



Zener diode

Features

1. High reliability
2. Low zener impedance
3. Low regulation factor
4. V_Z -tolerance $\pm 5\%$



Applications

Voltage stabilization

Absolute Maximum Ratings

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

Parameter	Test Conditions	Type	Symbol	Value	Unit
Power dissipation	$T_{\text{amb}} \leq 50^\circ\text{C}$		P_V	1.5	W
Z-current			I_Z	P_V/V_Z	mA
Junction temperature			T_j	150	$^\circ\text{C}$
Storage temperature range			T_{stg}	-65~+175	$^\circ\text{C}$

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			1.5	V



Type	$V_{Znom}^{1)}$	I_{ZT} mA	for	r_{zIT} Ω	r_{zJK} at Ω	I_{ZK} mA	I_R at μA	V_R V
	V							
1N5913B	3.3	113.6		<10	<500	1	<50	1
1N5914B	3.6	104.2		<9	<500	1	<35.5	1
1N5915B	3.9	96.1		<7.5	<500	1	<12.5	1
1N5916B	4.3	87.2		<6	<500	1	<2.5	1
1N5917B	4.7	79.8		<5	<500	1	<2.5	1.5
1N5918B	5.1	73.5		<4	<350	1	<2.5	2
1N5919B	5.6	66.9		<2	<250	1	<2.5	3
1N5920B	6.2	60.5		<2	<200	1	<2.5	4
1N5921B	6.8	55.1		<2.5	<200	1	<2.5	5.2
1N5922B	7.5	50		<3	<400	0.5	<2.5	6
1N5923B	8.2	45.7		<3.5	<400	0.5	<2.5	6.5
1N5924B	9.1	41.2		<4	<500	0.5	<2.5	7
1N5925B	10	37.5		<4.5	<500	0.25	<2.5	8
1N5926B	11	34.1		<5.5	<550	0.25	<0.5	8.4
1N5927B	12	31.2		<6.5	<550	0.25	<0.5	9.1
1N5928B	13	28.8		<7	<550	0.25	<0.5	9.9
1N5929B	15	25		<9	<600	0.25	<0.5	11.4
1N5930B	16	23.4		<10	<600	0.25	<0.5	12.2
1N5931B	18	20.8		<12	<650	0.25	<0.5	13.7
1N5932B	20	18.7		<14	<650	0.25	<0.5	15.2
1N5933B	22	17		<17.5	<650	0.25	<0.5	16.7
1N5934B	24	15.6		<19	<700	0.25	<0.5	18.2
1N5935B	27	13.9		<23	<700	0.25	<0.5	20.6
1N5936B	30	12.5		<26	<750	0.25	<0.5	22.8
1N5937B	33	11.4		<33	<800	0.25	<0.5	25.1
1N5938B	36	10.4		<38	<850	0.25	<0.5	27.4
1N5939B	39	9.6		<45	<900	0.25	<0.5	29.7
1N5940B	43	8.7		<53	<950	0.25	<0.5	32.7

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)

Symbol	Parameter
V_Z	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 @ I_{ZK}
I_R	Reverse leakage current @ V_R
V_R	Breakdown voltage
I_F	Forward current
V_F	Forward voltage @ I_F

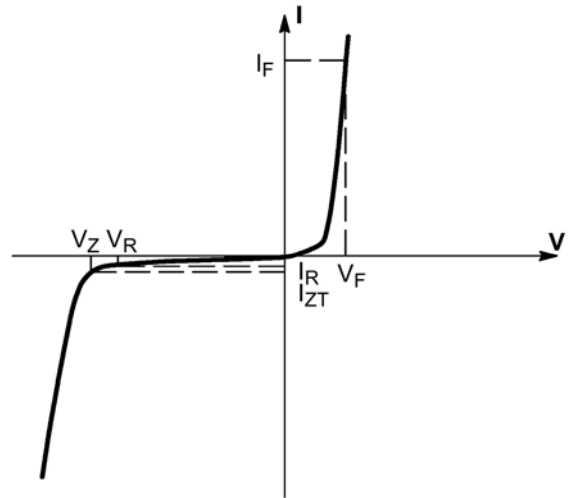


Figure 1. Zener voltage regulator

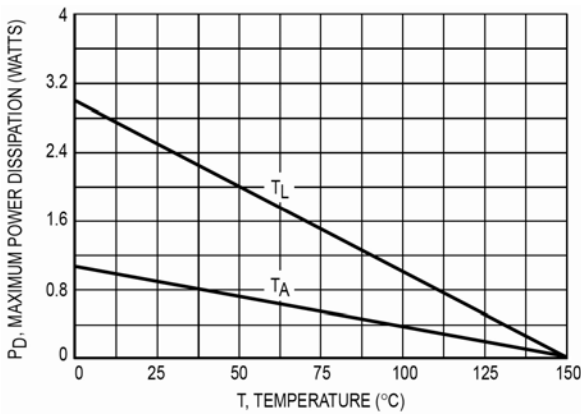


Figure 2. Steady state power derating

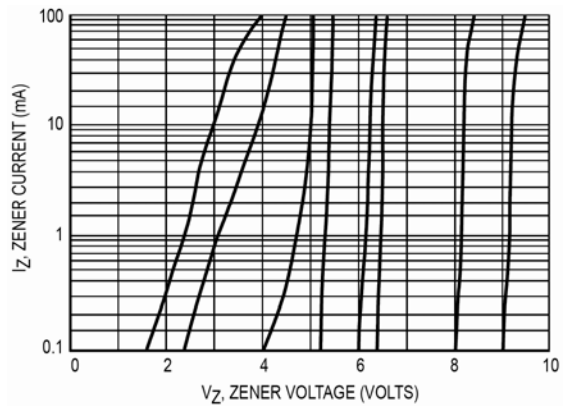


Figure 3. $V_Z - 3.3$ thru 10 volts

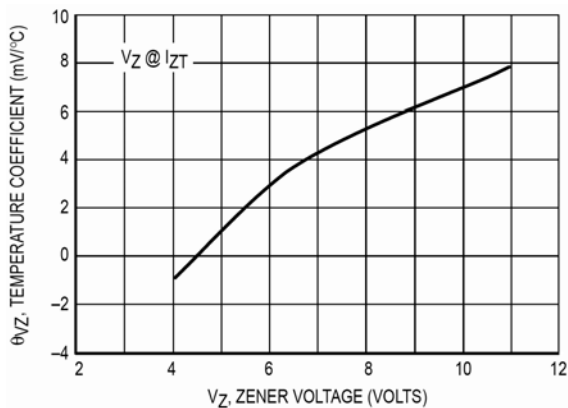


Figure 4. Zener voltage - 3.3 to 12 volts

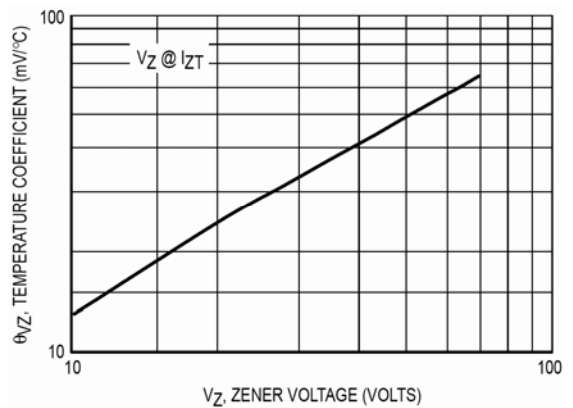


Figure 5. Zener voltage - 14 to 43 volts

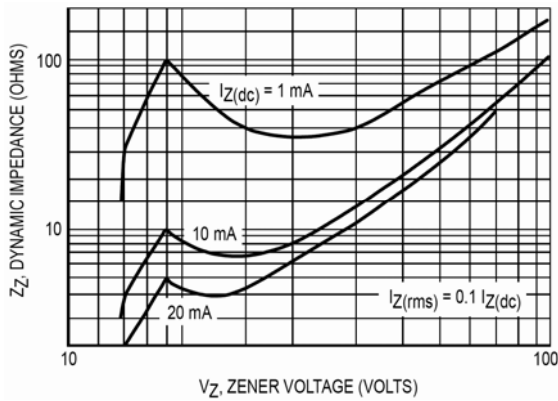


Figure 6. Effect of zener voltage

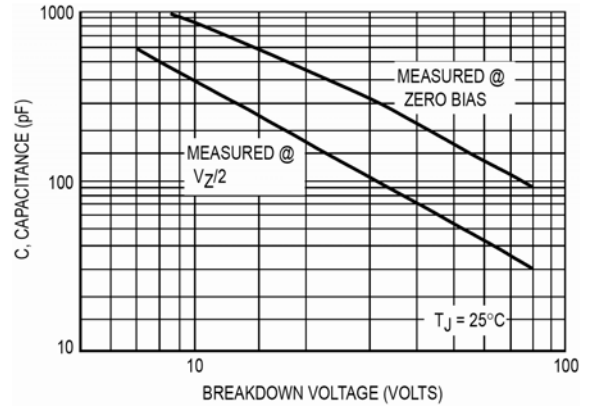


Figure 7. Capacitance curve

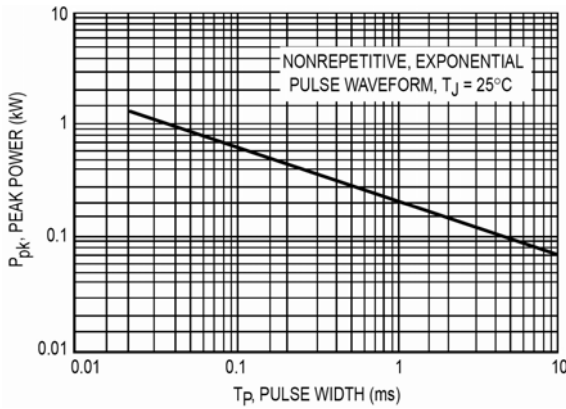


Figure 8. Typical pulse rating curve

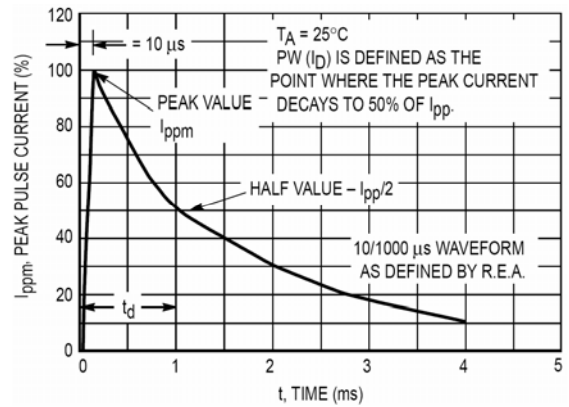


Figure 9. Pulse waveform

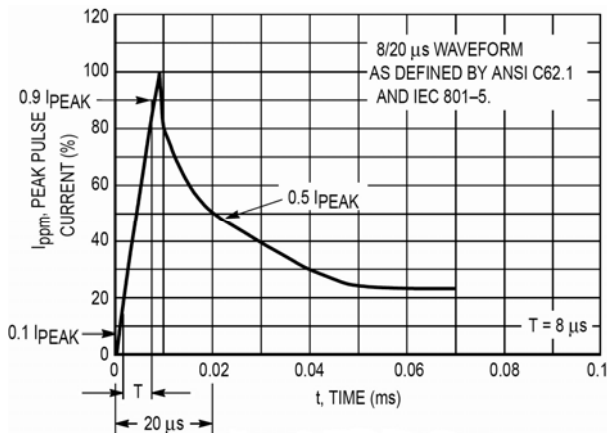
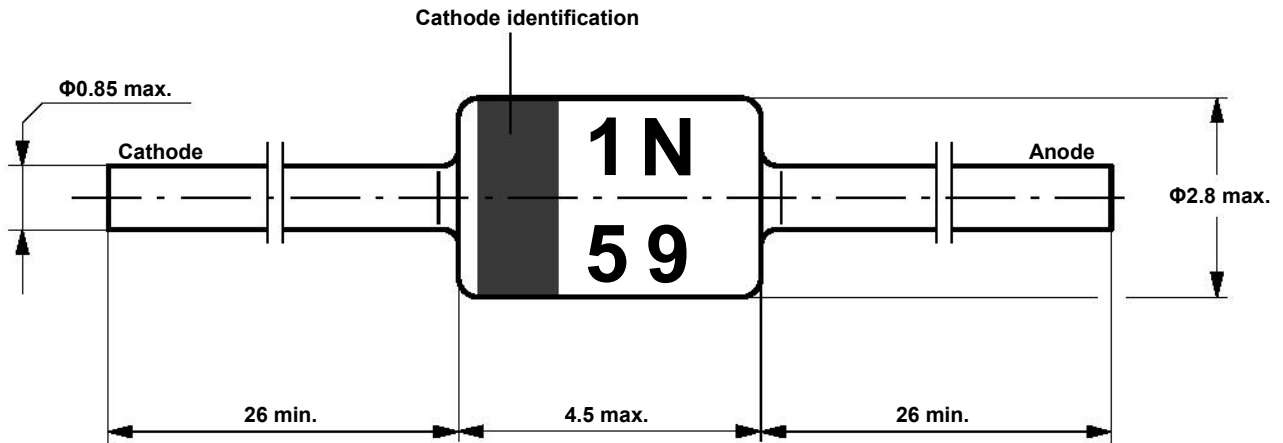


Figure 10. Pulse waveform



Dimensions in mm



Standard Glass Case
JEDEC DO-41

Marking

