



# Zener diode

## Features

1. High reliability
2. Very sharp reverse characteristic
3. Low reverse current level
4.  $V_Z$ -tolerance  $\pm 2\%$

## Applications

Voltage stabilization

## Absolute Maximum Ratings

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

Parameter	Test Conditions	Type	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			$T_{\text{stg}}$	-65~+200	$^\circ\text{C}$

## Maximum Thermal Resistance

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

Parameter	Test Conditions	Symbol	Value	Unit
Junction ambient	$l=9.5\text{mm}(3/8")$ $T_L=\text{constant}$	$R_{\text{thJA}}$	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	Type	Symbol	Min	Typ	Max	Unit
Forward voltage	$I_F=200\text{mA}$		$V_F$			1.1	V

**Excel Semiconductor**



Type	$V_{Znom}^{1)}$	$I_{ZT}$ for	$r_{zIT}$	$r_{zIK}$ at	$I_{ZK}$	$I_R$ at	$V_R$	$TK_{VZ}$
	V	mA	$\Omega$	$\Omega$	mA	$\mu A$	V	%/K
1N5221C	2.4	20	<30	<1200	0.25	<100	1.0	<-0.085
1N5222C	2.5	20	<30	<1250	0.25	<100	1.0	<-0.085
1N5223C	2.7	20	<30	<1300	0.25	<75	1.0	<-0.080
1N5224C	2.8	20	<30	<1400	0.25	<75	1.0	<-0.080
1N5225C	3.0	20	<29	<1600	0.25	<50	1.0	<-0.075
1N5226C	3.3	20	<28	<1600	0.25	<25	1.0	<-0.070
1N5227C	3.6	20	<24	<1700	0.25	<15	1.0	<-0.065
1N5228C	3.9	20	<23	<1900	0.25	<10	1.0	<-0.060
1N5229C	4.3	20	<22	<2000	0.25	<5	1.0	<+0.055
1N5230C	4.7	20	<19	<1900	0.25	<5	2.0	<+0.030
1N5231C	5.1	20	<17	<1600	0.25	<5	2.0	<+0.030
1N5232C	5.6	20	<11	<1600	0.25	<5	3.0	<+0.038
1N5233C	6.0	20	<7	<1600	0.25	<5	3.5	<+0.038
1N5234C	6.2	20	<7	<1000	0.25	<5	4.0	<+0.045
1N5235C	6.8	20	<5	<750	0.25	<3	5.0	<+0.050
1N5236C	7.5	20	<6	<500	0.25	<3	6.0	<+0.058
1N5237C	8.2	20	<8	<500	0.25	<3	6.5	<+0.062
1N5238C	8.7	20	<8	<600	0.25	<3	6.5	<+0.065
1N5239C	9.1	20	<10	<600	0.25	<3	7.0	<+0.068
1N5240C	10	20	<17	<600	0.25	<3	8.0	<+0.075
1N5241C	11	20	<22	<600	0.25	<2	8.4	<+0.076
1N5242C	12	20	<30	<600	0.25	<1	9.1	<+0.077
1N5243C	13	9.5	<13	<600	0.25	<0.5	9.9	<+0.079
1N5244C	14	9.0	<15	<600	0.25	<0.1	10	<+0.082
1N5245C	15	8.5	<16	<600	0.25	<0.1	11	<+0.082
1N5246C	16	7.8	<17	<600	0.25	<0.1	12	<+0.083
1N5247C	17	7.4	<19	<600	0.25	<0.1	13	<+0.084
1N5248C	18	7.0	<21	<600	0.25	<0.1	14	<+0.085
1N5249C	19	6.6	<23	<600	0.25	<0.1	15	<+0.086
1N5250C	20	6.2	<25	<600	0.25	<0.1	16	<+0.086
1N5251C	22	5.6	<29	<600	0.25	<0.1	17	<+0.087
1N5252C	24	5.2	<33	<600	0.25	<0.1	18	<+0.088
1N5253C	25	5.0	<35	<600	0.25	<0.1	19	<+0.089
1N5254C	27	4.6	<41	<600	0.25	<0.1	21	<+0.090
1N5255C	28	4.5	<44	<600	0.25	<0.1	21	<+0.091
1N5256C	30	4.2	<49	<600	0.25	<0.1	23	<+0.091
1N5257C	33	3.8	<58	<700	0.25	<0.1	25	<+0.092
1N5258C	36	3.4	<70	<700	0.25	<0.1	27	<+0.093
1N5259C	39	3.2	<80	<800	0.25	<0.1	30	<+0.094
1N5260C	43	3.0	<93	<900	0.25	<0.1	33	<+0.095
1N5261C	47	2.7	<105	<1000	0.25	<0.1	36	<+0.095
1N5262C	51	2.5	<125	<1100	0.25	<0.1	39	<+0.096
1N5263C	56	2.2	<150	<1300	0.25	<0.1	43	<+0.096
1N5264C	60	2.1	<170	<1400	0.25	<0.1	46	<+0.097
1N5265C	62	2.0	<185	<1400	0.25	<0.1	47	<+0.097
1N5266C	68	1.8	<230	<1600	0.25	<0.1	52	<+0.097
1N5267C	75	1.7	<270	<1700	0.25	<0.1	58	<+0.098

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



Characteristics ( $T_j=25^\circ\text{C}$  unless otherwise specified)

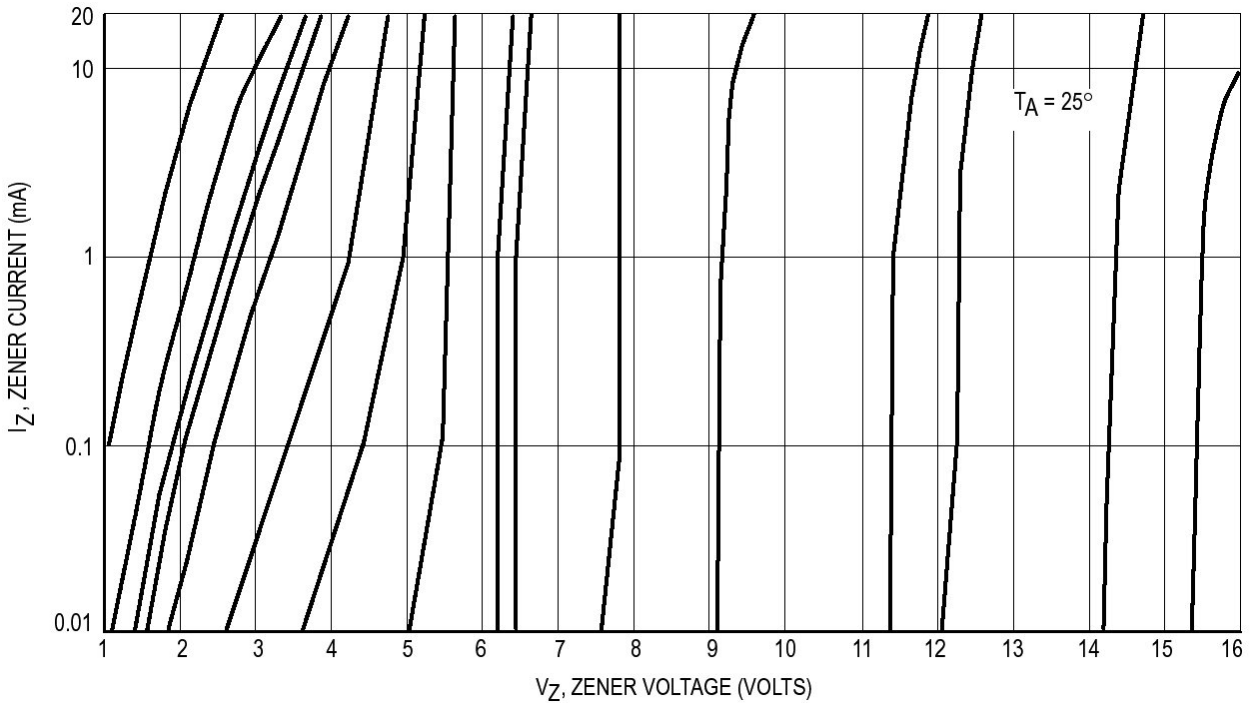


Figure 1. Zener Voltage versus Zener Current –  $V_Z=1$  thru 16 Volts

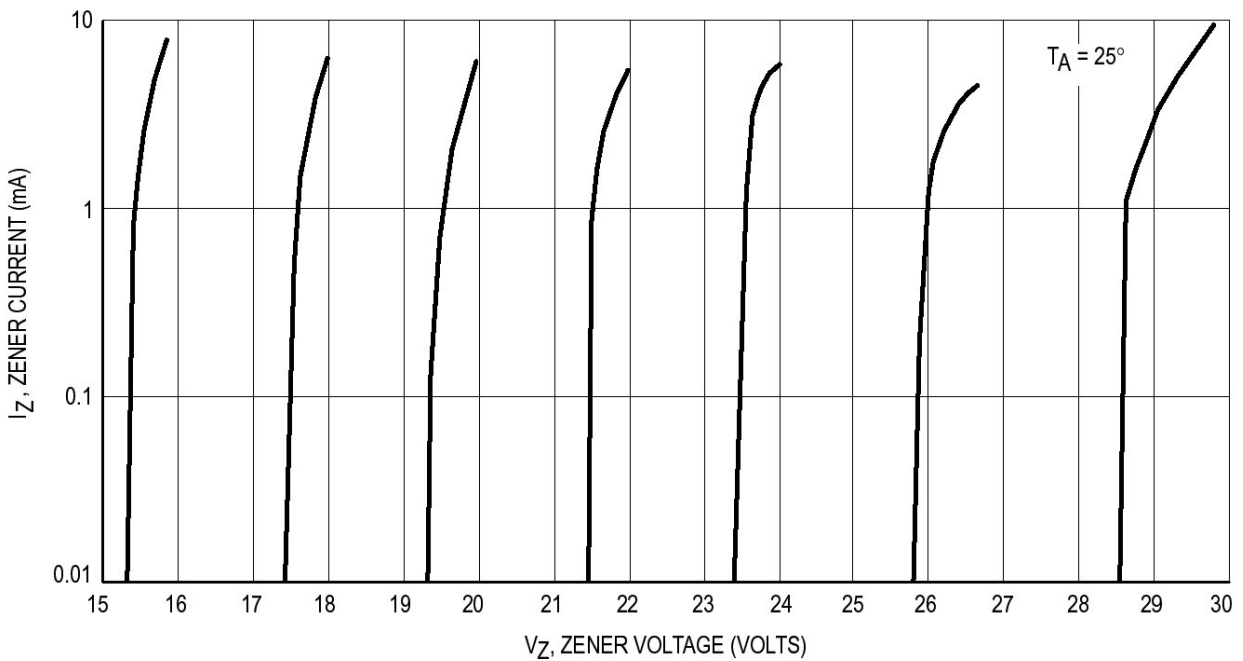


Figure 2. Zener Voltage versus Zener Current –  $V_Z=15$  thru 30 Volts

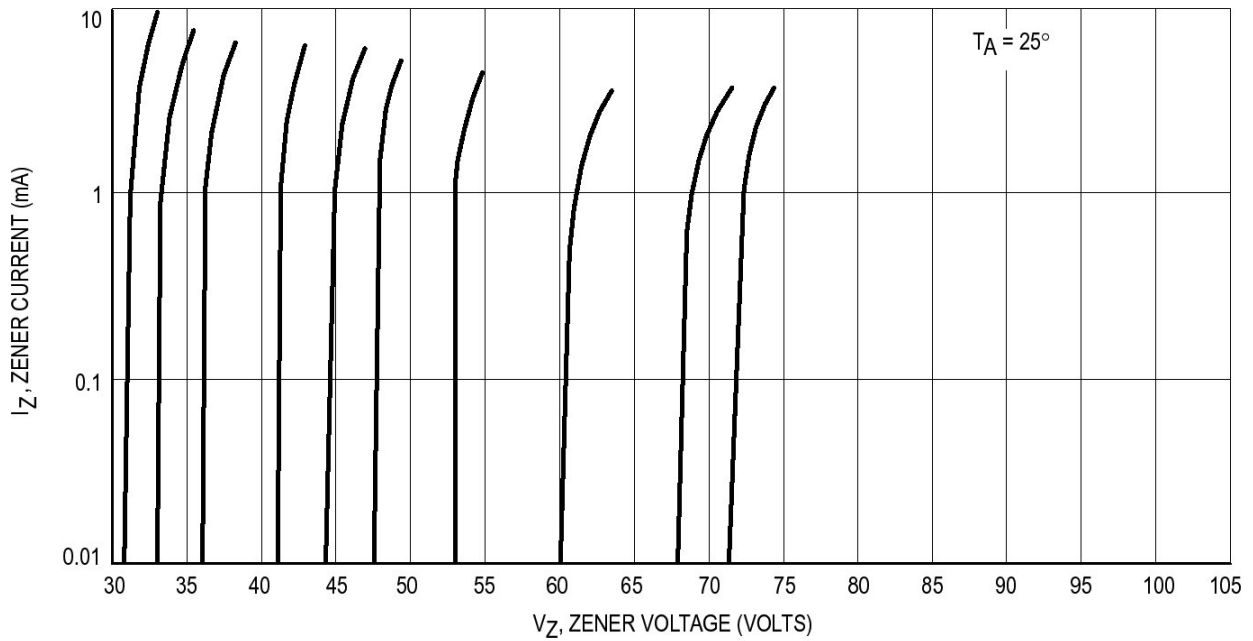


Figure 3. Zener Voltage versus Zener Current – Vz=30 thru 75 Volts

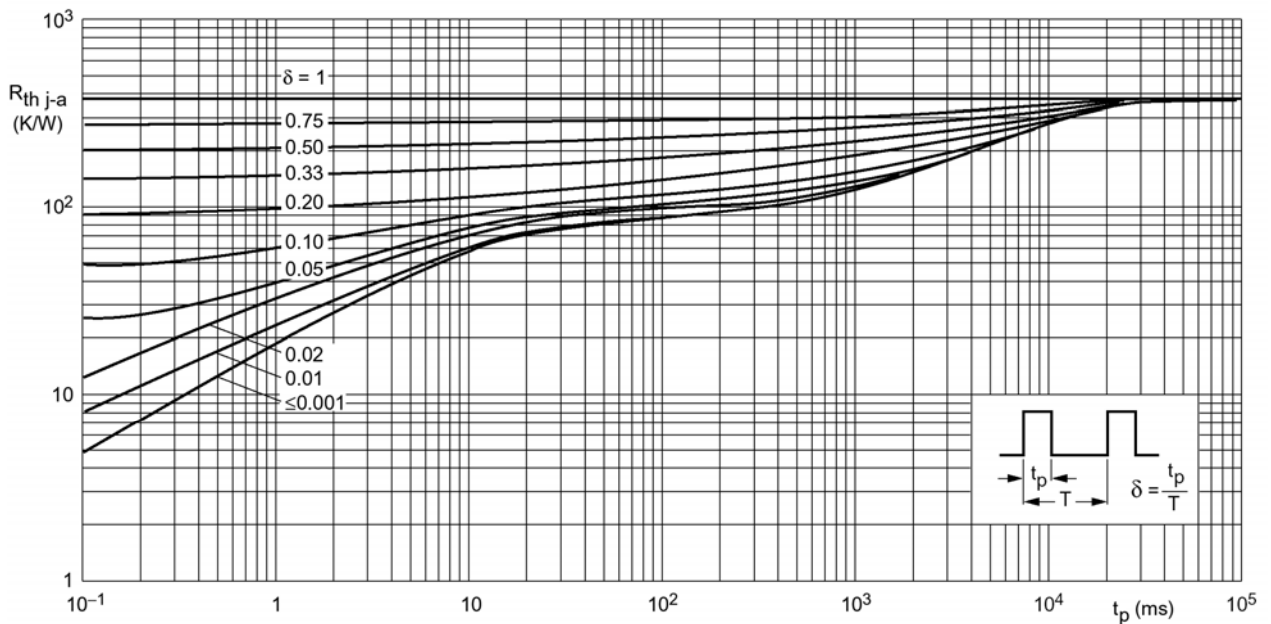
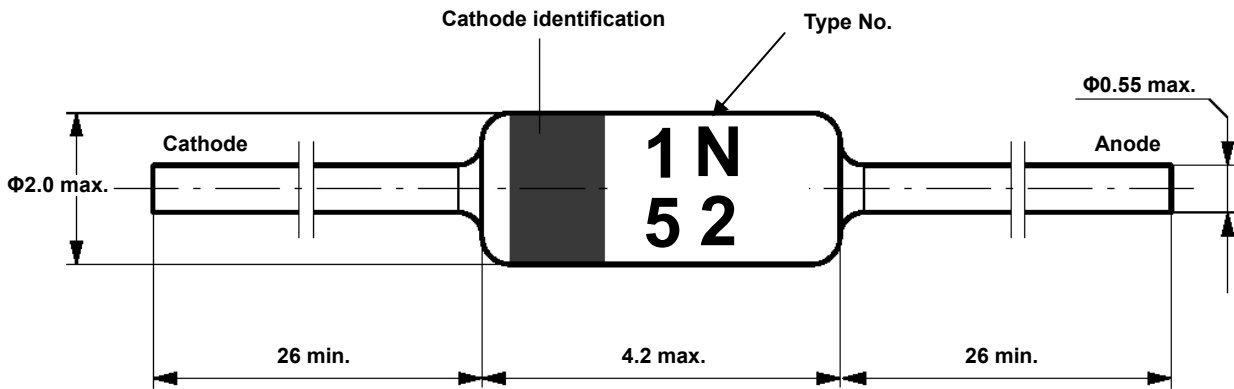


Figure 4. Thermal resistance from junction to ambient as a function of pulse duration



Dimensions in mm



Standard Glass Case  
JEDEC DO-35

Marking

