

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 μ 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

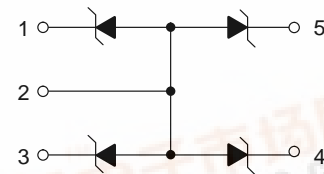
- Instrumentation Equipment
- Serial and Parallel Ports
- Microprocessor Based Equipment
- Notebooks, Desktops, Servers
- Cellular and Portable Equipment

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



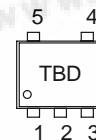
ON Semiconductor®

<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 ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Rating	Symbol	Value	Unit
Peak Power Dissipation 8 X 20 μs Double Exponential Waveform (Note 1)	P_{PK}	20	W
Thermal Resistance – Junction to Ambient Above 25°C , Derate	$R_{\theta JA}$	327 3.05	$^\circ\text{C/W}$ $\text{mW}/^\circ\text{C}$
Operating Junction Temperature Range	T_J	-40 to $+125$	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55 to $+150$	$^\circ\text{C}$
Lead Solder Temperature – Maximum 10 Seconds Duration	T_L	260	$^\circ\text{C}$

1. Non-repetitive current pulse per Figure **TBD**.
2. Only 1 diode under power. For all 4 diodes under power, P_D will be 25%. Mounted on FR4 board with min. pad.

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

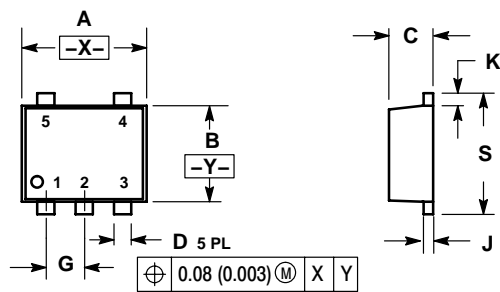
Characteristic	Symbol	Min	Typ	Max	Unit
Breakdown Voltage ($I_T = 1\text{ mA}$) (Note 3)	V_{BR}	5.3	5.6	5.9	V
Leakage Current ($V_{RWM} = 3.0\text{ V}$)	I_R	–	–	1.0	μA
Clamping Voltage 1 ($I_{PP} = 1.6\text{ A}$, 8 X 20 μs Waveform)	V_C	–	10	TBD	V
Maximum Peak Pulse Current (8 X 20 μs Waveform)	I_{PP}	–	1.6	TBD	A
Junction Capacitance – ($V_R = 0\text{ V}$, $f = 1\text{ MHz}$) – ($V_R = 3\text{ V}$, $f = 1\text{ MHz}$)	C_J	– –	15 8.0	TBD TBD	pF

3. V_{BR} is measured at pulse test current I_T .

NZQA5V6AXV5

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

NZQA5V6AXV5

ON Semiconductor and  are registered trademarks of Semiconductor Components Industries, LLC (SCILLC). SCILLC reserves the right to make changes without further notice to any products herein. SCILLC makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does SCILLC assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages. "Typical" parameters which may be provided in SCILLC data sheets and/or specifications can and do vary in different applications and actual performance may vary over time. All operating parameters, including "Typicals" must be validated for each customer application by customer's technical experts. SCILLC does not convey any license under its patent rights nor the rights of others. SCILLC products are not designed, intended, or authorized for use as components in systems intended for surgical implant into the body, or other applications intended to support or sustain life, or for any other application in which the failure of the SCILLC product could create a situation where personal injury or death may occur. Should Buyer purchase or use SCILLC products for any such unintended or unauthorized application, Buyer shall indemnify and hold SCILLC and its officers, employees, subsidiaries, affiliates, and distributors harmless against all claims, costs, damages, and expenses, and reasonable attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized use, even if such claim alleges that SCILLC was negligent regarding the design or manufacture of the part. SCILLC is an Equal Opportunity/Affirmative Action Employer.

PUBLICATION ORDERING INFORMATION

Literature Fulfillment:

Literature Distribution Center for ON Semiconductor
P.O. Box 5163, Denver, Colorado 80217 USA
Phone: 303-675-2175 or 800-344-3860 Toll Free USA/Canada
Fax: 303-675-2176 or 800-344-3867 Toll Free USA/Canada
Email: orderlit@onsemi.com

N. American Technical Support: 800-282-9855 Toll Free USA/Canada

JAPAN: ON Semiconductor, Japan Customer Focus Center
2-9-1 Kamimeguro, Meguro-ku, Tokyo, Japan 153-0051
Phone: 81-3-5773-3850

ON Semiconductor Website: <http://onsemi.com>

For additional information, please contact your local
Sales Representative.