## Features

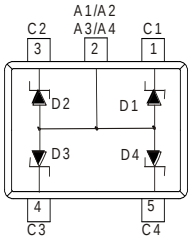
- Quad TVS in Common Anode Configuration
- Ultra-Small Surface Mount Package
- Ideal for Transient Suppression and ESD Protection
- **Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**
- **For automotive applications requiring specific change 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 e3
- Weight: 0.002 grams (Approximate)

SOT553

Top View



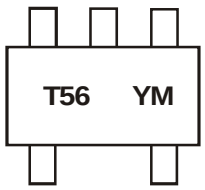

Device Schematic

## 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) | $R_{\theta JA}$ | 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:
5. 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.
6. Only 1 diode under power. For all 4 diodes under power, $P_D$ will be 25% of the listed value.
7. Non-repetitive current pulse per Figure 2 and derate above $T_A$ = +25°C per Figure 1.
8. Short duration pulse test used to minimize self-heating effect.
9. Per element, f = 1MHz, $T_A$ = +25°C

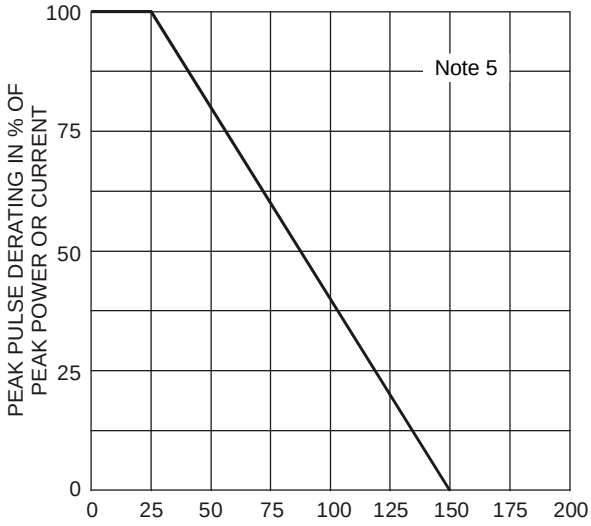



Fig. 1 Pulse Derating Curve

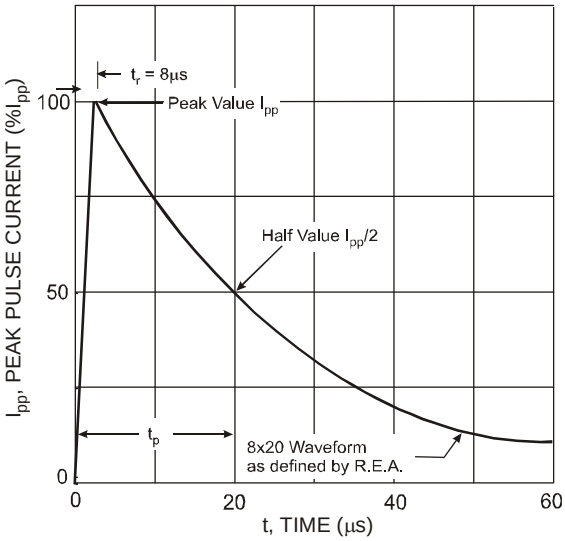



Fig. 2 Pulse Waveform

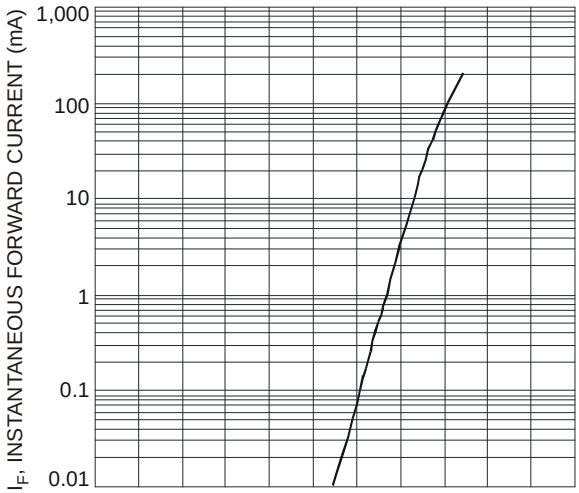



Fig. 3 Typical Forward Characteristics

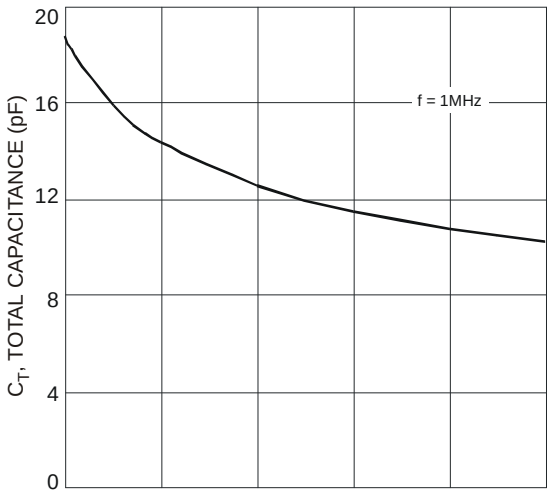
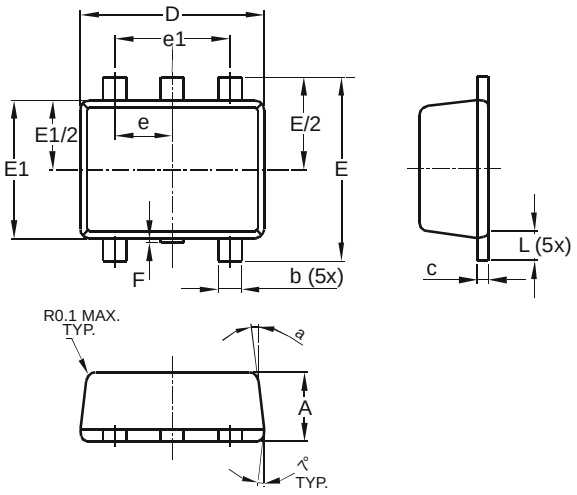



Fig. 4 Typical Total Capacitance vs. Reverse Voltage (Per Element)

## Package Outline Dimensions

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

**SOT553**

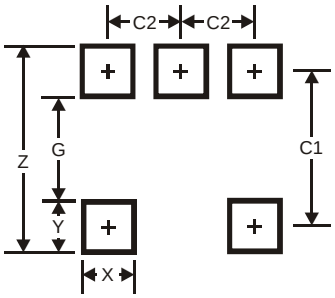



| SOT553 | | | |
|---|---|---|---|
| **Dim** | **Min** | **Max** | **Typ** |
| **A** | 0.55 | 0.62 | 0.60 |
| **b** | 0.15 | 0.30 | 0.20 |
| **c** | 0.10 | 0.18 | 0.15 |
| **D** | 1.50 | 1.70 | 1.60 |
| **E** | 1.55 | 1.70 | 1.60 |
| **E1** | 1.10 | 1.25 | 1.20 |
| **e** | 0.50 BSC | | |
| **e1** | 1.00 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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