

Features

- Quad TVS in Common Anode Configuration
- Ultra-Small Surface Mount Package
- Ideal for Transient Suppression and ESD Protection
- **Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**
- **For automotive applications requiring specific change control (i.e.: parts qualified to AEC-Q100/101/200, PPAP capable, and manufactured in IATF 16949 certified facilities), please refer to the related automotive grade (Q-suffix) part. A listing can be found at <https://www.diodes.com/products/automotive/automotive-products/>.**
- This part is qualified to JEDEC standards (as references in AEC-Q) for High Reliability. <https://www.diodes.com/quality/product-definitions/>

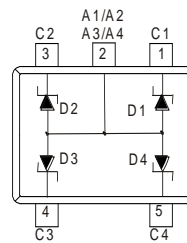
Mechanical Data

- Case: SOT553
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminal Finish: Matte Tin, Annealed Over Copper Leadframe. Solderable per MIL-STD-202, Method 208 (Ⓜ3)
- Weight: 0.002 grams (Approximate)



SOT553

Top View



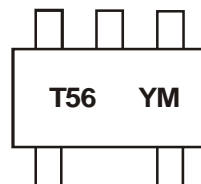
Device Schematic

Ordering Information (Note 4)

| Part Number | Compliance | Case | Packaging |
|---------------|------------|--------|-------------------|
| DZQA5V6AXV5-7 | Standard | SOT553 | 3,000/Tape & Reel |

- Notes:
1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant.
 2. See <https://www.diodes.com/quality/lead-free/> 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 <https://www.diodes.com/design/support/packaging/diodes-packaging/>.

Marking Information



T56 = Product Type Marking Code
 YM = Date Code Marking
 Y = Year (ex: H = 2020)
 M = Month (ex: 9 = September)

Date Code Key

| Year | 2008 | ... | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 |
|------|------|-----|------|------|------|------|------|------|------|------|------|------|
| Code | V | ... | H | I | J | K | L | M | N | O | P | R |

| 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 |
|---|----------------|-------|------|
| Forward Voltage @ I _F = 10mA | V _F | 0.9 | V |

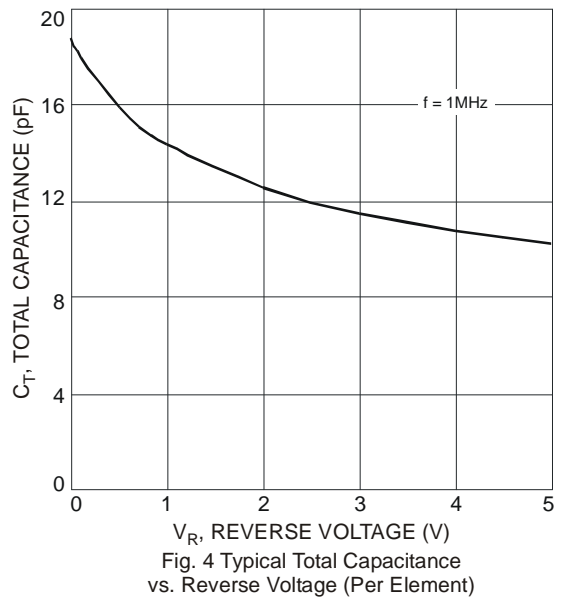
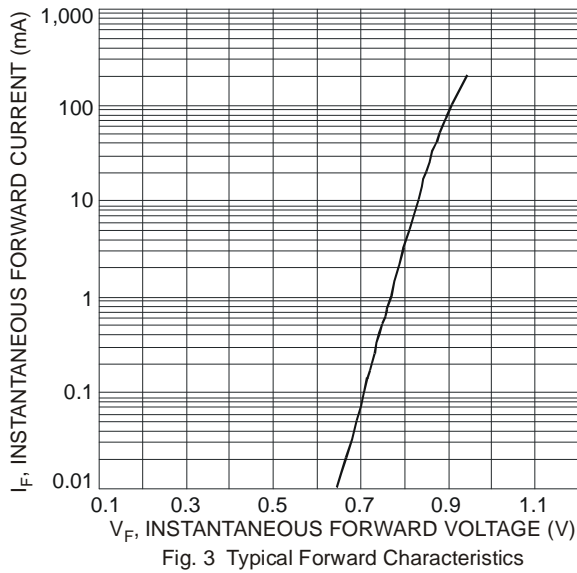
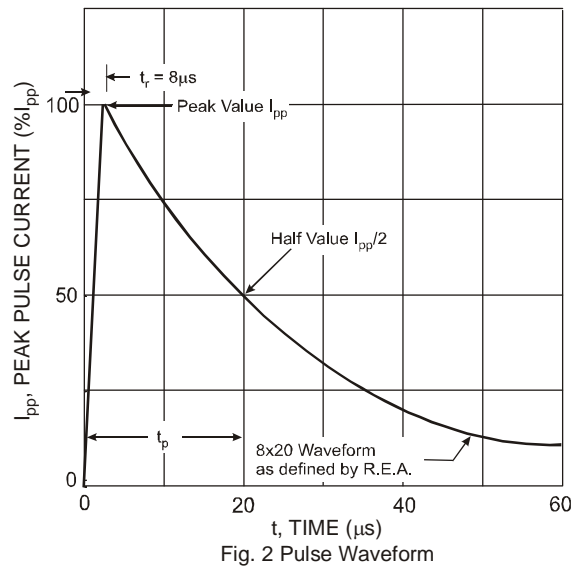
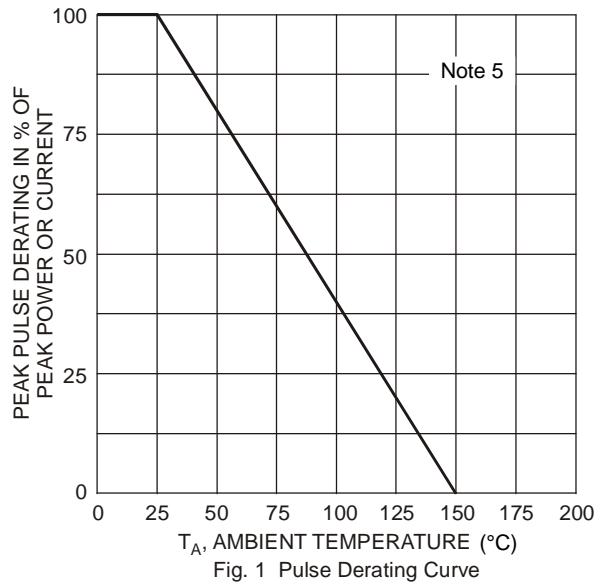
Thermal Characteristics

| Characteristic | Symbol | Value | Unit |
|--|-----------------------------------|-------------|------|
| Power Dissipation (Notes 5 & 6) | P _D | 380 | mW |
| Peak Power Dissipation, 8x20μS Waveform (Note 7) | P _{PK} | 20 | W |
| Thermal Resistance, Junction to Ambient (Note 5) | R _{θJA} | 327 | °C/W |
| Operating and Storage Temperature Range | T _J , T _{STG} | -55 to +150 | °C |

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

| Type Number | Marking Code | Breakdown Voltage (Note 8) | | | Leakage Current (Note 8) | | Max. Clamping Voltage (Note 7) | | Capacitance @ 0V Bias (pF) (Note 9) | | Capacitance @ 3V Bias (pF) (Note 9) | |
|-------------|--------------|--|---------|---------|-----------------------------------|-----|----------------------------------|---------------------|-------------------------------------|-----|-------------------------------------|------|
| | | V _{BR} @ I _T = 1mA | | | I _{RM} @ V _{RM} | | V _C @ I _{PP} | | C _T | | C _T | |
| | | Min (V) | Nom (V) | Max (V) | Max (μA) | (V) | V _C (V) | I _{PP} (A) | Typ | Max | Typ | Max |
| DZQA5V6AXV5 | T56 | 5.3 | 5.6 | 5.9 | 1 | 3.0 | 13 | 1.6 | 18.7 | 20 | 11.4 | 12.3 |

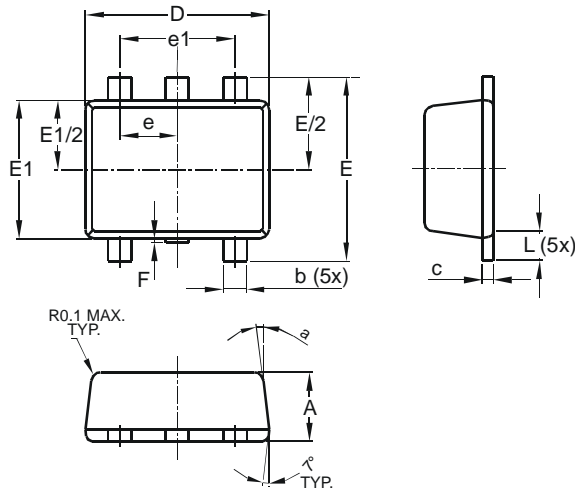
- Notes:
- Device mounted on FR-4 PCB, 1 inch x 0.85 inch x 0.062 inch; pad layout as shown on Diodes Incorporated's Suggested Pad Layout document, which can be found on our website at <http://www.diodes.com>.
 - Only 1 diode under power. For all 4 diodes under power, P_D will be 25% of the listed value.
 - Non-repetitive current pulse per Figure 2 and derate above T_A = +25°C per Figure 1.
 - Short duration pulse test used to minimize self-heating effect.
 - Per element, f = 1MHz, T_A = +25°C



Package Outline Dimensions

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

SOT553

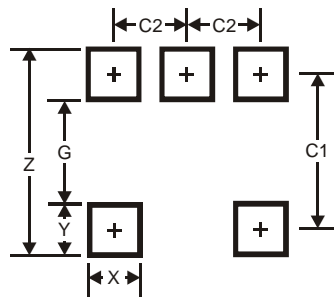


| SOT553 | | | |
|----------------------|----------|------|------|
| Dim | Min | Max | Typ |
| A | 0.55 | 0.62 | 0.60 |
| b | 0.15 | 0.30 | 0.20 |
| c | 0.10 | 0.18 | 0.15 |
| D | 1.50 | 1.70 | 1.60 |
| E | 1.55 | 1.70 | 1.60 |
| E1 | 1.10 | 1.25 | 1.20 |
| e | 0.50 BSC | | |
| e1 | 1.00 BSC | | |
| F | 0.00 | 0.10 | — |
| L | 0.10 | 0.30 | 0.20 |
| a | 6° | 8° | 7° |
| All Dimensions in mm | | | |

Suggested Pad Layout

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

SOT553



| Dimensions | Value (in mm) |
|------------|---------------|
| Z | 2.2 |
| G | 1.2 |
| X | 0.375 |
| Y | 0.5 |
| C1 | 1.7 |
| C2 | 0.5 |

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