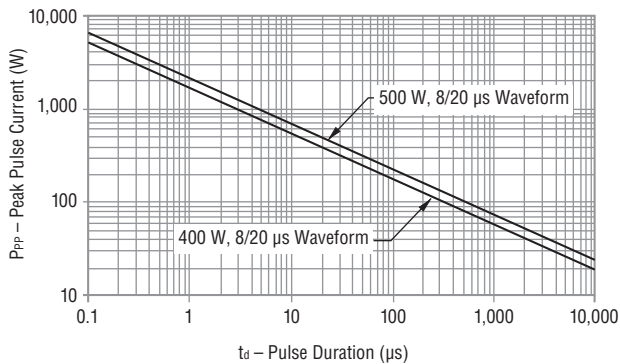
| Parameter | Symbol | CDSOD323- | | | | | | | | Unit |
|---|----------|---------------|---------------|--------------|--------------|---------------|--------------|--------------|--------------|---------------|
| | | Uni-T15S | Bi-T15SC | Uni-T18S | Bi-T18SC | Uni-T24S | Bi-T24SC | Uni-T36S | Bi-T36SC | |
| Min. Breakdown Voltage @ 1 mA | V_{BR} | 16.7 | 16.7 | 20.0 | 20.0 | 26.7 | 26.7 | 40.0 | 40.0 | V |
| Working Peak Voltage | V_M | 15.0 | 15.0 | 18.0 | 18.0 | 24.0 | 24.0 | 36.0 | 36.0 | V |
| Maximum Clamping Voltage @ $I_P = 1\text{ A}$ | V_F | 24.0 | 24.0 | 29.0 | 29.0 | 43.0 | 43.0 | 60.0 | 60.0 | V |
| Typical Clamping Voltage @ $8/20\ \mu\text{s}$ @ I_{PP} | V_C | 30.0 V @ 17 A | 33.0 V @ 12 A | 40.0 V @ 9 A | 40.0 V @ 9 A | 49.0 V @ 12 A | 46.2 V @ 9 A | 75.0 V @ 5 A | 75.0 V @ 5 A | V |
| Maximum Leakage Current @ V_{WM} | I_D | 1 | | | | | | | | μA |
| Typical Capacitance @ 0 V, 1 MHz | C_P | 100 | 40 | 90 | 40 | 88 | 40 | 75 | 35 | pF |

Notes:

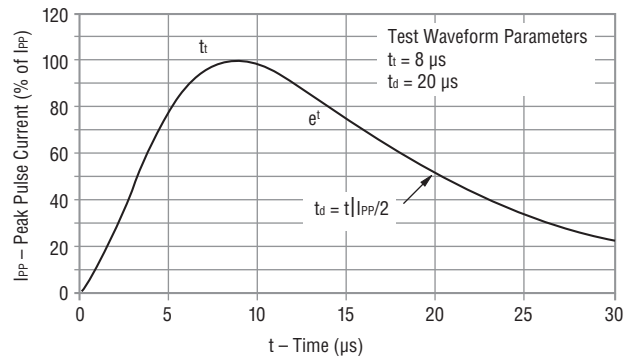
- Part numbers with suffix "C" indicate bidirectional device, i.e. CDSOD323-T05SC.
- For bidirectional devices only, the electrical specifications apply in both directions.

Performance Graphs

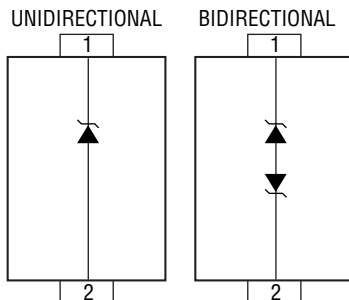
Peak Pulse Power vs. Pulse Time



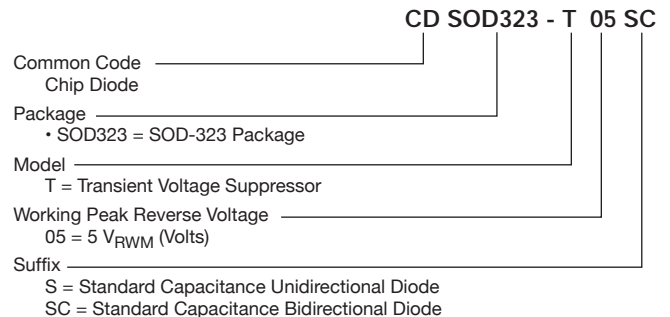
Pulse Waveform



Block Diagram



How to Order



Specifications are subject to change without notice.

Users should verify actual device performance in their specific applications.

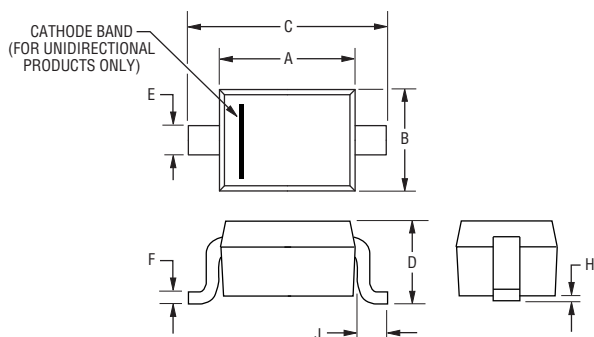
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Product Dimensions

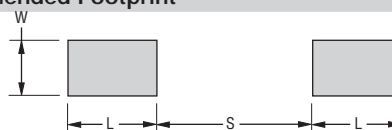
This is a molded JEDEC SOD-323 package with lead free 100 % Sn plating on the terminations. It weighs approximately 30 mg and has a flammability rating of UL 94V-0.



| Dimensions | |
|------------|---------------------------------------|
| A | $\frac{1.60 - 1.90}{(0.063 - 0.075)}$ |
| B | $\frac{1.15 - 1.45}{(0.045 - 0.057)}$ |
| C | $\frac{2.39 - 2.70}{(0.094 - 0.106)}$ |
| D | $\frac{0.92 - 1.14}{(0.036 - 0.045)}$ |
| E | $\frac{0.25 - 0.40}{(0.010 - 0.016)}$ |
| F | $\frac{0.08 - 0.20}{(0.003 - 0.008)}$ |
| H | $\frac{0.13}{(0.005)}$ MAX. |
| J | $\frac{0.30 - 0.45}{(0.012 - 0.018)}$ |

DIMENSIONS: $\frac{\text{MM}}{(\text{INCHES})}$

Recommended Footprint



| Dimensions (Nominal) | |
|----------------------|------------------------|
| L | $\frac{0.80}{(0.031)}$ |
| S | $\frac{1.40}{(0.055)}$ |
| W | $\frac{0.50}{(0.020)}$ |

DIMENSIONS: $\frac{\text{MM}}{(\text{INCHES})}$

Typical Part Marking

Each device has device marking outlined below and the unidirectional devices have an additional Polarity Band indicating the cathode.

| | |
|----------------------|---|
| CDSOD323-T03S | A |
| CDSOD323-T03SC | G |
| CDSOD323-T05S | B |
| CDSOD323-T05SC | H |
| CDSOD323-T08S | C |
| CDSOD323-T08SC | J |
| CDSOD323-T12S | D |
| CDSOD323-T12SC | K |
| CDSOD323-T15S | E |
| CDSOD323-T15SC | L |
| CDSOD323-T18S | O |
| CDSOD323-T18SC | N |
| CDSOD323-T24S | F |
| CDSOD323-T24SC | M |
| CDSOD323-T36S | R |
| CDSOD323-T36SC | T |

Environmental Specifications

| | |
|----------------------------------|----|
| Moisture Sensitivity Level | 1 |
| ESD Classification (HBM) | 3B |

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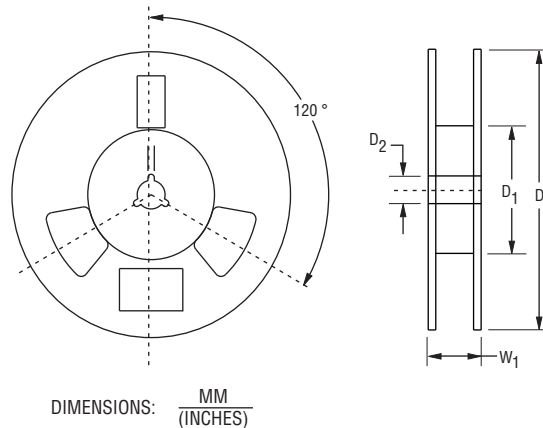
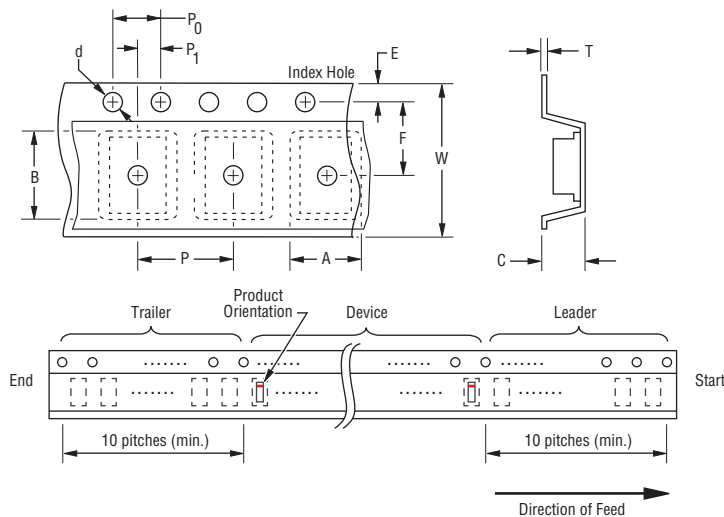
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Packaging Information

The surface mount product is packaged in an 8 mm x 4 mm tape and reel format per EIA-481 standard.



Devices are packed in accordance with EIA standard RS-481-A.

| Item | Symbol | SOD-323 |
|------------------------|----------------|---|
| Carrier Width | A | $\frac{1.55 \pm 0.10}{(0.061 \pm 0.004)}$ |
| Carrier Length | B | $\frac{2.90 \pm 0.10}{(0.114 \pm 0.004)}$ |
| Carrier Depth | C | $\frac{1.35 \pm 0.10}{(0.053 \pm 0.004)}$ |
| Sprocket Hole | d | $\frac{1.55 \pm 0.05}{(0.061 \pm 0.002)}$ |
| Reel Outside Diameter | D | $\frac{178}{(7.008)}$ |
| Reel Inner Diameter | D ₁ | $\frac{80.0}{(3.150)}$ Min. |
| Feed Hole Diameter | D ₂ | $\frac{13.0 \pm 0.20}{(0.512 \pm 0.008)}$ |
| Sprocket Hole Position | E | $\frac{1.75 \pm 0.10}{(0.069 \pm 0.004)}$ |
| Punch Hole Position | F | $\frac{3.50 \pm 0.05}{(0.138 \pm 0.002)}$ |
| Punch Hole Pitch | P | $\frac{4.00 \pm 0.10}{(0.157 \pm 0.004)}$ |
| Sprocket Hole Pitch | P ₀ | $\frac{4.00 \pm 0.10}{(0.157 \pm 0.004)}$ |
| Embossment Center | P ₁ | $\frac{2.00 \pm 0.05}{(0.079 \pm 0.002)}$ |
| Overall Tape Thickness | T | $\frac{0.20 \pm 0.10}{(0.008 \pm 0.004)}$ |
| Tape Width | W | $\frac{8.00 \pm 0.20}{(0.315 \pm 0.008)}$ |
| Reel Width | W ₁ | $\frac{13.5}{(0.531)}$ Max. |
| Quantity per Reel | -- | 3,000 |

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REV. 09/19

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