

# NZQA5V6AXV5

## Advance Information Low Capacitance Quad Array for ESD Protection

This integrated transient voltage suppressor device (TVS) is designed for applications requiring transient overvoltage protection. It is intended for use in sensitive equipment such as computers, printers, business machines, communication systems, medical equipment, and other applications. Its integrated design provides very effective and reliable protection for four separate lines using only one package. These devices are ideal for situations where board space is at a premium.

### Features

- ESD Protection: IEC61000-4-2: Level 4  
MILSTD 883C – Method 3015-6: Class 3
- Four Separate Unidirectional Configurations for Protection
- Low Leakage Current < 1  $\mu$ A @ 3 V
- Power Dissipation: 380 mW
- Small SOT-553 SMT Package
- Low Capacitance (8 pF Typical @ 3 V)

### Benefits

- Provides Protection for ESD Industry Standards: IEC 61000, HBM
- Protects the Line Against Transient Voltage Conditions in Either Direction
- Minimize Power Consumption of the System
- Minimize PCB Board Space

### Typical Applications

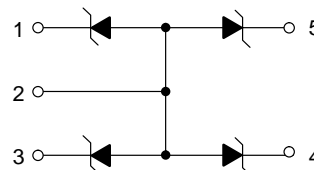
- Instrumentation Equipment
- Serial and Parallel Ports
- Microprocessor Based Equipment
- Notebooks, Desktops, Servers
- Cellular and Portable Equipment

This document contains information on a new product. Specifications and information herein are subject to change without notice.



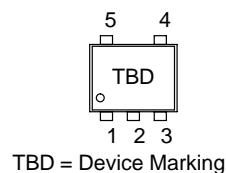
ON Semiconductor®

<http://onsemi.com>



SOT-553  
CASE 463A  
PLASTIC

### MARKING DIAGRAM



TBD = Device Marking

### ORDERING INFORMATION

Device	Package	Shipping
NZQA5V6AXV5T1	SOT-553	4000/Tape & Reel

# NZQA5V6AXV5

## MAXIMUM RATINGS (T<sub>A</sub> = 25°C unless otherwise noted)

Rating	Symbol	Value	Unit
Peak Power Dissipation 8 X 20 $\mu$ s Double Exponential Waveform (Note 1)	P <sub>PK</sub>	20	W
Thermal Resistance – Junction to Ambient Above 25°C, Derate	R <sub><math>\theta</math>JA</sub>	327 3.05	°C/W mW/°C
Operating Junction Temperature Range	T <sub>J</sub>	–40 to +125	°C
Storage Temperature Range	T <sub>stg</sub>	–55 to +150	°C
Lead Solder Temperature – Maximum 10 Seconds Duration	T <sub>L</sub>	260	°C

- Non-repetitive current pulse per Figure **TBD**.
- Only 1 diode under power. For all 4 diodes under power, P<sub>D</sub> will be 25%. Mounted on FR4 board with min. pad.

## ELECTRICAL CHARACTERISTICS (T<sub>A</sub> = 25°C unless otherwise noted)

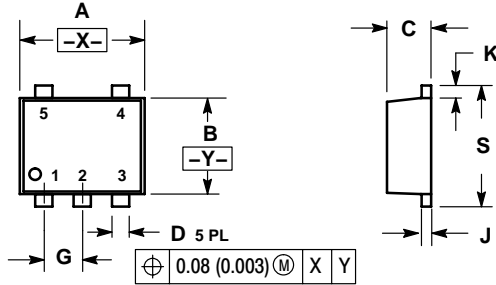
Characteristic	Symbol	Min	Typ	Max	Unit
Breakdown Voltage (I <sub>T</sub> = 1 mA) (Note 3)	V <sub>BR</sub>	5.3	5.6	5.9	V
Leakage Current (V <sub>RWM</sub> = 3.0 V)	I <sub>R</sub>	–	–	1.0	$\mu$ A
Clamping Voltage 1 (I <sub>PP</sub> = 1.6 A, 8 X 20 $\mu$ s Waveform)	V <sub>C</sub>	–	10	TBD	V
Maximum Peak Pulse Current (8 X 20 $\mu$ s Waveform)	I <sub>PP</sub>	–	1.6	TBD	A
Junction Capacitance – (V <sub>R</sub> = 0 V, f = 1 MHz) – (V <sub>R</sub> = 3 V, f = 1 MHz)	C <sub>J</sub>	– –	15 8.0	TBD TBD	pF

- V<sub>BR</sub> is measured at pulse test current I<sub>T</sub>.

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## PACKAGE DIMENSIONS


SOT-553, 5-LEAD  
CASE 463B-01  
ISSUE O



### NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETERS
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH THICKNESS. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	1.50	1.70	0.059	0.067
B	1.10	1.30	0.043	0.051
C	0.50	0.60	0.020	0.024
D	0.17	0.27	0.007	0.011
G	0.50 BSC		0.020 BSC	
J	0.08	0.18	0.003	0.007
K	0.10	0.30	0.004	0.012
S	1.50	1.70	0.059	0.067

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