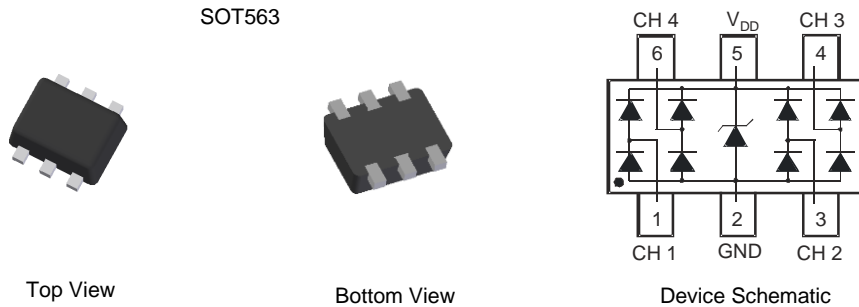


**4 CHANNEL LOW CAPACITANCE TVS DIODE ARRAY**
**Features**

- IEC 61000-4-2 (ESD): Air – ±15kV, Contact – ±8kV
- 4 Channels of ESD Protection
- Low Channel Input Capacitance of 0.5pF Typical
- Typically Used at High Speed Ports such as USB 2.0, IEEE1394, Serial ATA, DVI, HDMI, PCI
- **Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

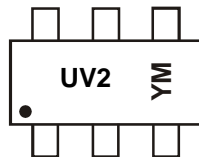
**Mechanical Data**

- Case: SOT563
- 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 Copper Leadframe (Lead-Free Plating) Solderable per MIL-STD-202, Method 208 (63)
- Weight: 0.003 grams (Approximate)


**NEW PRODUCT**
**Ordering Information** (Note 4)

| Product     | Compliance | Marking | Reel Size (inches) | Tape Width (mm) | Quantity per Reel |
|-------------|------------|---------|--------------------|-----------------|-------------------|
| D5V0F4U6V-7 | Standard   | UV2     | 7                  | 8               | 3,000/Tape & Reel |

- Notes:
1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant.
  2. See [http://www.diodes.com/quality/lead\\_free.html](http://www.diodes.com/quality/lead_free.html) for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
  3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
  4. For packaging details, go to our website at <http://www.diodes.com/products/packages.html>.

**Marking Information**


UV2 = Product Type Marking Code  
 YM = Date Code Marking  
 Y = Year (ex: A = 2013)  
 M = Month (ex: 9 = September)

**Date Code Key**

| Year | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|------|------|------|------|------|------|------|------|
| Code | A    | B    | C    | D    | E    | F    | G    |

| 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** (@ $T_A = +25^\circ\text{C}$ , unless otherwise specified.)

| Characteristic                     | Symbol             | Value    | Unit | Conditions                        |
|------------------------------------|--------------------|----------|------|-----------------------------------|
| Peak Pulse Current                 | $I_{PP}$           | 3        | A    | 8/20 $\mu\text{s}$ , Per Figure 3 |
| ESD Protection – Contact Discharge | $V_{ESD\_Contact}$ | $\pm 8$  | kV   | Standard IEC 61000-4-2            |
| ESD Protection – Air Discharge     | $V_{ESD\_Air}$     | $\pm 15$ | kV   | Standard IEC 61000-4-2            |

**Thermal Characteristics**

| Characteristic                                   | Symbol          | Value       | Unit               |
|--------------------------------------------------|-----------------|-------------|--------------------|
| Power Dissipation (Note 5)                       | $P_D$           | 380         | mW                 |
| Thermal Resistance, Junction to Ambient (Note 5) | $R_{\theta JA}$ | 327         | $^\circ\text{C/W}$ |
| Operating and Storage Temperature Range          | $T_J, T_{STG}$  | -65 to +150 | $^\circ\text{C}$   |

**Electrical Characteristics** (@ $T_A = +25^\circ\text{C}$  unless otherwise specified)

| Characteristic                                         | Symbol    | Min | Typ | Max  | Unit     | Test Conditions                             |
|--------------------------------------------------------|-----------|-----|-----|------|----------|---------------------------------------------|
| Reverse Working Voltage                                | $V_{RWM}$ | —   | —   | 5.5  | V        | —                                           |
| Reverse Current (Note 6)                               | $I_R$     | —   | —   | 200  | nA       | $V_R = 5.5\text{V}$                         |
| Reverse Breakdown Voltage                              | $V_{BR}$  | 6.0 | —   | —    | V        | $I_R = 1\text{mA}$                          |
| Reverse Clamping Voltage, Positive Transients (Note 7) | $V_{CL}$  | —   | 10  | 12   | V        | $I_{PP} = 1\text{A}, t_p = 8/20\mu\text{s}$ |
| Dynamic Resistance                                     | $R_{DYN}$ | —   | 1.0 | —    | $\Omega$ | $I_R = 1\text{A}, t_p = 8/20\mu\text{s}$    |
| Capacitance (Note 8)                                   | $C_T$     | —   | 0.4 | 0.65 | pF       | $V_R = 2.5\text{V}, f = 1\text{MHz}$        |
|                                                        |           | —   | 0.5 | —    | pF       | $V_R = 0\text{V}, f = 1\text{MHz}$          |

- Notes:
- 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>.
  - Short duration pulse test used to minimize self-heating effect.
  - Clamping voltage value is based on an 8x20 $\mu\text{s}$  peak pulse current ( $I_{PP}$ ) waveform.
  - Measured from any CH to GND.
  - For information on the impact of Diodes' USB 2.0 compatible ESD protectors on signal integrity including eye diagram plots, please refer to AN77 at the following URL: [http://www.diodes.com/destdtools/appnote\\_dnote.html](http://www.diodes.com/destdtools/appnote_dnote.html).

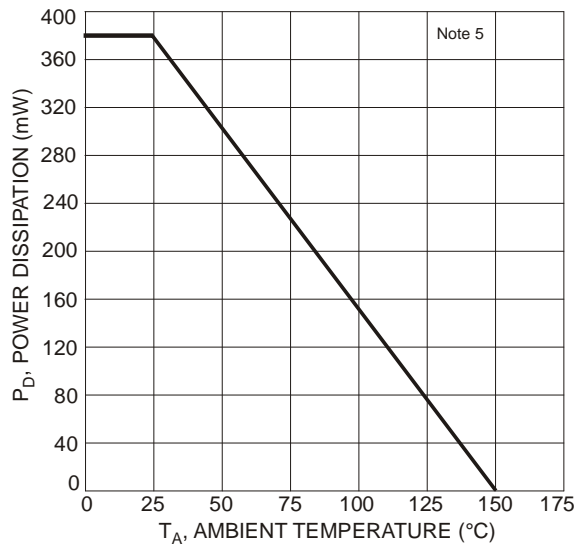


Figure 1 Power Derating Curve

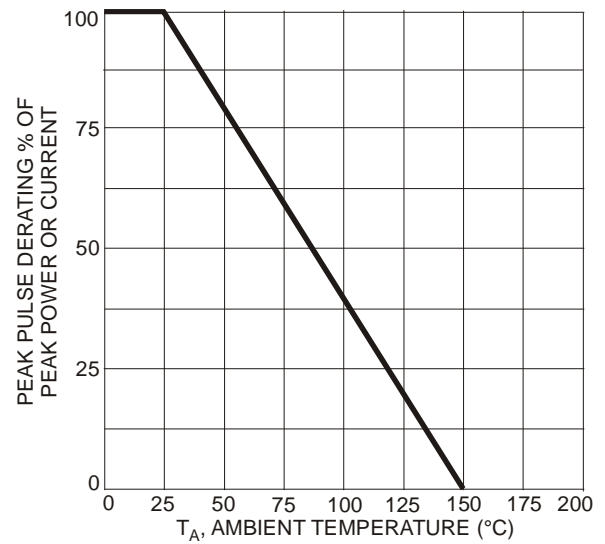


Figure 2 Pulse Derating Curve

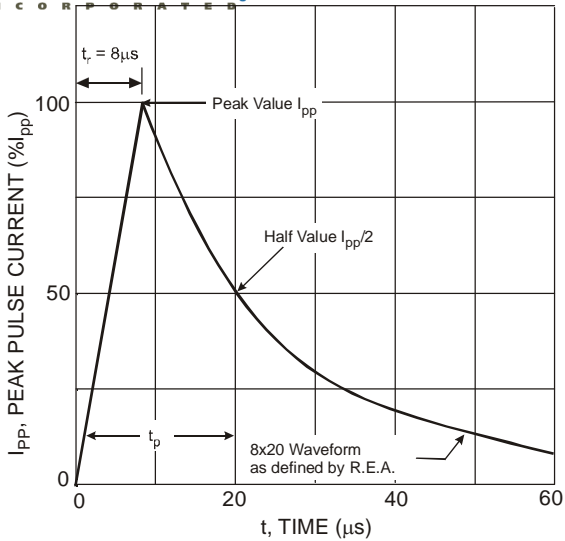


Figure 3 Pulse Waveform

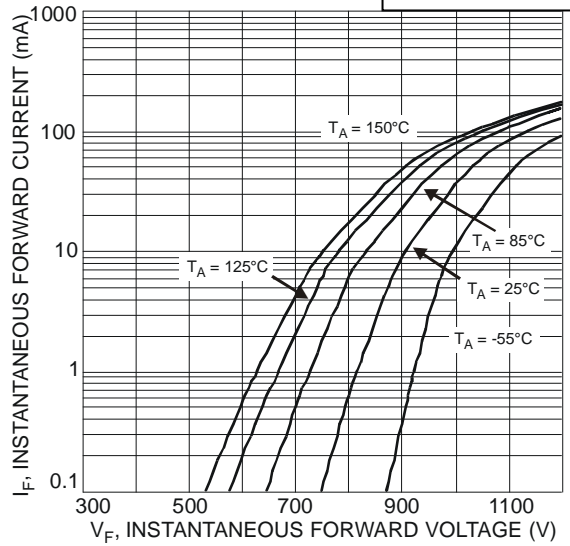


Figure 4 Typical Forward Characteristics

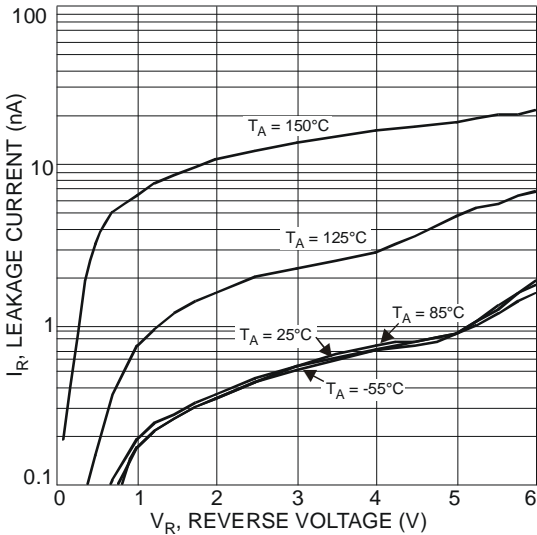


Figure 5 Typical Reverse Characteristics

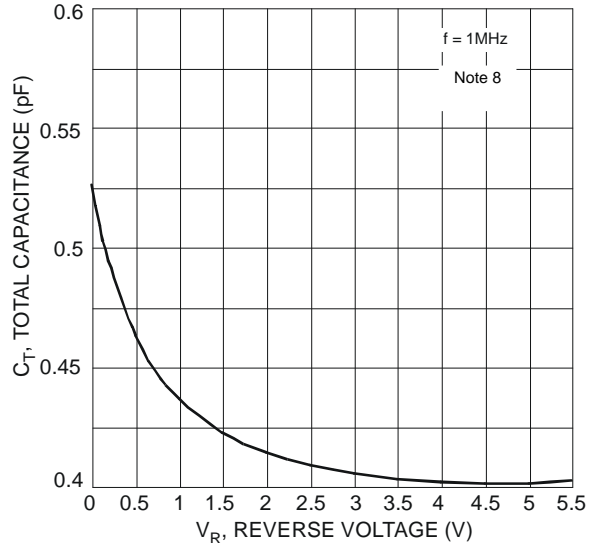
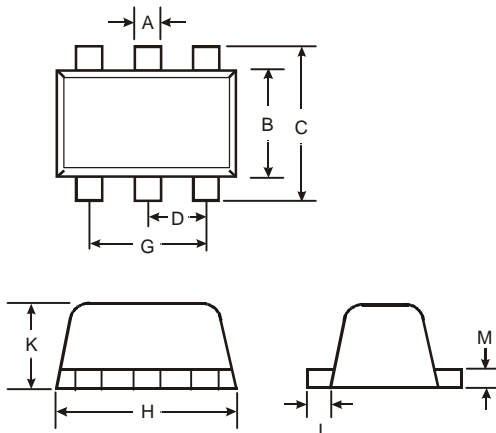


Figure 6 Total Capacitance vs. Reverse Voltage

## Package Outline Dimensions

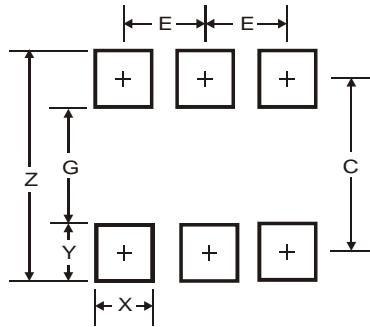
Please see AP02002 at <http://www.diodes.com/datasheets/ap02002.pdf> for the latest version.



| SOT563               |      |      |      |
|----------------------|------|------|------|
| Dim                  | Min  | Max  | Typ  |
| A                    | 0.15 | 0.30 | 0.20 |
| B                    | 1.10 | 1.25 | 1.20 |
| C                    | 1.55 | 1.70 | 1.60 |
| D                    | -    | -    | 0.50 |
| G                    | 0.90 | 1.10 | 1.00 |
| H                    | 1.50 | 1.70 | 1.60 |
| K                    | 0.55 | 0.60 | 0.60 |
| L                    | 0.10 | 0.30 | 0.20 |
| M                    | 0.10 | 0.18 | 0.11 |
| All Dimensions in mm |      |      |      |

## Suggested Pad Layout

Please see AP02001 at <http://www.diodes.com/datasheets/ap02001.pdf> for the latest version.



| Dimensions | Value (in mm) |
|------------|---------------|
| Z          | 2.2           |
| G          | 1.2           |
| X          | 0.375         |
| Y          | 0.5           |
| C          | 1.7           |
| E          | 0.5           |

NEW PRODUCT

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