QUAD SURFACE MOUNT TVS ARRAY

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)**
- **Qualified to AEC-Q101 Standards for High Reliability**

Mechanical Data

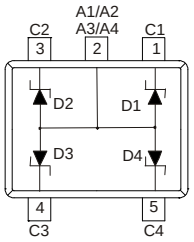
- Case: SOT553
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminal Finish: Matte Tin, Annealed Over Copper Leadframe. Solderable per MIL-STD-202, Method 208 e3
- Weight: 0.002 grams (approx.)

ESD Capability

- **IEC 61000-4-2 Contact Method ±8kV**
- **IEC 61000-4-2 Air Discharge Method ±15kV**

SOT553

Top View



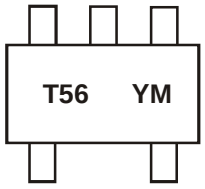
Device Schematic

Ordering Information (Note 4)

Part Number	Case	Packaging
DZQA5V6AXV5-7	SOT553	3000/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 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.

Marking Information



T56 = Product type marking code
YM = Date Code Marking
Y = Year (ex: W = 2009)
M = Month (ex: 9 = September)

Date Code Key

Year	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Code	W	X	Y	Z	A	B	C	D	E	F

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 Inc. Suggested Pad Layout Document AP02001, 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

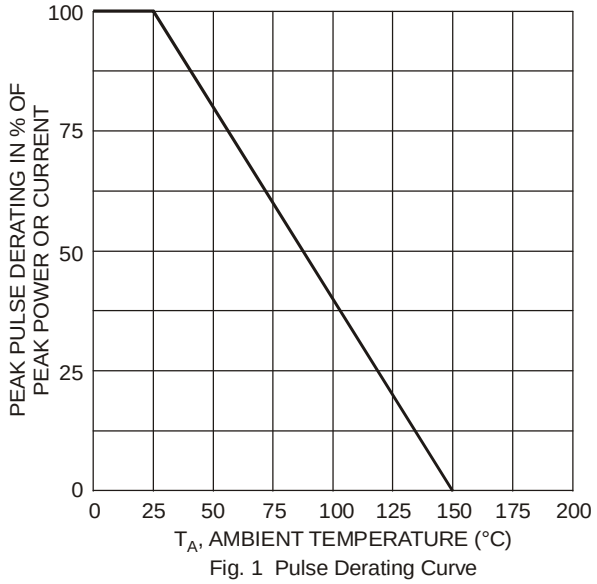


Fig. 1 Pulse Derating Curve

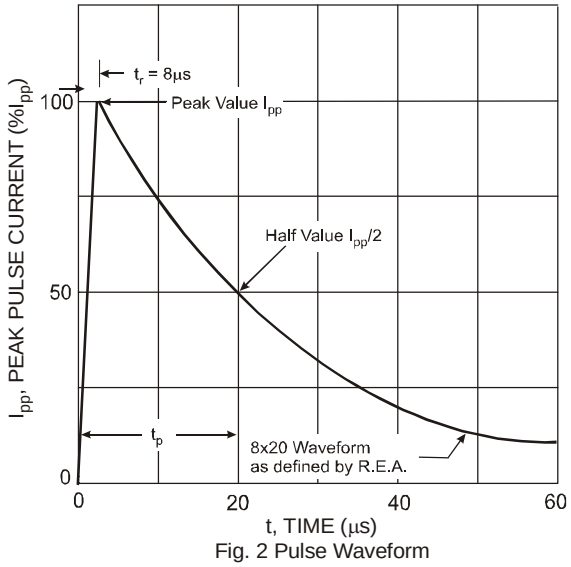


Fig. 2 Pulse Waveform

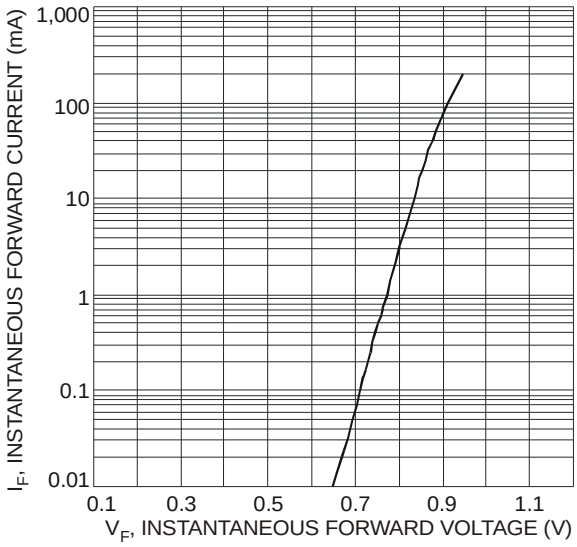


Fig. 3 Typical Forward Characteristics

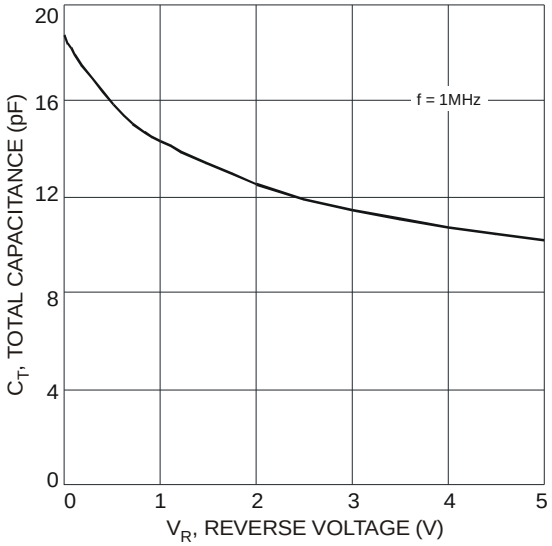
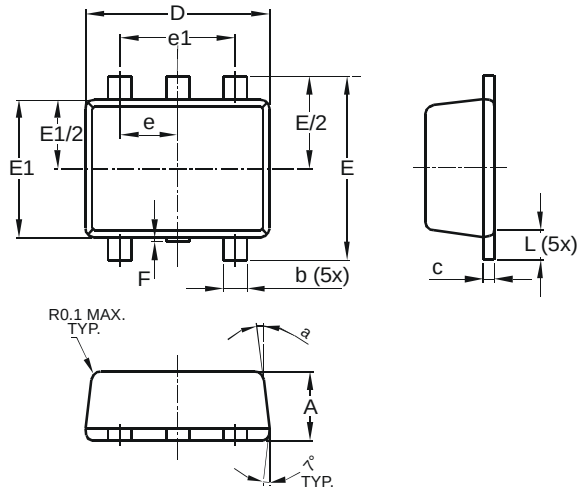


Fig. 4 Typical Total Capacitance vs. Reverse Voltage (Per Element)

Package Outline Dimensions

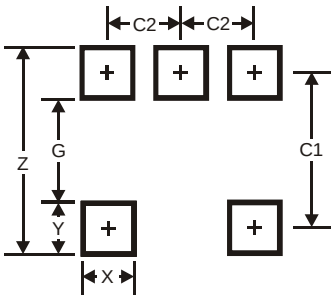
Please see AP02002 at http://www.diodes.com/datasheets/ap02002.pdf for latest version.



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 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
C1	1.7
C2	0.5