NSZ5V6V2T1G

Zener Voltage Regulators

200 mW SOD-523 Surface Mount

This series of Zener diodes is packaged in a SOD-523 surface mount package. They are designed to provide voltage regulation protection and are especially attractive in situations where space is at a premium. They are well suited for applications such as cellular phones, hand held portables, and high density PC boards.

Specification Features

- Standard Zener Breakdown Voltage of 5.6 V
- Steady State Power Rating of 200 mW
- Small Body Outline Dimensions: 0.047" x 0.032" (1.20 mm x 0.80 mm)
- Low Body Height: 0.028" (0.7 mm)
- ESD Rating of Class 3 (>16 kV) per Human Body Model
- Tight Tolerance V_Z
- These are Pb-Free Devices

Mechanical Characteristics CASE: Void-free, transfer-molded, thermosetting plastic Epoxy Meets UL 94, V-0 LEAD FINISH: 100% Matte Sn (Tin) MOUNTING POSITION: Any QUALIFIED MAX REFLOW TEMPERATURE: 260°C Device Meets MSL 1 Requirements

MAXIMUM RATINGS

Rating	Symbol	Мах	Unit
Total Device Dissipation FR-5 Board, (Note 1) @ T _A = 25°C Derate above 25°C	P _D	200 1.5	mW mW/°C
Thermal Resistance from Junction-to-Ambient	$R_{\theta JA}$	635	°C/W
Junction and Storage Temperature Range	T _J , T _{stg}	-65 to +150	°C

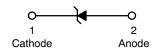
Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

1. FR-4 Minimum Pad.



ON Semiconductor®

http://onsemi.com





SOD-523 CASE 502 PLASTIC

MARKING DIAGRAM



CT = Specific Device Code

M Date Code* = Pb-Free Package

(Note: Microdot may be in either location)

*Date Code orientation may vary depending upon manufacturing location.

ORDERING INFORMATION

Device	Package	Shipping [†]
NSZ5V6V2T1G	SOD-523*	3000/Tape & Reel

†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

*This package is inherently Pb-Free.

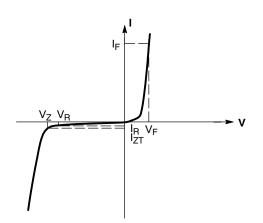
DEVICE MARKING INFORMATION

See specific marking information in the device marking column of the Electrical Characteristics table on page 2 of this data sheet.

ELECTRICAL CHARACTERISTICS

(T_A = 25°C unless otherwise noted, V_F = 0.9 V Max. @ I_F = 10 mA for all types)

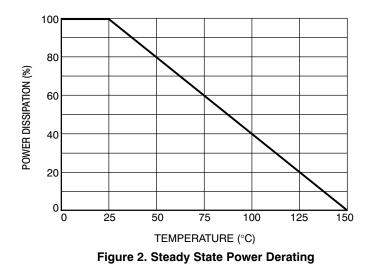
Symbol	Parameter
Vz	Reverse Zener Voltage @ I _{ZT}
I _{ZT}	Reverse Current
Z _{ZT}	Maximum Zener Impedance @ IZT
I _{ZK}	Reverse Current
Z _{ZK}	Maximum Zener Impedance @ IZK
I _R	Reverse Leakage Current @ VR
V _R	Reverse Voltage
١ _F	Forward Current
V _F	Forward Voltage @ I _F
ΘV_Z	Maximum Temperature Coefficient of V_Z
С	Max. Capacitance $@V_R = 0$ and f = 1 MHz





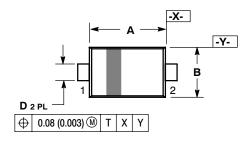
ELECTRICAL CHARACTERISTICS (V_F = 0.9 Max @ I_F = 10 mA for all types)

	Test	Zener Voltage VZ		Z _{ZK} I _Z Z _{ZT} Z _{ZK} I _Z I _Z = IZT = 1.0 @ 10%	Max IR @ VR		d _{VZ} /dt (mV/k) @ I _{ZT1} = 5 mA		C pF Max @ V _R	
Device*	Current Izt mA	Min	Max	mA Ω Max	Mod Ω Max	μA	v	Min	Max	= 0 f = 1 MHz
NSZ5V6V2T1G	5.0	5.49	5.73	200	40	1.0	2.0	-2.0	2.5	200



PACKAGE DIMENSIONS

SOD-523 CASE 502-01 ISSUE C



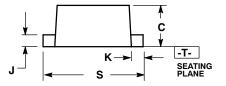
NOTES

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982. CONTROLLING DIMENSION: MILLIMETER.

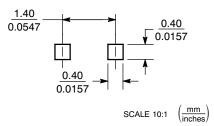
2 3

MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH THICKNESS. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAI

	М	LLIMETE	RS	INCHES			
DIM	MIN	NOM MAX		MIN	NOM	MAX	
Α	1.10	1.20	1.30	0.043	0.047	0.051	
В	0.70	0.80	0.90	0.028	0.032	0.035	
С	0.50	0.60	0.70	0.020	0.024	0.028	
D	0.25	0.30	0.35	0.010	0.012	0.014	
J	0.07	0.14	0.20	0.0028	0.0055	0.0079	
K	0.15	0.20	0.25	0.006	0.008	0.010	
S	1.50	1.60	1.70	0.059	0.063	0.067	



SOLDERING FOOTPRINT*



*For additional information on our Pb-Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

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. SCILC makes no warranty, representation or guarantee regarding the suitability of its products herein. SCILC makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does SCILC 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 applications by customer's technical experts. SCILLC does not convey any license under its patent rights or other rights of others. SCILLC products are not designed, intended, or authorized for use a components in systems intended for surgical implant into the body, or other applications and the provided in SCILLC products are not designed, intended, or authorized for use a components in systems intended for surgical implant into the body, or other applications are some or the specifications are actively applications and actual performance may vary incidents and a specifications are actively applications and actual performance may vary incidents and and actively applications are actively applications and actual performance may vary and and and actively applications are actively applications and actual performance may vary and and actively applications are actively applications and actual performance may vary and actively applications are actively applications are actively applications and actual performance and actively applications are actively applications and actual performance and actively applications are actively applications are actively applications are actively applications and actual performance and actively applications are actively applications are actively applications are activel 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. This literature is subject to all applicable copyright laws and is not for resale in any manner.

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

ON Semiconductor Website: www.onsemi.com

Order Literature: http://www.onsemi.com/orderlit

Europe, Middle East and Africa Technical Support: Phone: 421 33 790 2910 Japan Customer Focus Center Phone: 81-3-5773-3850

For additional information, please contact your local Sales Representative

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

ON Semiconductor: NSZ5V6V2T1G