

## Small Signal Zener Diodes



### FEATURES

- Very sharp reverse characteristic
- Low reverse current level
- Very high stability
- Low noise
- AEC-Q101 qualified
- Material categorization:  
For definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



**RoHS**  
COMPLIANT  
HALOGEN  
**FREE**

### APPLICATIONS

- Voltage stabilization

### PRIMARY CHARACTERISTICS

PARAMETER	VALUE	UNIT
V <sub>Z</sub> range nom.	2.4 to 75	V
Test current I <sub>ZT</sub>	2.5; 5	mA
V <sub>Z</sub> specification	Pulse current	
Int. construction	Single	

### ORDERING INFORMATION

DEVICE NAME	ORDERING CODE	TAPED UNITS PER REEL	MINIMUM ORDER QUANTITY
BZX55-series	BZX55-series-TR	10 000 per 13" reel	30 000/box
BZX55-series	BZX55-series-TAP	10 000 per ammpack (52 mm tape)	30 000/box

### PACKAGE

PACKAGE NAME	WEIGHT	MOLDING COMPOUND FLAMMABILITY RATING	MOISTURE SENSITIVITY LEVEL	SOLDERING CONDITIONS
DO-35	125 mg	UL 94 V-0	MSL level 1 (according J-STD-020)	260 °C/10 s at terminals

### ABSOLUTE MAXIMUM RATINGS (T<sub>amb</sub> = 25 °C, unless otherwise specified)

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Power dissipation	I = 4 mm, T <sub>L</sub> = 25 °C	P <sub>tot</sub>	500	mW
Zener current		I <sub>Z</sub>	P <sub>tot</sub> /V <sub>Z</sub>	mA
Junction to ambient air	I = 4 mm, T <sub>L</sub> = constant	R <sub>thJA</sub>	300	K/W
Junction temperature		T <sub>j</sub>	175	°C
Storage temperature range		T <sub>stg</sub>	- 65 to + 175	°C
Forward voltage (max.)	I <sub>F</sub> = 200 mA	V <sub>F</sub>	1.5	V





**BASIC CHARACTERISTICS** ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)

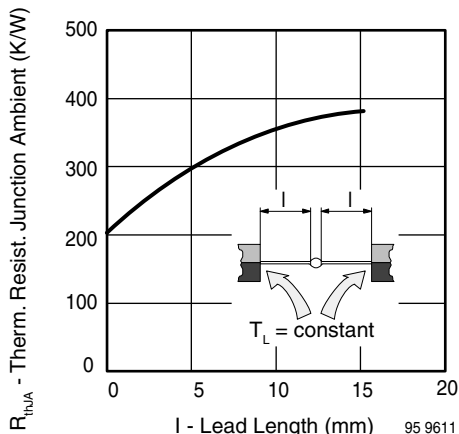


Fig. 1 - Thermal Resistance vs. Lead Length

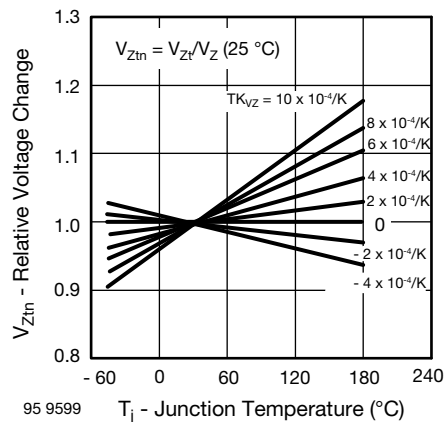


Fig. 4 - Typical Change of Working Voltage vs. Junction Temperature

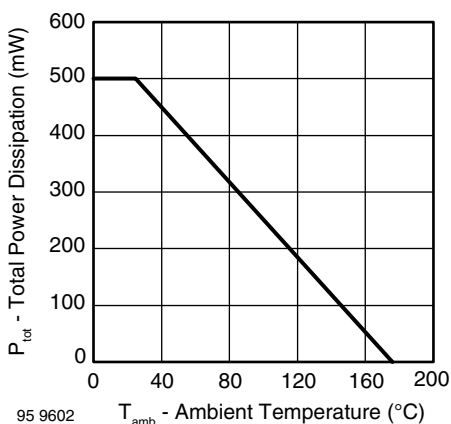


Fig. 2 - Total Power Dissipation vs. Ambient Temperature

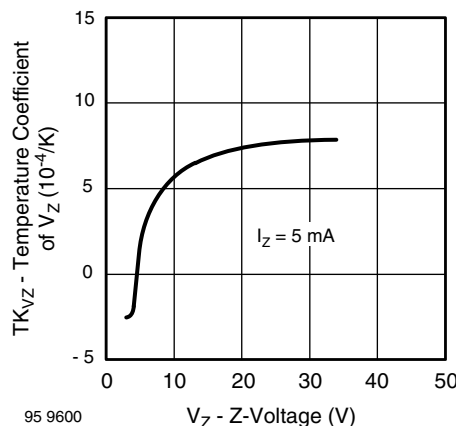


Fig. 5 - Temperature Coefficient of  $V_Z$  vs. Z-Voltage

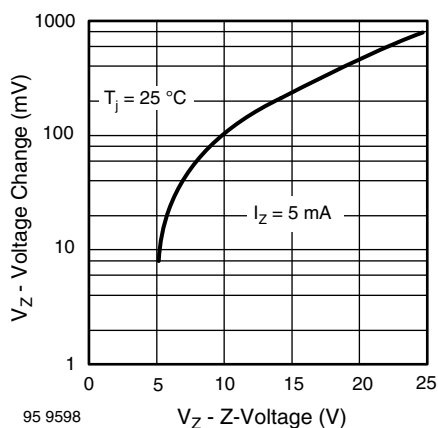


Fig. 3 - Typical Change of Working Voltage under Operating Conditions at  $T_{amb} = 25\text{ }^{\circ}\text{C}$

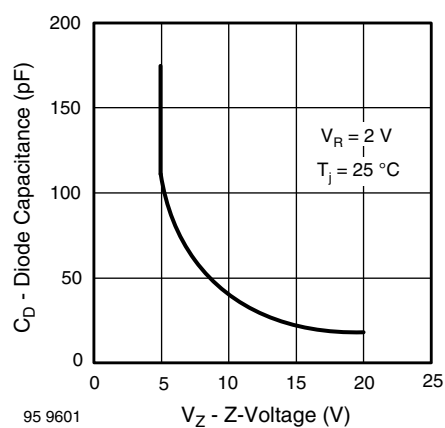


Fig. 6 - Diode Capacitance vs. Z-Voltage

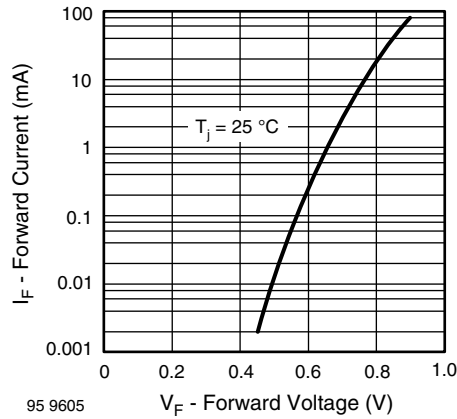


Fig. 7 - Forward Current vs. Forward Voltage

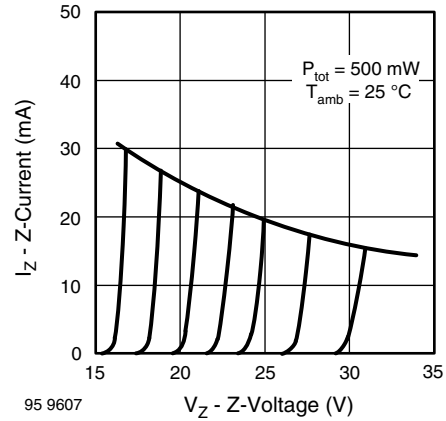


Fig. 9 - Z-Current vs. Z-Voltage

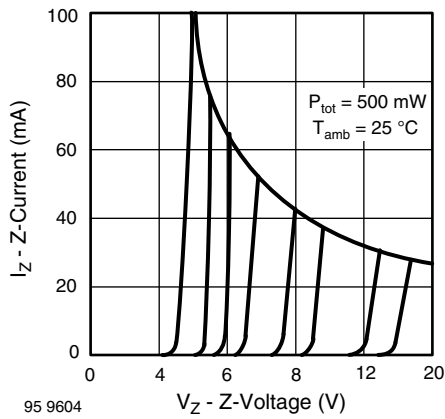


Fig. 8 - Z-Current vs. Z-Voltage

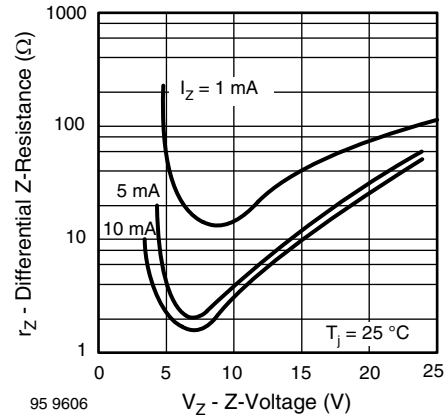


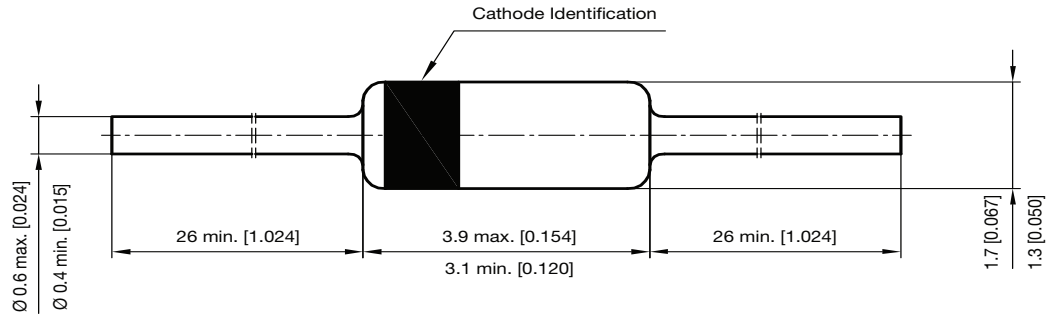
Fig. 10 - Differential Z-Resistance vs. Z-Voltage



Fig. 11 - Thermal Response



**PACKAGE DIMENSIONS** in millimeters (inches): **DO-35**



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