



# QZX563C6V8C

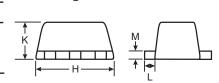
### **QUAD SURFACE MOUNT TVS ARRAY**

#### **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



	SOT-563									
Dim	Min	Max	Тур							
Α	0.15	0.30	0.25							
В	1.10	1.25	1.20							
С	1.55	1.55 1.70 1.60								
D	0.50									
G	0.90	1.10	1.00							
Н	1.50	1.70	1.60							
K	0.56	0.60	0.60							
L	0.10	0.30	0.20							
М	0.10	0.18	—							
All Dimensions in mm										

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### **Mechanical Data**

- Case: SOT-563
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminal Finish: Matte Tin, Annealed Over Copper Leadframe. Solderable per MIL-STD-202, Method 208
- Orientation: See Diagram
- Marking: See Table Below
- Weight: 0.003 grams (approximate)
- Ordering Information: See Page 2

# Maximum Ratings @T<sub>A</sub> = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Forward Voltage @ I <sub>F</sub> = 10mA (Note 3)	V <sub>F</sub>	0.9	V
Forward Voltage @ I <sub>F</sub> = 100mA (Note 3)	V <sub>F</sub>	1.0	V
Power Dissipation (Note 4)	P <sub>d</sub>	150	mW
Peak Power Dissipation, 10x1000µS Waveform (Note 5)	р.	10	W
Peak Power Dissipation, 8x20µS Waveform (Note 5)	$P_{pk}$	80	VV
Thermal Resistance, Junction-to-Ambient (Note 4)	$R_{ heta JA}$	833	°C/W
Operating and Storage Temperature Range	$T_{j,}T_{STG}$	-65 to +150	°C

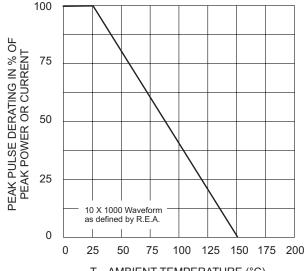
## **Electrical Characteristics** @T<sub>A</sub> = 25°C unless otherwise specified

Type Mai	Marking		ndoff Voltage eakage	Breakdown Voltage (Note 3)			Maximum Reverse Current (Note 3)		Typical Junction Capacitance	
Number	Code	V <sub>RWM</sub>	I <sub>R</sub> @ V <sub>RWM</sub>	V	/ <sub>BR</sub> @ I <sub>T</sub> = 1	mA	I <sub>R</sub> @	VR	$C_T @ V_R = 0V,$ f = 1MHz	
		V	μΑ	Min (V)	Nom (V)	Max (V)	μ <b>Α</b>	V	pF	
QZX563C6V8C	<u>C</u> B	5	1.5	6.47	6.8	7.14	1.0	3.0	63	

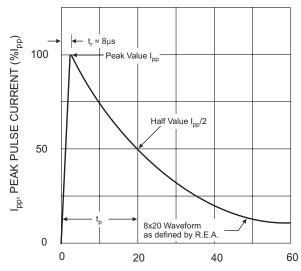
Note:

- 1. No purposefully added lead.
- 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 and derate above TA = 25°C per Figure 1.

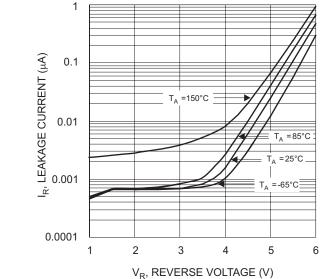




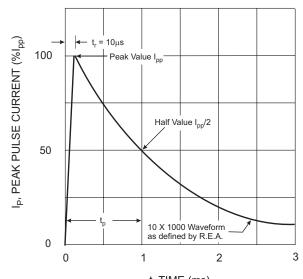
T<sub>A</sub>, AMBIENT TEMPERATURE (°C) Fig. 1, Pulse Derating Curve



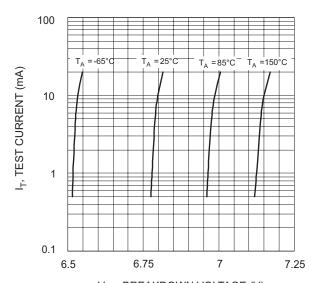
t, TIME (ms) Fig. 3, Pulse Waveform



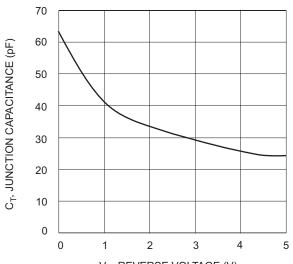
V<sub>R</sub>, REVERSE VOLTAGE (V)
Fig. 5, Leakage Current vs. Reverse Voltage



t, TIME (ms) Fig. 2, Pulse Waveform



V<sub>BR</sub>, BREAKDOWN VOLTAGE (V) Fig. 4, Breakdown Voltage vs. Test Current



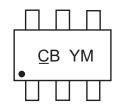
 $V_{\rm R}$ , REVERSE VOLTAGE (V) Fig. 6, Typical Junction Capacitance vs. Reverse Voltage



### Ordering Information (Note 6)

Device	Packaging	Shipping		
QZX563C6V8C-7	SOT-563	3000/Tape & Reel		

## **Marking Information**



XX = Product Type Marking Code (See Page 1)

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

#### Date Code Key

Year			2005		2006 2007			2008		2009		
Code	Code S		S		Т		U		V		W	
Month	Jan	Feb	March	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	0	N	D

Notes: 6. For Packaging Details: go to our website at http://www.diodes.com/datasheets/ap02007.pdf.

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