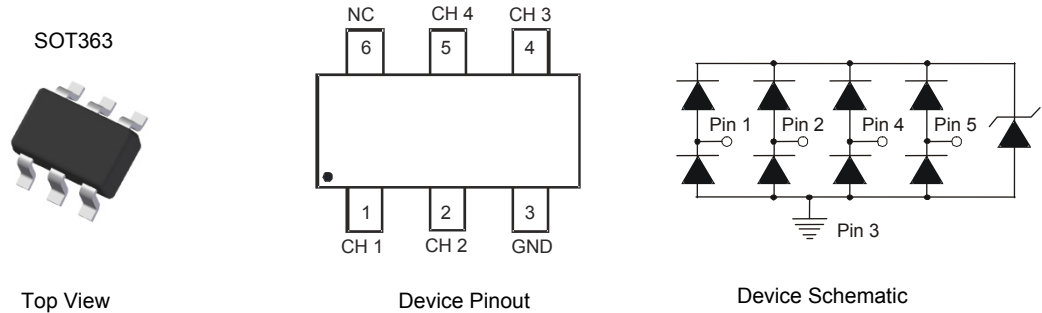


4 CHANNEL LOW CAPACITANCE TVS DIODE ARRAY
Features

- IEC 61000-4-2 (ESD): Air ± 30 kV, Contact ± 25 kV
- 4 Channels of ESD Protection
- Low Channel Input Capacitance of 0.8pF 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)**

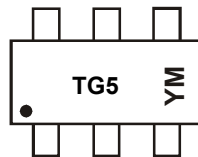
Mechanical Data

- Case: SOT363
- 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: 0.006 grams (approximate)


Ordering Information (Note 4)

| Product | Compliance | Marking | Reel Size (inches) | Tape Width (mm) | Quantity per Reel |
|---------------|------------|---------|--------------------|-----------------|-------------------|
| DRTR5V0U4SL-7 | Standard | TG5 | 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 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


TG5 = 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°C, unless otherwise specified)

| Characteristic | Symbol | Value | Unit | Conditions |
|------------------------------------|--------------------------|-------|------|------------------------|
| Peak Pulse Current | I _{PP} | 5 | A | 8/20 μs, Per Figure 2 |
| ESD Protection – Contact Discharge | V _{ESD Contact} | ±25 | 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 |
|--|-----------------------------------|-------------|------|
| Power Dissipation (Note 5) | P _D | 200 | mW |
| Thermal Resistance, Junction to Ambient (Note 5) | R _{θJA} | 625 | °C/W |
| Operating and Storage Temperature Range | T _J , T _{STG} | -65 to +150 | °C |

Electrical Characteristics (@T_A = +25°C, unless otherwise specified)

| Characteristic | Symbol | Min | Typ | Max | Unit | Test Conditions |
|---------------------------------------|------------------------|-----|------|-----|------|---|
| Reverse Standoff Voltage | V _{RWM} | — | — | 5.5 | V | — |
| Channel Leakage Current (Note 6, 7) | I _R | — | 1 | 10 | nA | V _R = 2.5V |
| Reverse breakdown voltage | V _{BR} | 7.0 | — | 9.5 | V | I _R = 1mA, from CH to GND |
| Clamping Voltage, Positive Transients | V _{CL} | — | 10.5 | — | V | I _{PP} = 1A, t _p = 8/20μs |
| | | — | 12.5 | — | V | I _{PP} = 3A, t _p = 8/20μs |
| Forward Voltage | V _F | — | 0.8 | — | V | I _F = 1mA |
| Dynamic Resistance | R _{DYN} | — | 0.8 | — | Ω | I _{TLP} = 10A to 20A, t _p = 100ns, I/O to GND |
| | | — | 0.6 | — | | I _{TLP} = 10A to 20A, t _p = 100ns, GND to I/O |
| I/O to GND Capacitance | C _(I/O-GND) | — | 0.8 | 1.2 | pF | V _(I/O-GND) = 2.5V, f = 1MHz |

- 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.
 - Measured from pin 1, 2, 4, or 5 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/destools/appnote_dnote.html.

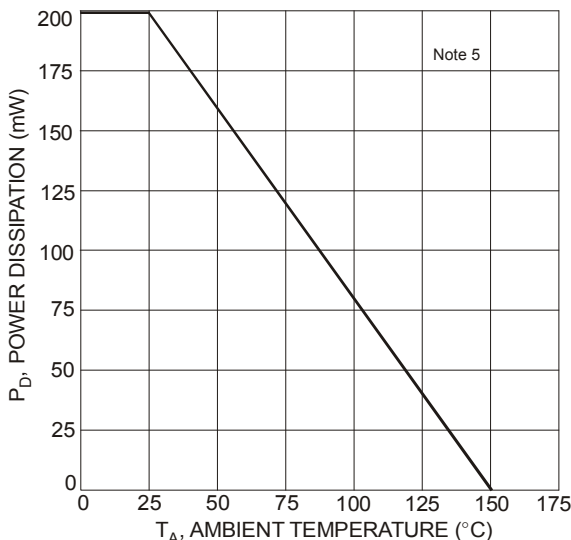


Figure 1 Power Derating Curve

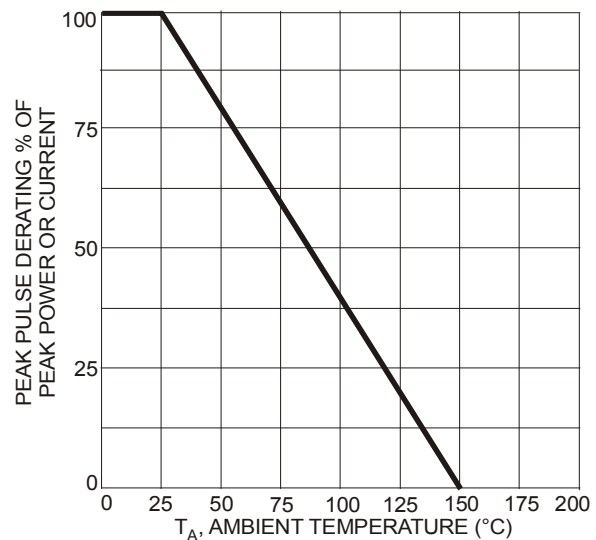
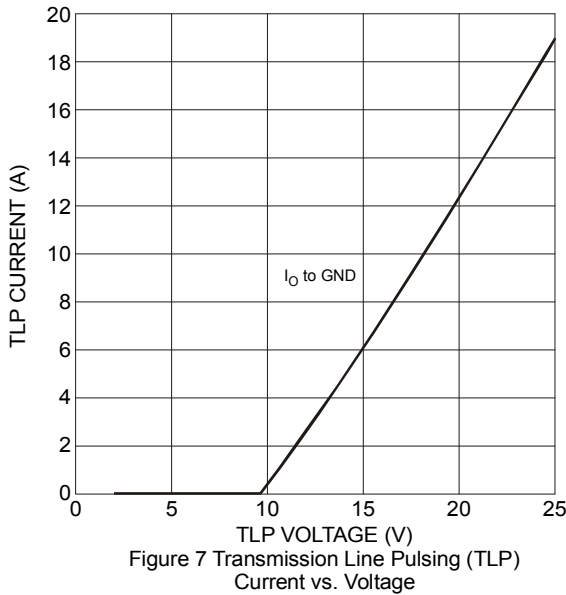
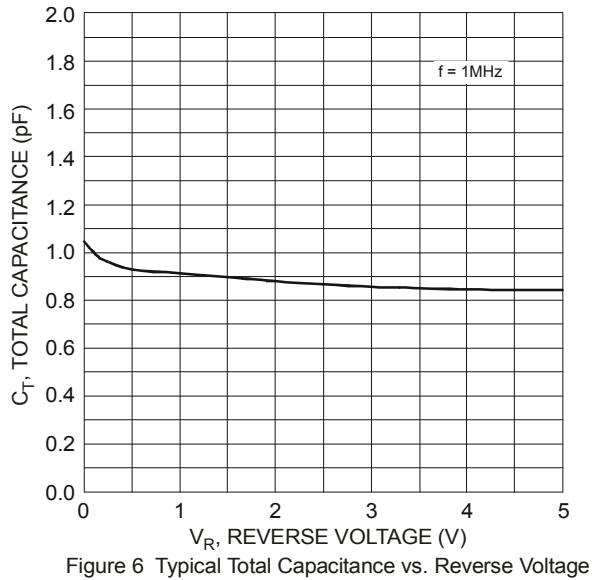
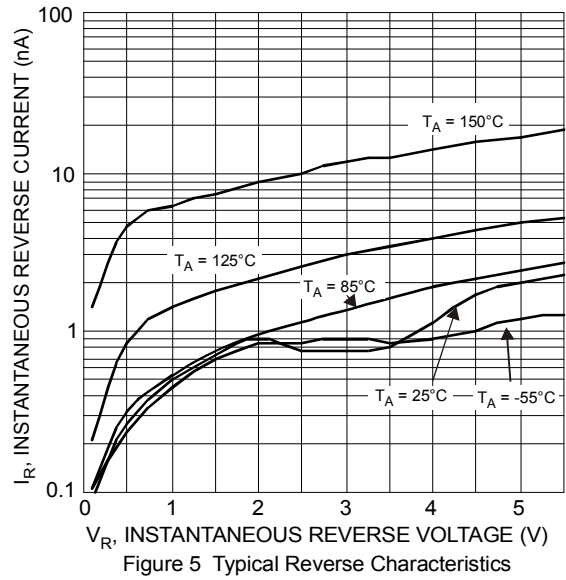
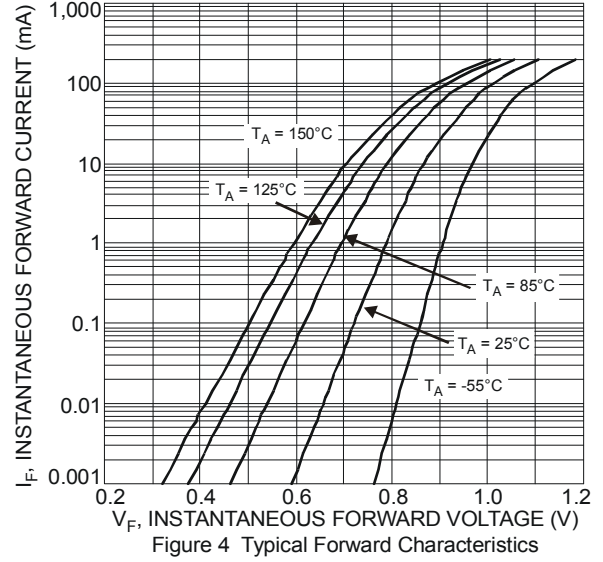
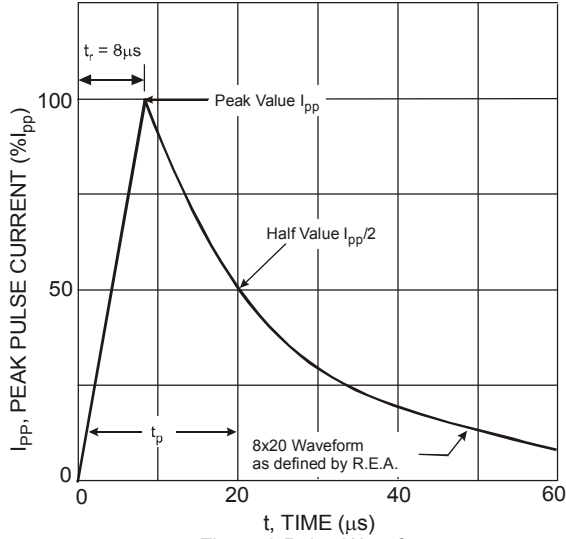
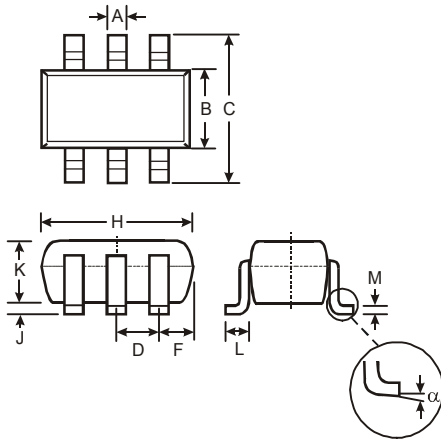


Figure 2 Pulse Derating Curve



Package Outline Dimensions

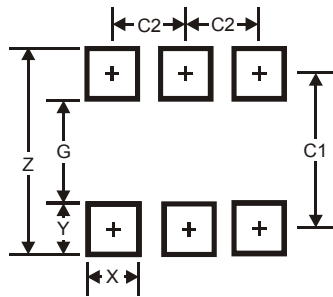
Please see AP02002 at <http://www.diodes.com/datasheets/ap02002.pdf> for latest version.



| SOT363 | | | |
|-----------------------------|----------|------|-------|
| Dim | Min | Max | Typ |
| A | 0.10 | 0.30 | 0.25 |
| B | 1.15 | 1.35 | 1.30 |
| C | 2.00 | 2.20 | 2.10 |
| D | 0.65 Typ | | |
| F | 0.40 | 0.45 | 0.425 |
| H | 1.80 | 2.20 | 2.15 |
| J | 0 | 0.10 | 0.05 |
| K | 0.90 | 1.00 | 1.00 |
| L | 0.25 | 0.40 | 0.30 |
| M | 0.10 | 0.22 | 0.11 |
| α | 0° | 8° | - |
| 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 | 2.5 |
| G | 1.3 |
| X | 0.42 |
| Y | 0.6 |
| C1 | 1.9 |
| C2 | 0.65 |

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