

Zener Diode 500mW

1N5221B - 1N5281B



Features:

- High reliability
- Very sharp reverse characteristic
- Low reverse current level
- V_Z -tolerance $\pm 5\%$

Applications:

Voltage stabilization

Absolute Maximum Ratings $T_j = 25^\circ\text{C}$

Parameter	Test Conditions	Symbol	Value	Unit
Power Dissipation	$T_{\text{amb}} \leq 75^\circ\text{C}$	P_V	500	mW
Z-Current	-	I_Z	P_V / V_Z	mA
Junction Temperature	-	T_j	200	$^\circ\text{C}$
Storage Temperature Range	-	T_{stg}	-65 to +200	

Maximum Thermal Resistance $T_j = 25^\circ\text{C}$

Parameter	Test Conditions	Symbol	Value	Unit
Junction Ambient	$l = 9.5 \text{ mm (3/8 Inches)}$ $T_L = \text{Constant}$	R_{thJA}	300	K/W

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.

Electrical Characteristics $T_j = 25^\circ\text{C}$

Parameter	Test Conditions	Symbol	Maximum	Unit
Forward Voltage	$I_F = 200 \text{ mA}$	V_F	1.1	V

Specification Table

Description	V _{Znom} ¹⁾	I _{ZT}	for	r _{zIT}	r _{ziK}	at	I _{ZK}	I _R	at	V _R	TK _{vz}	Part Number
	V	mA		Ω	Ω		mA	μA		V	%/K	
Diode, Zener, 0.5W, 6V, DO-35	6	20		< 7	< 1,600	0.25		< 5		3.5	< +0.038	1N5233B
Diode, Zener, 0.5W, 8.7V, DO-35	8.7			< 8	< 600			< 3		6.5	< +0.065	1N5238B
Diode, Zener, 0.5W, 14V, DO-35	14	9	< 15	< 0.1					10	< +0.082	1N5244B	
Diode, Zener, 0.5W, 17V, DO-35	17	7.4	< 19							13	< +0.084	1N5247B

¹⁾ Based on DC-measurement at thermal equilibrium while maintaining the lead temperature (T_L) at 30°C , 9.5 mm (3/8 inches) from the diode body

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Characteristics ($T_j = 25^\circ\text{C}$ Unless Otherwise Specified)

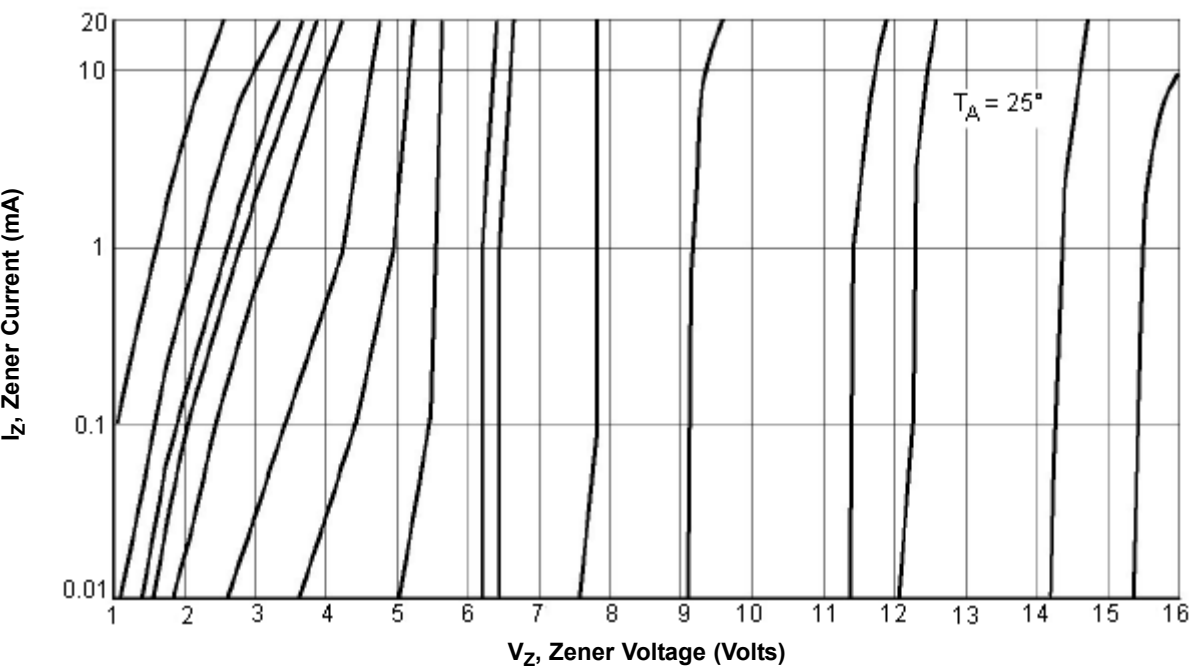


Figure 1. Zener Voltage Versus Zener Current - $V_Z = 1$ thru 16 Volts

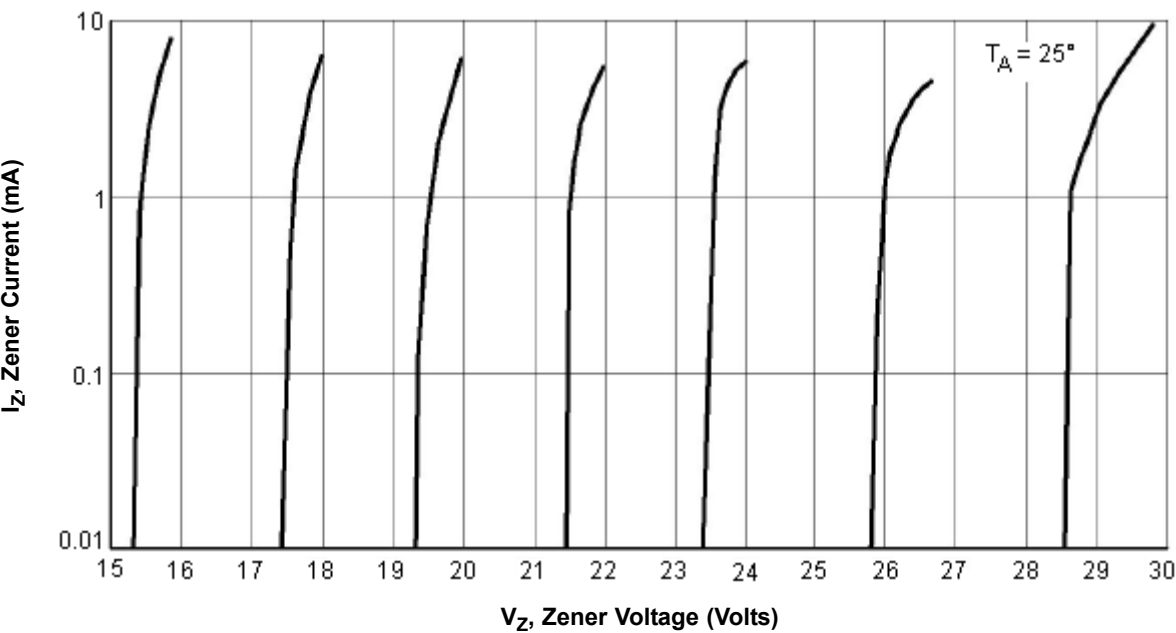


Figure 2. Zener Voltage Versus Zener Current - $V_Z = 15$ thru 30 Volts



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Characteristics ($T_j = 25^\circ\text{C}$ Unless Otherwise Specified)

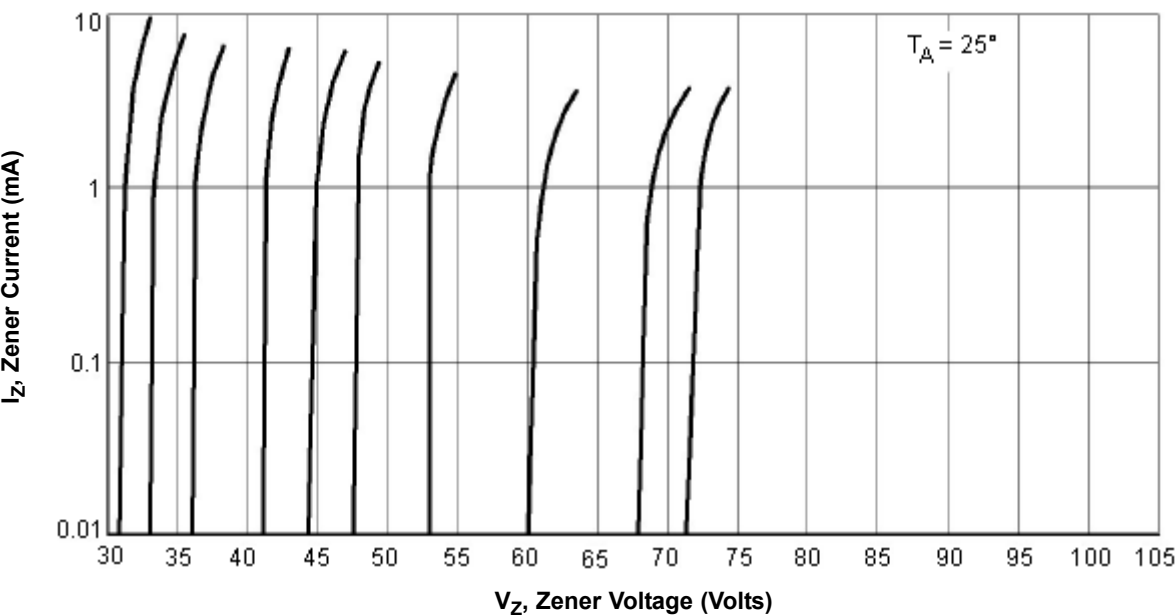


Figure 3. Zener Voltage Versus Zener Current - $V_Z = 30$ thru 75 Volts

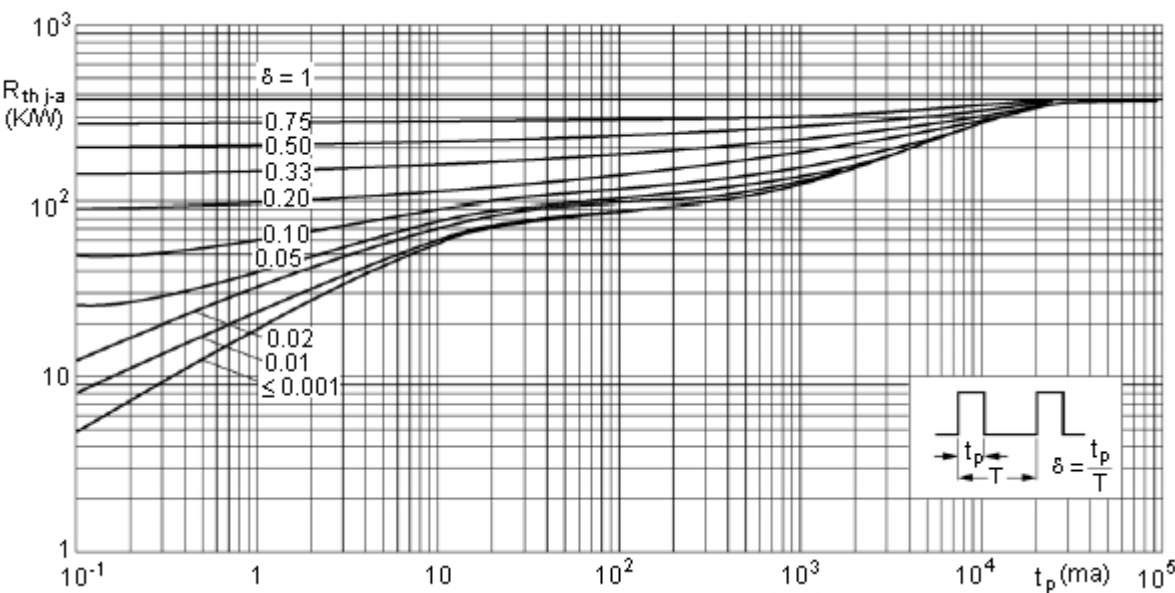


Figure 4. Thermal Resistance from Junction to Ambient as a Function of Pulse Duration

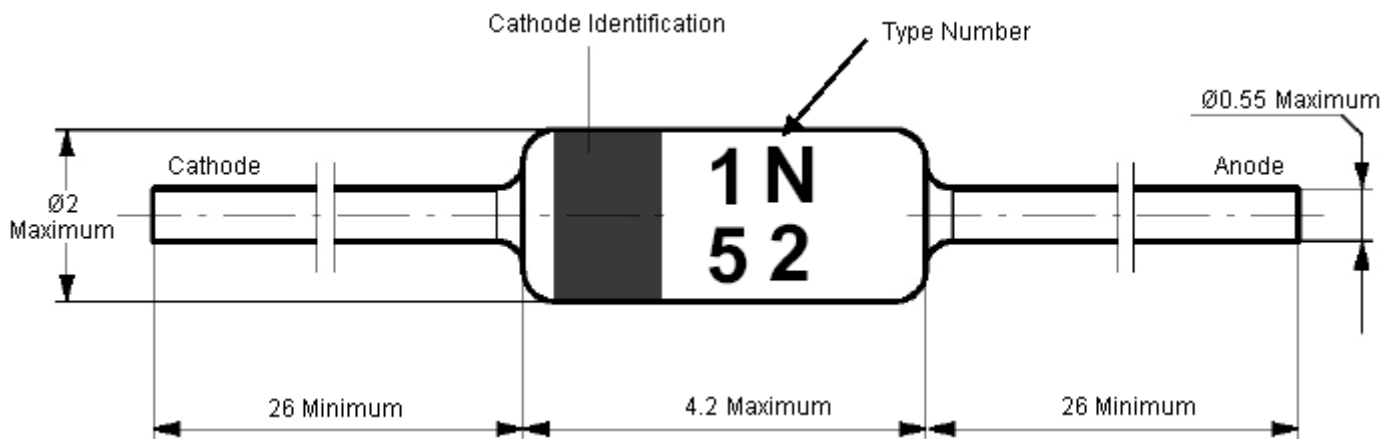


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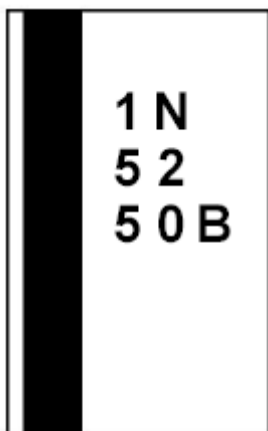
Dimensions in mm



Standard Glass case
JEDEC DO-35

Dimensions : Millimetres

Marking



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