

EVVOSEMI[®]

THINK CHANGE DO



ESD



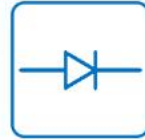
TVS



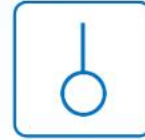
MOS



LDO



Diode



Sensor



DC-DC

Product Specification

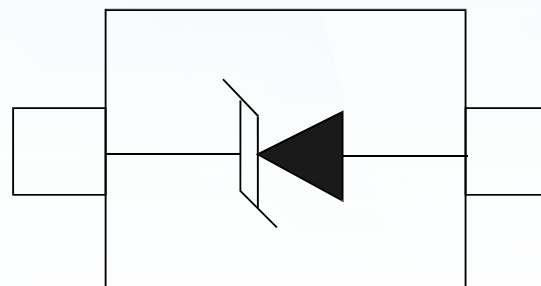
| | | |
|--------------|-------------|----------|
| ▶ Domestic | Part Number | SD05.TCT |
| ▶ Overseas | Part Number | SD05.TCT |
| ▶ Equivalent | Part Number | SD05.TCT |

EV is the abbreviation of name EVVO

Bi-directional TVS Diode

Features

- 360W peak pulse power ($t_p = 8/20\mu s$)
- Unidirectional configurations
- Solid-state silicon-avalanche technology
- Low clamping voltage
- Low leakage current
- IEC 61000-4-2 $\pm 30kV$ contact $\pm 30kV$ air
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 20A (8/20 μs)



SOD-323

Applications

- USB Vbus,
- Power Line
- Power management

Mechanical Data

- SOD323 package
- Molding compound flammability rating: UL94V-0
- Packaging: Tape and Reel
- RoHS/WEEE Compliant

Absolute Maximum Rating

| Rating | Symbol | Value | Units |
|--|-----------|----------------|-------|
| Peak Pulse Power ($t_p = 8/20\mu s$) | P_{PP} | 360 | W |
| Peak Pulse Current ($t_p = 8/20\mu s$) (note1) | I_{pp} | 20 | A |
| ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact) | V_{ESD} | 30 30 | kV |
| Lead Soldering Temperature | T_L | 260(10seconds) | °C |
| Junction Temperature | T_J | -55 to + 150 | °C |
| Storage Temperature | T_{stg} | -55 to + 150 | °C |

BI-directional TVS Diode
Electrical Characteristics

| Parameter | Symbol | Conditions | Min | Typical | Max | Units |
|---------------------------|-----------|-----------------------------|-----|---------|-----|---------|
| Reverse Stand-Off Voltage | V_{RWM} | | | | 5.0 | V |
| Reverse Breakdown Voltage | V_{BR} | $I_T=1mA$ | 6.0 | | | V |
| Reverse Leakage Current | I_R | $V_{RWM}=5V, T=25^{\circ}C$ | | | 1 | μA |
| Clamping Voltage | V_C | $I_{PP}=20A, t_p=8/20\mu s$ | | 17 | 19 | V |
| Junction Capacitance | C_j | $V_R = 0V, f = 1MHz$ | | 120 | 135 | pF |

Bi-directional TVS Diode

Typical Characteristics

Figure 1: Peak Pulse Power vs. Pulse Time

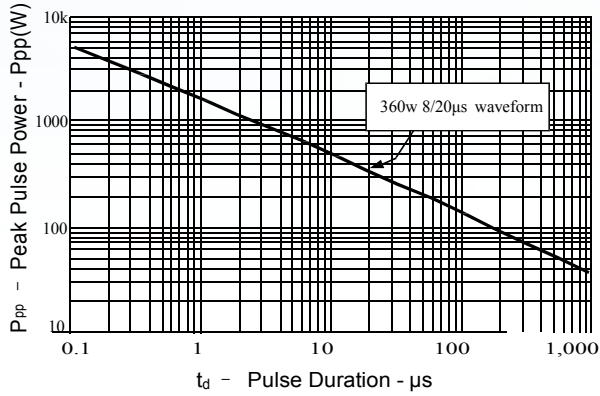


Figure 2: Power Derating Curve

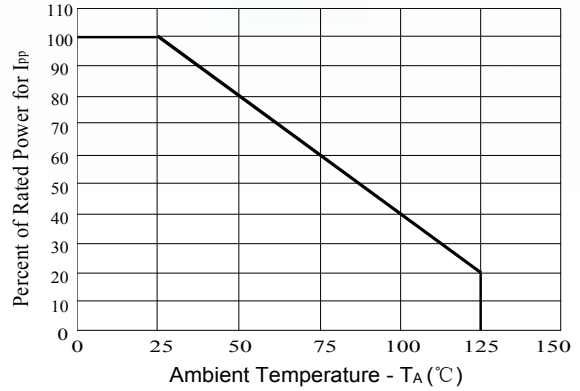


Figure 3: Pulse Waveform

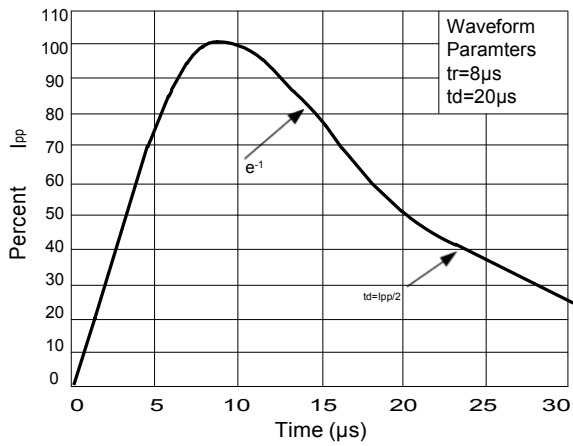
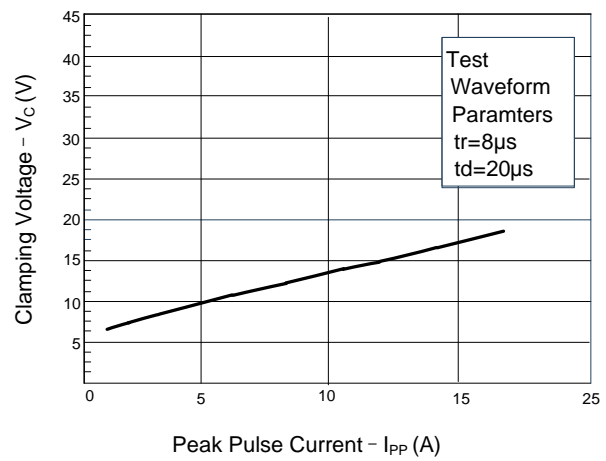
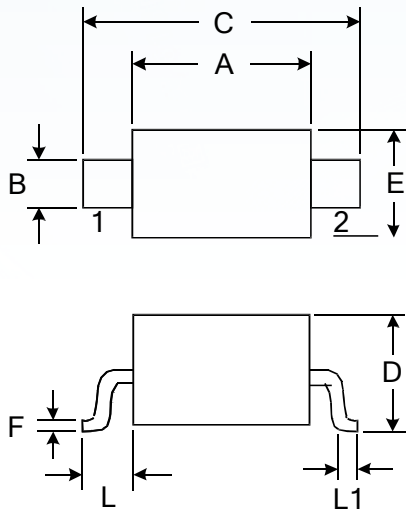


Figure 4: Clamping Voltage vs. Ipp



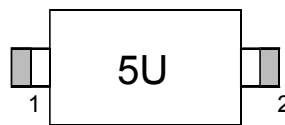
Bi-directional TVS Diode

Outline Drawing – SOD323



| DIMENSIONS | | | | |
|------------|------------|-------|----------|-------|
| SYMBOL | MILLIMETER | | INCHES | |
| | MIN | MAX | MIN | MAX |
| A | 1.600 | 1.800 | 0.063 | 0.071 |
| B | 0.250 | 0.350 | 0.010 | 0.014 |
| C | 2.500 | 2.700 | 0.098 | 0.106 |
| D | | 1.000 | | 0.039 |
| E | 1.200 | 1.400 | 0.047 | 0.055 |
| F | 0.080 | 0.150 | 0.003 | 0.006 |
| L | 0.475 REF | | 0.019REF | |
| L1 | 0.250 | 0.400 | 0.010 | 0.016 |
| H | 0.000 | 0.100 | 0.000 | 0.004 |

Marking



Ordering information

| Order code | Package | Base qty | Delivery mode |
|------------|---------|----------|---------------|
| SD05.TCT | SOD-323 | 3000 | Tape and reel |

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