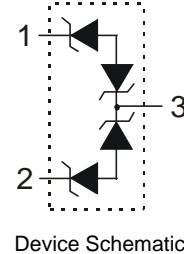
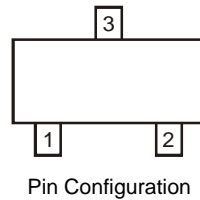
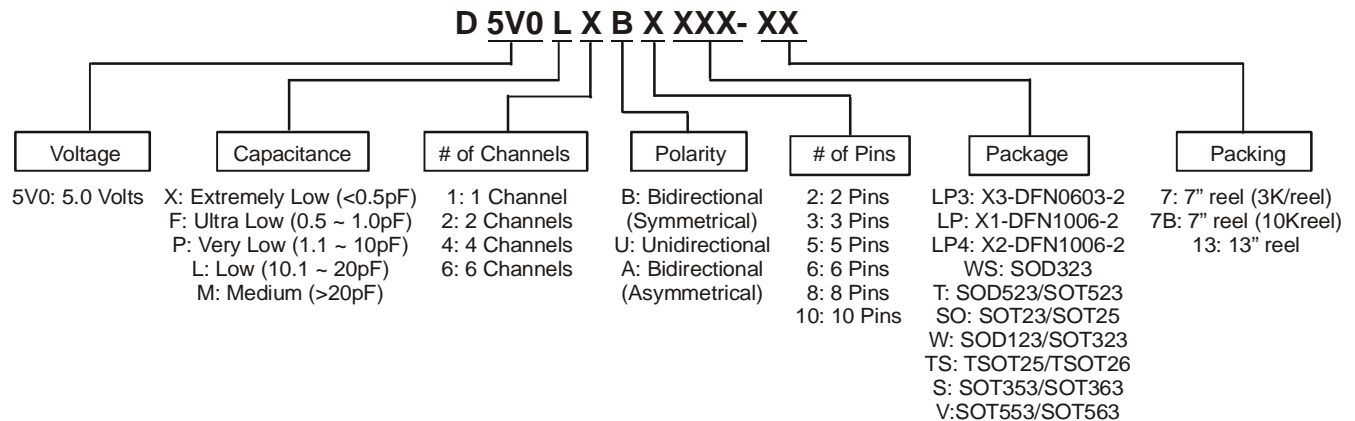


2 CHANNEL LOW CAPACITANCE BI-DIRECTIONAL TVS ARRAY
Features

- Provides ESD Protection per IEC 61000-4-2 Standard:
Air – ±30kV, Contact – ±30kV
- 2 Channels of Bi-directional ESD Protection
- Low Channel Input Capacitance
- Typically Used at Portable Electronics, Cellular Handsets and Communication Systems
- **Lead Free/RoHS Compliant (Note 1)**
- **“Green” Device (Note 2)**

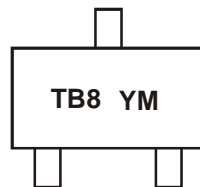
Mechanical Data

- Case: SOT523
- Case Material: Molded Plastic, “Green” Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Matte Tin Finish annealed over Alloy 42 leadframe (Lead Free Plating). Solderable per MIL-STD-202, Method 208
- Weight: 0.002 grams (approximate)


Ordering Information (Note 3)


| Part Number | Case | Packaging |
|-------------|--------|------------------|
| D5V0L2B3T-7 | SOT523 | 3000/Tape & Reel |

- Notes: 1. EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant. No purposely added lead. Halogen and Antimony free.
2. Diodes Inc.'s "Green" policy can be found on our website at <http://www.diodes.com>.
3. For packaging details, go to our website at <http://www.diodes.com>.

Marking Information


TB8 = Product Type Marking Code
YM = Date Code Marking
Y = Year (ex: Z = 2012)
M = Month (ex: 9 = September)

Date Code Key

| Year | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|------|------|------|------|------|------|------|------|
| Code | Y | Z | A | B | C | D | E |

| Month | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Code | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | O | N | D |

Maximum Ratings @T_A = 25°C unless otherwise specified

| Characteristic | Symbol | Value | Unit | Conditions |
|------------------------------------|--------------------------|-------|------|------------------------|
| Peak Pulse Power Dissipation | P _{PP} | 84 | W | 8/20μs, Per Fig. 1 |
| Peak Pulse Current | I _{PP} | 6 | A | 8/20μs, Per Fig. 1 |
| ESD Protection – Contact Discharge | V _{ESD_Contact} | ±30 | kV | Standard IEC 61000-4-2 |
| ESD Protection – Air Discharge | V _{ESD_Air} | ±30 | kV | Standard IEC 61000-4-2 |

Thermal Characteristics

| Characteristic | Symbol | Value | Unit |
|--|------------------|-------------|------|
| Package Power Dissipation (Note 5) | P _D | 200 | mW |
| Thermal Resistance, Junction to Ambient (Note 5) | R _{θJA} | 625 | °C/W |
| Operating Junction Temperature Range | T _J | -65 to +150 | °C |
| Storage Temperature Range | T _{STG} | -65 to +150 | °C |

Electrical Characteristics @T_A = 25°C unless otherwise specified

| Characteristic | Symbol | Min | Typ | Max | Unit | Test Conditions |
|----------------------------------|------------------|-----|------|------|------|---|
| Reverse Working Voltage | V _{RWM} | - | - | 5.0 | V | - |
| Breakdown Voltage | V _{BR} | 6 | 7 | 8 | V | I _R = 1.0mA |
| Reverse Leakage Current (Note 6) | I _R | - | 10 | 100 | nA | V _{RWM} = 5V |
| Clamping Voltage (Note 4) | V _{CL} | - | 7.0 | 9.0 | V | I _{pp} = 1A, t _p = 8/20μs |
| | | - | 8.7 | 10.7 | V | I _{pp} = 3A, t _p = 8/20μs |
| | | - | 10.5 | 12.0 | V | I _{pp} = 5A, t _p = 8/20μs |
| | | - | 11.5 | 14.0 | V | I _{pp} = 6A, t _p = 8/20μs |
| Differential Resistance | R _{DIF} | - | 0.2 | - | Ω | I _R = 1A, t _p = 8/20μs |
| Channel Input Capacitance | C _T | - | 15 | 20 | pF | V _{IN} = 0 V, f = 1MHz (Channel to Pin 3) |

- Notes:
4. Measured from pin 1 to 3 or pin 2 to 3; Non-repetitive current pulse per Fig. 1.
 5. Device mounted on FR-4 PCB pad layout (2oz copper) as shown on Diodes, Inc. suggested pad layout AP02001, which can be found on our website at <http://www.diodes.com>.
 6. Short duration pulse test used to minimize self-heating effect.

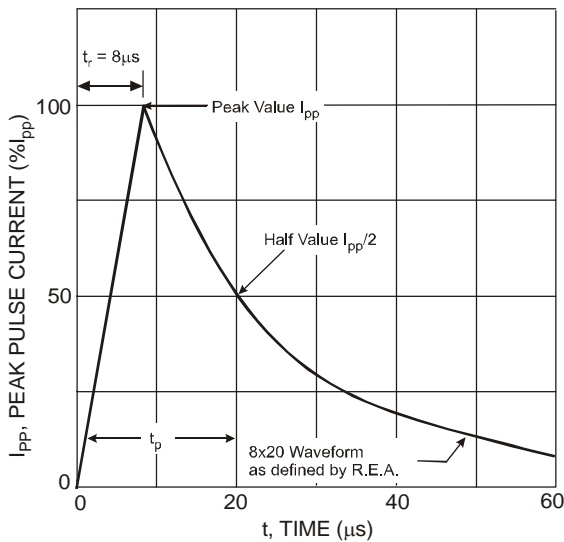


Fig. 1 Typical 8 x 20μs Pulse Waveform

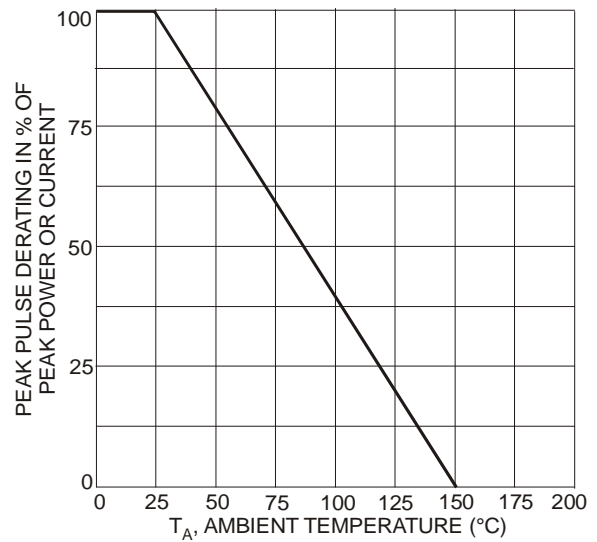


Fig. 2 Pulse Derating Curve

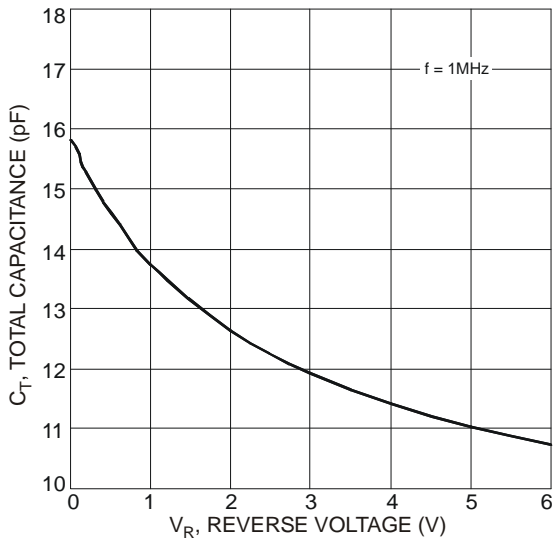


Fig. 3 Typical Total Capacitance vs. Reverse Voltage

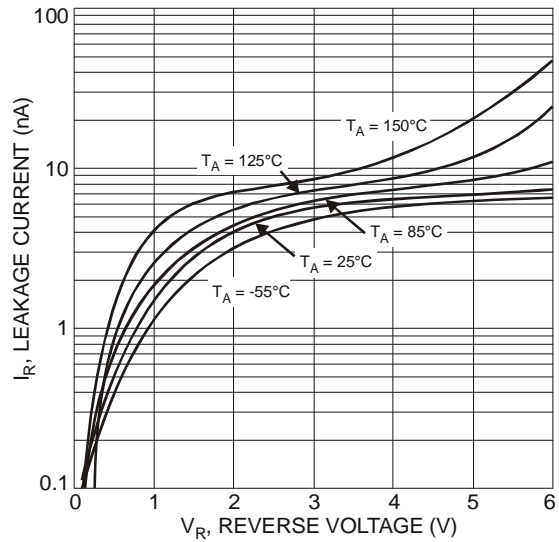
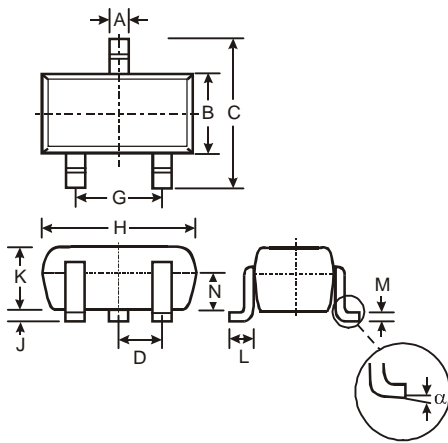


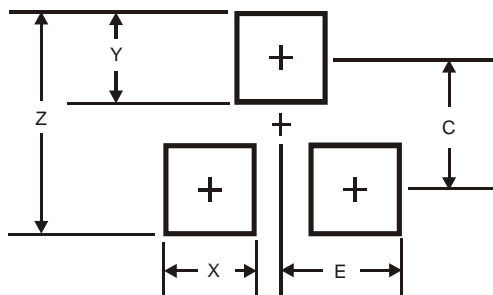
Fig. 4 Typical Reverse Characteristics

Package Outline Dimensions



| SOT523 | | | |
|----------------------|------|------|------|
| Dim | Min | Max | Typ |
| A | 0.15 | 0.30 | 0.22 |
| B | 0.75 | 0.85 | 0.80 |
| C | 1.45 | 1.75 | 1.60 |
| D | — | — | 0.50 |
| G | 0.90 | 1.10 | 1.00 |
| H | 1.50 | 1.70 | 1.60 |
| J | 0.00 | 0.10 | 0.05 |
| K | 0.60 | 0.80 | 0.75 |
| L | 0.10 | 0.30 | 0.22 |
| M | 0.10 | 0.20 | 0.12 |
| N | 0.45 | 0.65 | 0.50 |
| α | 0° | 8° | — |
| All Dimensions in mm | | | |

Suggested Pad Layout



| Dimensions | Value (in mm) |
|------------|---------------|
| Z | 1.8 |
| X | 0.4 |
| Y | 0.51 |
| C | 1.3 |
| E | 0.7 |

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