

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_{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_{thJA}	300	K/W

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

	V _{Znom} ¹⁾	I _{ZT}	for	r _{zT}	r _{zK}	at	I _{ZK}	I _R	at	V _R	TK _{VZ}
	V	mA		Ω	Ω		mA	μA		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)

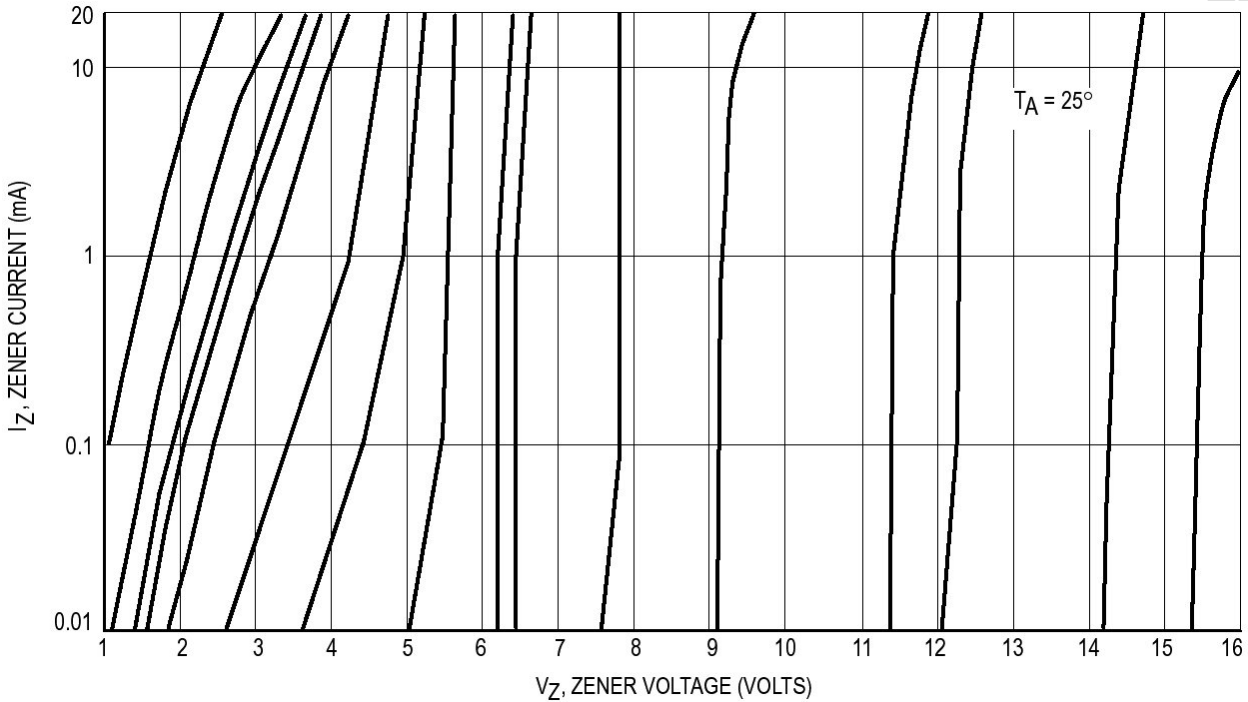


Figure 1. Zener Voltage versus Zener Current – $V_Z=1$ thru 16 Volts

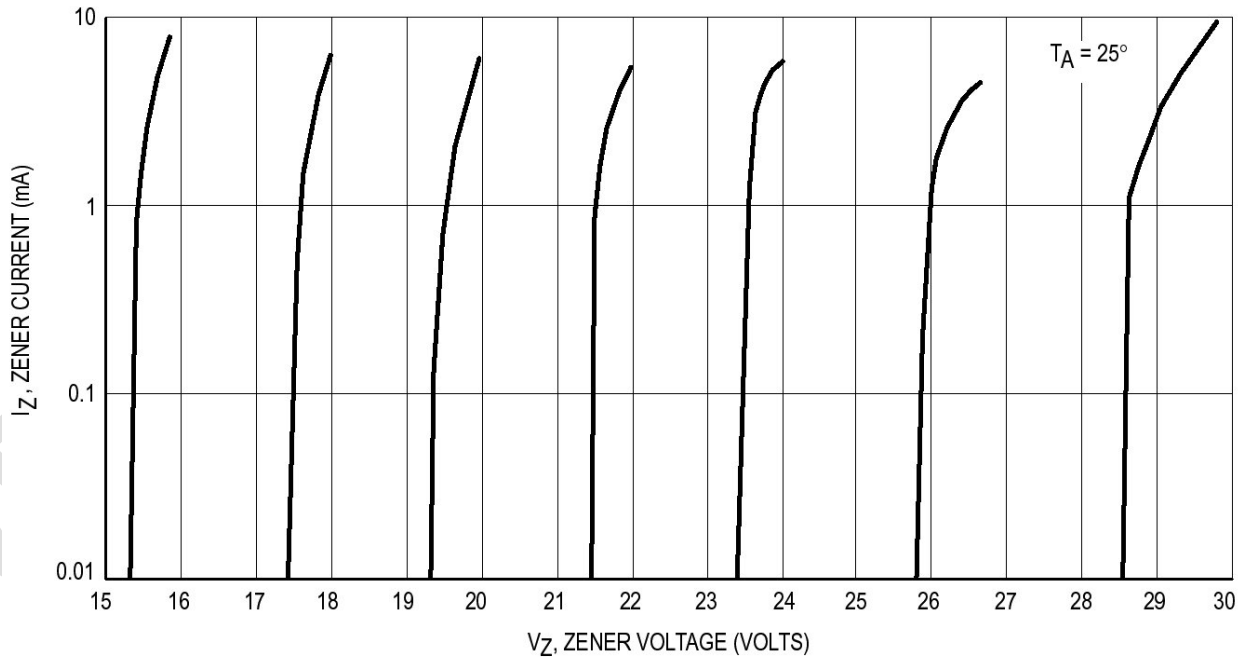


Figure 2. Zener Voltage versus Zener Current – $V_Z=15$ thru 30 Volts

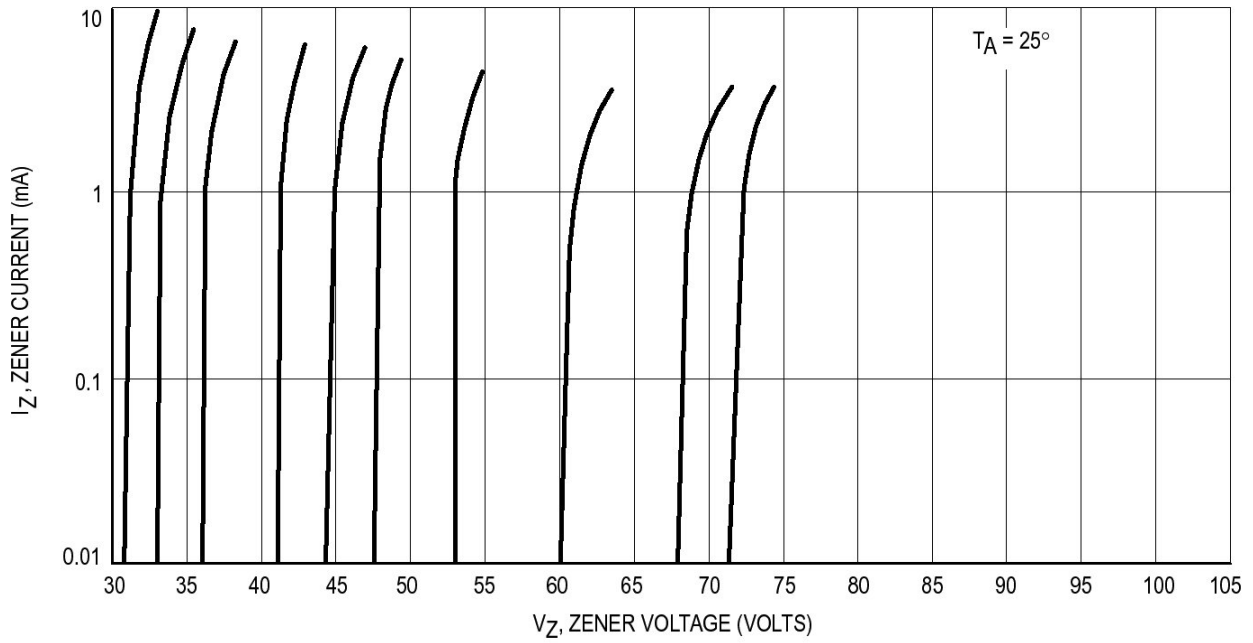


Figure 3. Zener Voltage versus Zener Current – Vz=30 thru 75 Volts

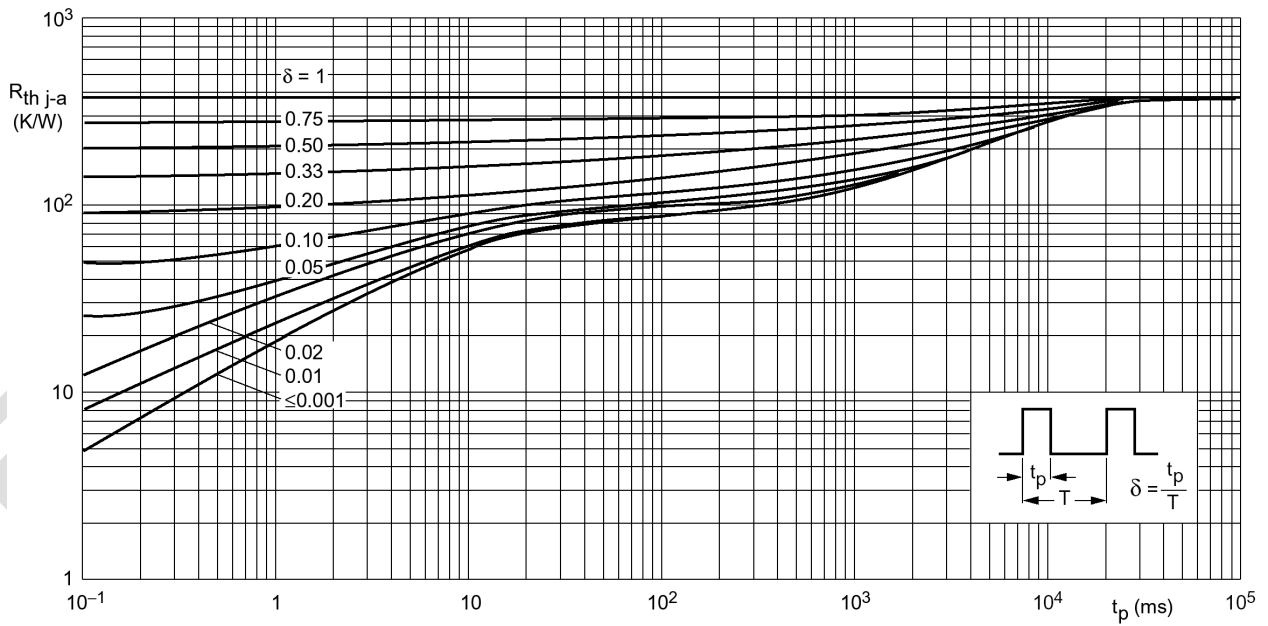
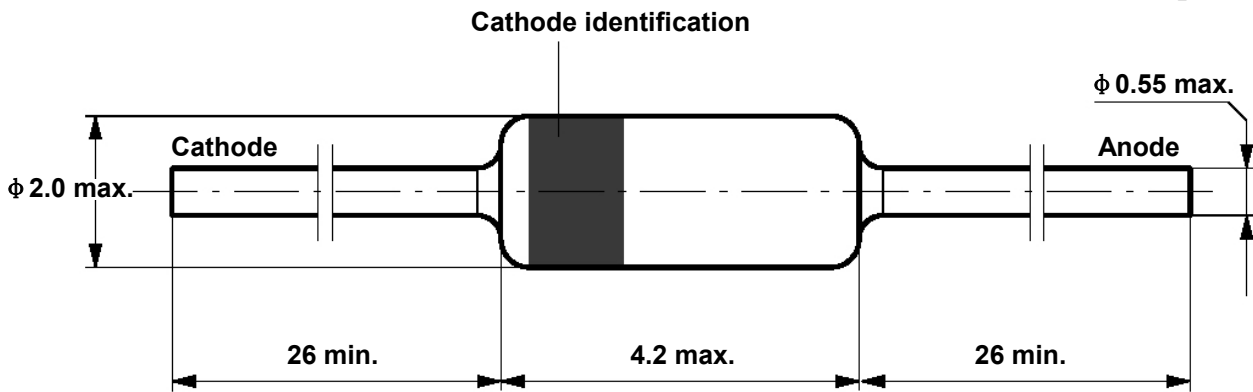


Figure 4. Thermal resistance from junction to ambient as a function of pulse duration

Dimensions in mm



Standard Glass Case
JEDEC DO 35