QUAD SURFACE MOUNT TVS ARRAY

Features

- Quad TVS in Common Anode Configuration
- Nominal Zener Voltage: 6.8V
- Ultra-Small Surface Mount Package
- Ideal For Transient Suppression
- **Lead Free By Design/RoHS Compliant (Note 1)**
- **"Green Device" (Note 2)**
- **Qualified to AEC-Q101 Standards for High Reliability**

ESD Capability

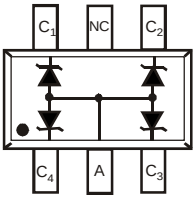
- IEC 61000-4-2 Contact Method: ±8kV
- IEC 61000-4-2 Air Discharge Method: ± 25kV

Mechanical Data

- Case: SOT-563
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Terminal Finish: Matte Tin, Annealed Over Copper Leadframe. Solderable per MIL-STD-202, Method 208
- Orientation: See Diagram
- Marking Information: See Page 3
- Ordering Information: See Page 3
- Weight: 0.003 grams (approximate)

Top View

Bottom View



Device Schematic

Maximum Ratings @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Peak Power Dissipation, 10x1000μS Waveform (Note 5)	P_{pk}	10	W
Peak Power Dissipation, 8x20μS Waveform (Note 5)		80	
Forward Voltage @ I_F = 10mA (Note 3)	V_F	0.9	V
Forward Voltage @ I_F = 100mA (Note 3)	V_F	1.0	V

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 4)	P_D	150	mW
Thermal Resistance, Junction-to-Ambient (Note 4)	$R_{\theta JA}$	833	°C/W
Operating and Storage Temperature Range	T_J, T_{STG}	-65 to +150	°C

Electrical Characteristics @T_A = 25°C unless otherwise specified

Type Number	Marking Code	Reverse Standoff Voltage and Leakage		Breakdown Voltage (Note 3)			Maximum Reverse Current (Note 3)		Typical Junction Capacitance
		V_{RWM}	I_R @ V_{RWM}	V_{BR} @ I_T = 1mA			I_R @ V_R		C_T @ V_R = 0V, f = 1MHz
		V	μA	Min (V)	Nom (V)	Max (V)	μA	V	pF
QZX563C6V8C	CB	5	1.5	6.47	6.8	7.14	1.0	3.0	63

Notes:
1. No purposefully added lead.
2. Diodes Inc.'s "Green" policy can be found on our website at http://www.diodes.com/products/lead_free/index.php.
3. Short duration pulse test used to minimize self-heating effect.
4. 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/datasheets/ap02001.pdf.
5. Non-repetitive current pulse per Figure 2 & 3 and derate above T_A = 25°C per Figure 1.

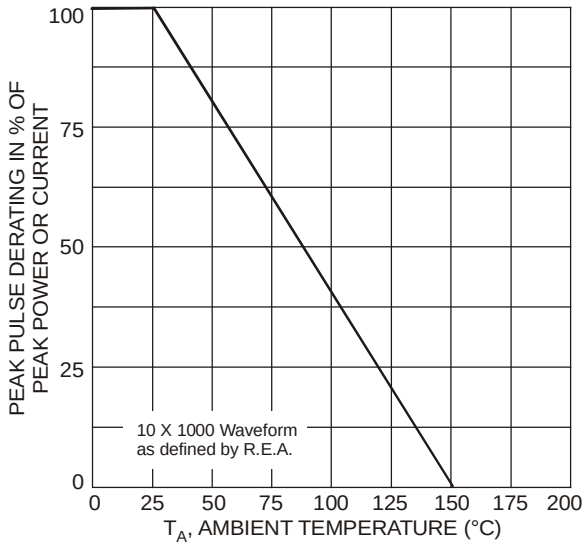


Fig. 1 Pulse Derating Curve

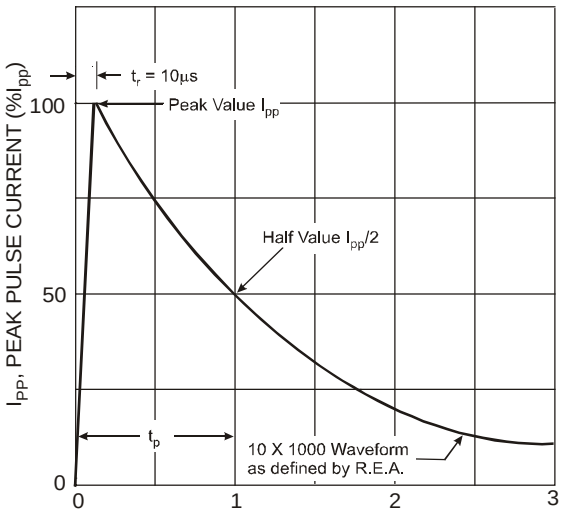


Fig. 2 Pulse Waveform

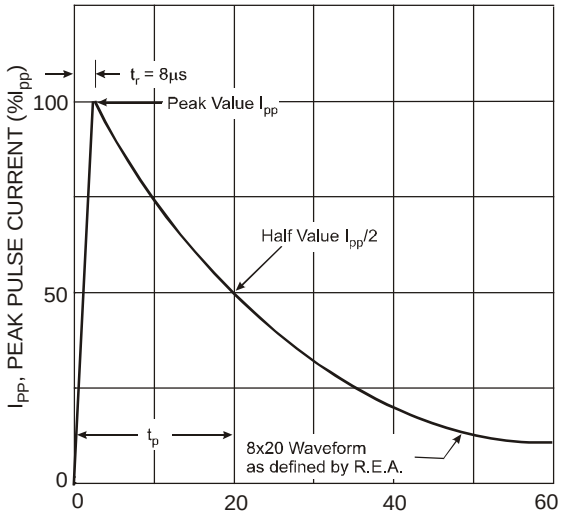


Fig. 3 Pulse Waveform

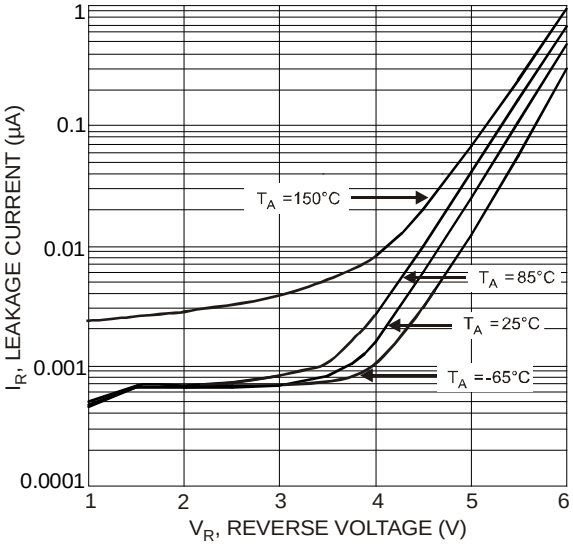


Fig. 4 Typical Leakage Current vs. Reverse Voltage

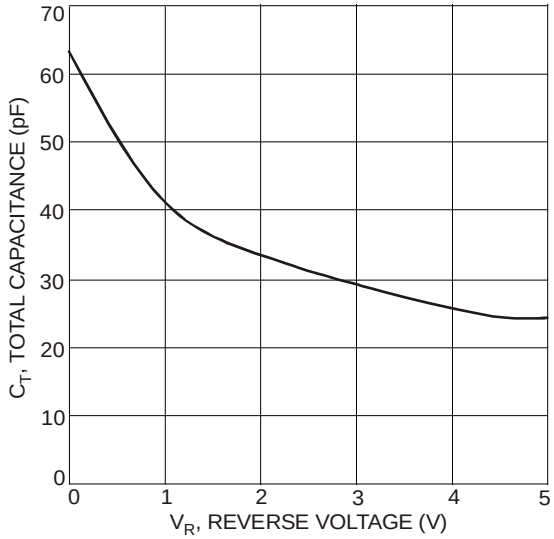


Fig. 5 Typical Total Capacitance vs. Reverse Voltage

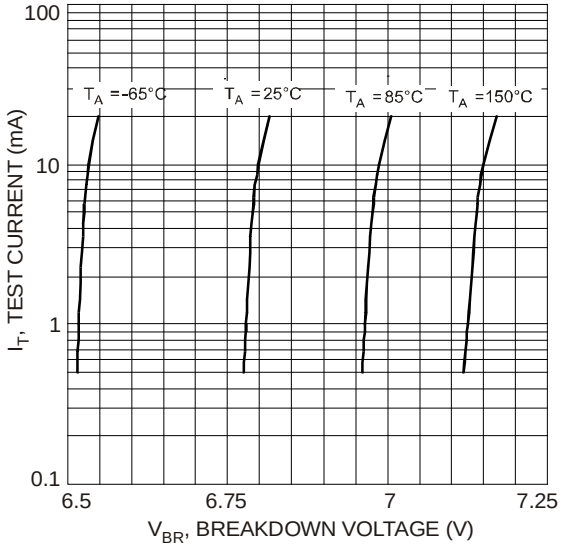


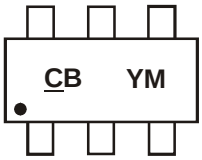
Fig. 6 Breakdown Voltage vs. Test Current

Ordering Information (Note 6)

Part Number	Case	Packaging
QZX563C6V8C-7	SOT-563	3000/Tape & Reel

Notes: 6. For packaging details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.

Marking Information



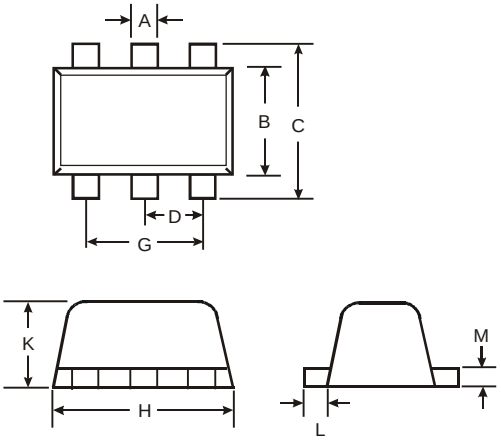
CB = Product Type Marking Code
YM = Date Code Marking
Y = Year (Ex: S = 2005)
M = Month (ex: 9 = September)

Date Code Key

Year	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Code	S	T	U	V	W	X	Y	Z	A	B	C

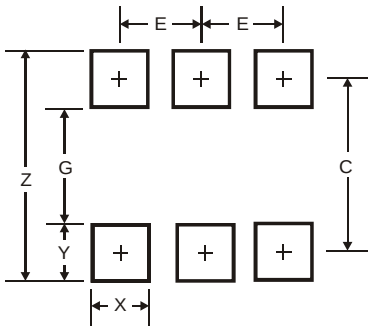
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D

Package Outline Dimensions



SOT-563			
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



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