NSZ5V6V2

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

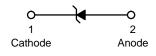
Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

1. FR-4 Minimum Pad.



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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

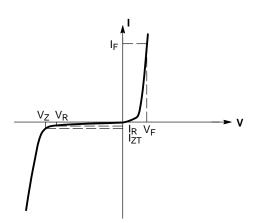
Device	Package	Shipping [†]
NSZ5V6V2T1G	SOD-523 (Pb-Free)	3000/Tape & Reel
NSZ5V6V2T5G	SOD–523 (Pb–Free)	8000/Tape & Reel

+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.

ELECTRICAL CHARACTERISTICS

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

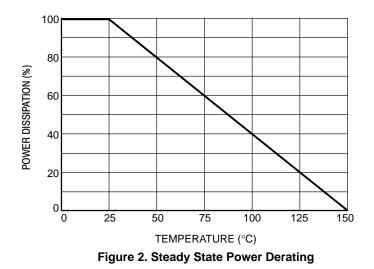
Symbol	Parameter
VZ	Reverse Zener Voltage @ I _{ZT}
I _{ZT}	Reverse Current
Z _{ZT}	Maximum Zener Impedance @ I _{ZT}
I _{ZK}	Reverse Current
Z _{ZK}	Maximum Zener Impedance @ IZK
I _R	Reverse Leakage Current @ V _R
V _R	Reverse Voltage
١ _F	Forward Current
V _F	Forward Voltage @ I _F
ΘV_Z	Maximum Temperature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





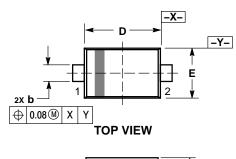
ELECTRICAL CHARACTERISTICS (V_F = 0.9 Max @ I_F = 10 mA for all types)

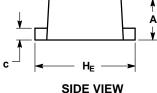
	Test	Zener \ V	•	Z _{ZK} I _Z = 1.0	Z _{ZT} I _Z = IZT @ 10%	Ma IR @		d _{VZ} /dt @ I _{ZT1}	• •	C pF Max @ V _R
Device*	Current Izt mA	Min	Max	mA Ω Max	Mod Ω Max	μΑ	v	Min	Max	= 0 f = 1 MHz
NSZ5V6V2T1G	5.0	5.49	5.73	200	40	1.0	2.0	-2.0	2.5	200



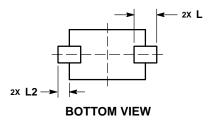
PACKAGE DIMENSIONS

SOD-523 CASE 502 ISSUE E







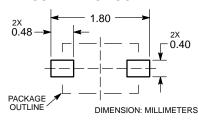


NOTES:

- DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 1994.
 CONTROLLING DIMENSION: MILLIMETERS
- CONTROLLING DIMENSION: MILLIMETERS.
 MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.
- DIMENSIONS D AND E DO NOT INCLUDE MOLD FLASH, PRO-TRUSIONS, OR GATE BURRS.

	MILLIMETERS					
DIM	MIN	NOM	MAX			
Α	0.50	0.60	0.70			
b	0.25	0.30	0.35			
С	0.07	0.14	0.20			
D	1.10	1.20	1.30			
E	0.70	0.80	0.90			
ΗE	1.50	1.60	1.70			
L	0.30 REF					
L2	0.15	0.20	0.25			

RECOMMENDED 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.

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NSZ5V6V2/D