

## 500mW,0.8 - 200V Zener Diodes

### Features

- Low leakage current
- Available in unidirectional
- Glass passivated junction
- Silicon Planar Power Zener Diodes
- Total power dissipation: Max 500mW
- Moisture sensitivity: level 1, per J-STD-020
- BZX55-C series zener voltage tolerance is  $\pm 5\%$
- BZX55-B series zener voltage tolerance is  $\pm 2\%$



DO-35(DO-204AH)

### Applications

Protection from high voltage, high energy transients, voltage stabilization.

Absolute Maximum Ratings ( $T_A=25^\circ\text{C}$ unless otherwise noted)			
Parameter	Symbol	Ratings	Unit
Zener voltage	$V_Z$	See Next Table	V
Power dissipation at $T_L=75^\circ\text{C}$	$P_{\text{tot}}$	500	mW
Typical Thermal Resistance , Junction to Ambient	$R_{\theta JA}$	0.38	$^\circ\text{C}/\text{mW}$
Maximum junction temperature	$T_J$	175	$^\circ\text{C}$
Storage temperature range	$T_{\text{STG}}$	-65 to +175	$^\circ\text{C}$

Note:

1. Valid provided that leads at a distance of 9.5mm from case are kept at ambient temperature.

## Electrical Characteristics (TA = 25 °C unless otherwise noted)

Part Number	V <sub>Z</sub> at I <sub>ZT</sub> = 5mA (V)					Maximum zener impedance(Ω)		Test voltage V <sub>R</sub> (V)	Maximum reverse leakage at V <sub>R</sub> (μA)		Maximum Zener Current I <sub>ZM</sub> (mA)
	Typ	Y=C		Y=B		I <sub>ZT</sub> =5mA f=1KHZ	I <sub>ZT</sub> =1mA f=1KHZ		T <sub>A</sub> =25°C	T <sub>A</sub> =150°C	
		Min	Max	Min	Max						
BZX55-Y0V8	0.8	0.76	0.84	0.78	0.82	8	600	-	-	-	-
BZX55-Y2V4	2.4	2.28	2.52	2.35	2.45	85	600	1	50000	100	145
BZX55-Y2V7	2.7	2.57	2.84	2.65	2.75	85	600	1	10000	50	135
BZX55-Y3V0	3.0	2.85	3.15	2.94	3.06	85	600	1	4000	40	125
BZX55-Y3V3	3.3	3.14	3.47	3.23	3.37	85	600	1	2000	40	115
BZX55-Y3V6	3.6	3.42	3.78	3.53	3.67	85	600	1	2000	40	105
BZX55-Y3V9	3.9	3.71	4.10	3.82	3.98	85	600	1	2000	40	95
BZX55-Y4V3	4.3	4.09	4.52	4.21	4.39	75	600	1	1000	20	90
BZX55-Y4V7	4.7	4.47	4.94	4.61	4.79	60	600	1	500	10	85
BZX55-Y5V1	5.1	4.85	5.36	5.00	5.20	35	550	1	100	2	80
BZX55-Y5V6	5.6	5.32	5.88	5.49	5.71	25	450	1	100	2	70
BZX55-Y6V2	6.2	5.89	6.51	6.08	6.32	10	200	2	100	2	64
BZX55-Y6V8	6.8	6.46	7.14	6.66	6.94	8	150	3	100	2	58
BZX55-Y7V5	7.5	7.13	7.88	7.35	7.65	7	50	5	100	2	53
BZX55-Y8V2	8.2	7.79	8.61	8.04	8.36	7	50	6.2	100	2	47
BZX55-Y9V1	9.1	8.65	9.56	8.92	9.28	10	50	6.8	100	2	43
BZX55-Y10	10	9.50	10.50	9.80	10.20	15	70	7.5	100	2	40
BZX55-Y11	11	10.45	11.55	10.78	11.22	20	70	8.2	100	2	36
BZX55-Y12	12	11.40	12.60	11.76	12.24	20	90	9.1	100	2	32
BZX55-Y13	13	12.35	13.65	12.74	13.26	26	110	10	100	2	29
BZX55-Y15	15	14.25	15.75	14.70	15.30	30	110	11	100	2	27
BZX55-Y16	16	15.20	16.80	15.68	16.32	40	170	12	100	2	24
BZX55-Y18	18	17.10	18.90	17.64	18.36	50	170	13	100	2	21
BZX55-Y20	20	19.00	21.00	19.60	20.40	55	220	15	100	2	20
BZX55-Y22	22	20.90	23.10	21.56	22.44	55	220	16	100	2	18
BZX55-Y24	24	22.80	25.20	23.52	24.48	80	220	18	100	2	16
BZX55-Y27	27	25.65	28.35	26.46	27.54	80	220	20	100	2	14
BZX55-Y30	30	28.50	31.50	29.40	30.60	80	220	22	100	2	13
BZX55-Y33	33	31.35	34.65	32.34	33.66	80	220	24	100	2	12
BZX55-Y36	36	34.20	37.80	35.28	36.72	80	220	27	100	2	11
BZX55-Y39	39	37.05	40.95	38.22	39.78	90	500	30	100	5	10
BZX55-Y43	43	40.85	45.15	42.14	43.86	90	600	33	100	5	9.2
BZX55-Y47	47	44.65	49.35	46.06	47.94	110	700	36	100	5	8.5
BZX55-Y51	51	48.45	53.55	49.98	52.02	125	700	39	100	10	7.8
BZX55-Y56	56	53.20	58.80	54.88	57.12	135	1000	43	100	10	7
BZX55-Y62	62	58.90	65.10	60.76	63.24	150	1000	47	100	10	6.4

## Electrical Characteristics (TA = 25 °C unless otherwise noted)

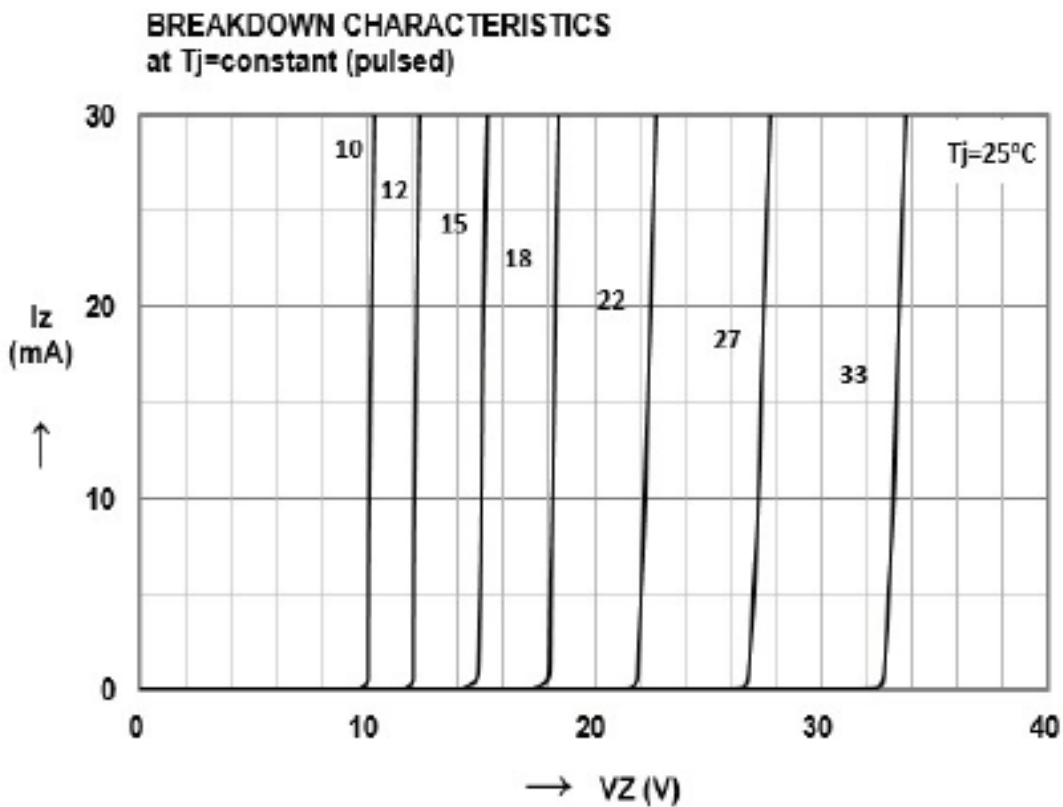
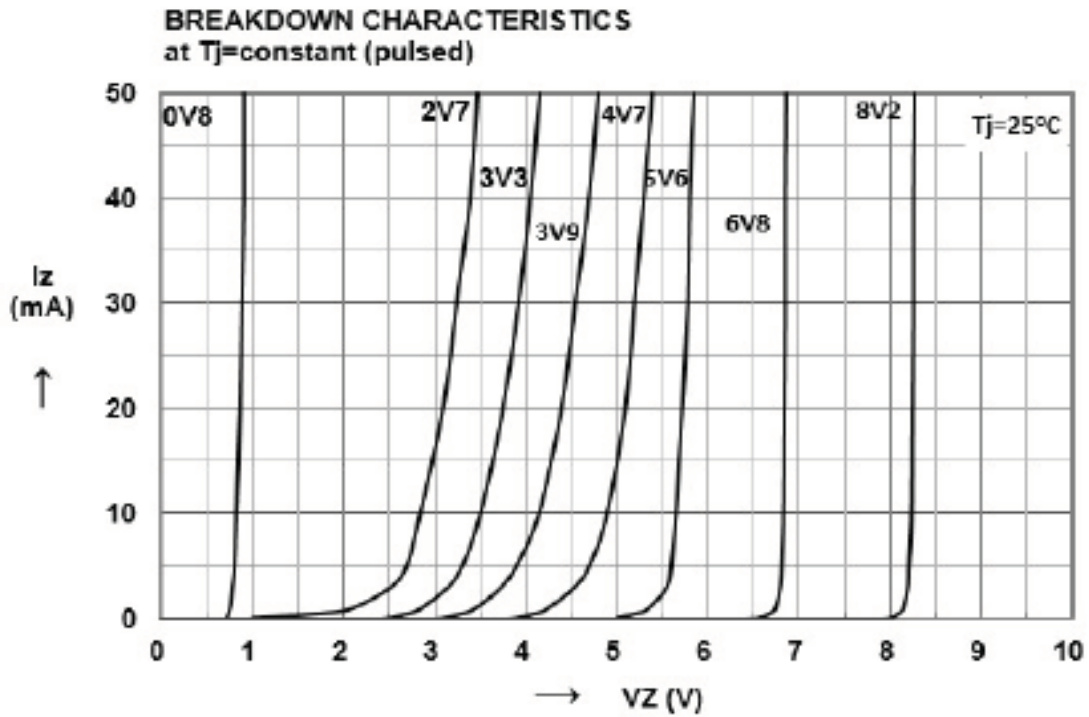
Part Number	Vz at IZT =5mA (V)					Maximum zener impedance(Ω)		Test voltage VR (V)	Maximum reverse leakage at VR (μA)		Maximum Zener Current IZM (mA)
	Typ	Y=C		Y=B		IZT=5mA f=1KHZ	IZT=1mA f=1KHZ		TA=25°C	TA=150°C	
		Min	Max	Min	Max						
BZX55-Y68	68	64.60	71.40	66.64	69.36	200	1000	51	100	10	5.9
BZX55-Y75	75	71.25	78.75	73.50	76.50	250	1500	56	100	10	5.3
BZX55-Y82	82	77.90	86.10	80.36	83.64	300	2000	62	100	10	4.8
BZX55-Y91	91	86.45	95.55	89.18	92.82	450	5000	68	100	10	4.4
BZX55-Y100	100	95.00	105.0	98.0	102.0	450	5000	75	100	10	4.0
BZX55-Y110	110	104.5	115.5	107.8	112.2	600	5000	82	100	10	-
BZX55-Y120	120	114.0	126.0	117.6	122.4	800	5500	91	100	10	-
BZX55-Y130	130	123.5	136.5	127.4	132.6	950	6000	100	100	10	-
BZX55-Y150	150	142.5	157.5	147.0	153.0	1250	6500	110	100	10	-
BZX55-Y160	160	152.0	168.0	156.8	163.2	1400	7000	120	100	10	-
BZX55-Y180	180	171.0	189.0	176.4	183.6	1700	8500	130	100	10	-
BZX55-Y200	200	190.0	210.0	196.0	204.0	2000	10000	150	100	10	-

**Note:**

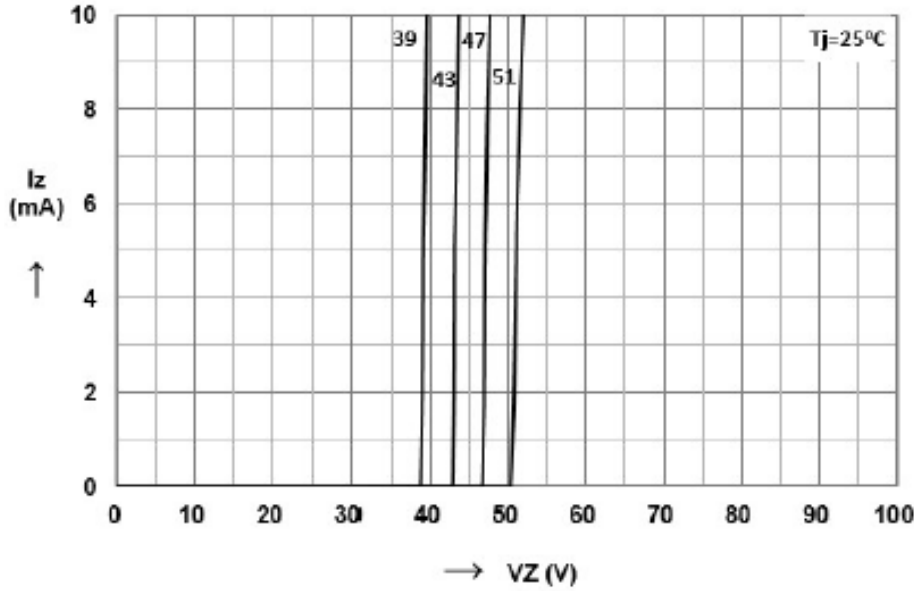
1. BZX55-C series zener voltage tolerance is  $\pm 5\%$
2. BZX55-B series zener voltage tolerance is  $\pm 2\%$

## Ratings and Characteristics Curves

( $T_A = 25^\circ\text{C}$  unless otherwise noted)

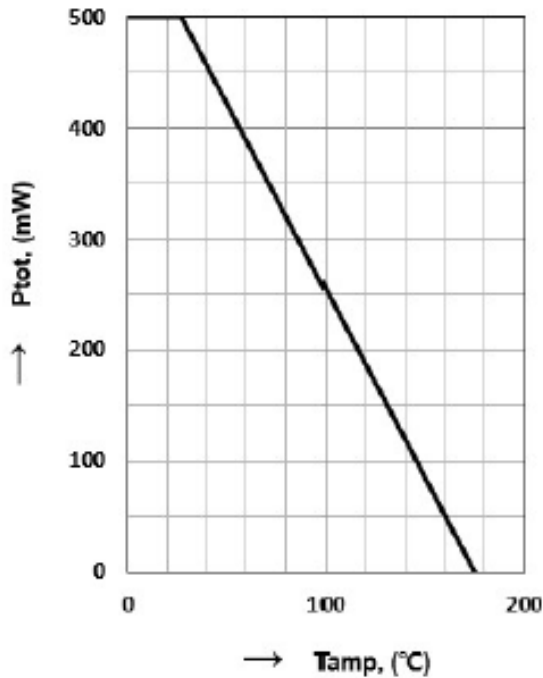


### BREAKDOWN CHARACTERISTICS at $T_j = \text{constant}$ (pulsed)



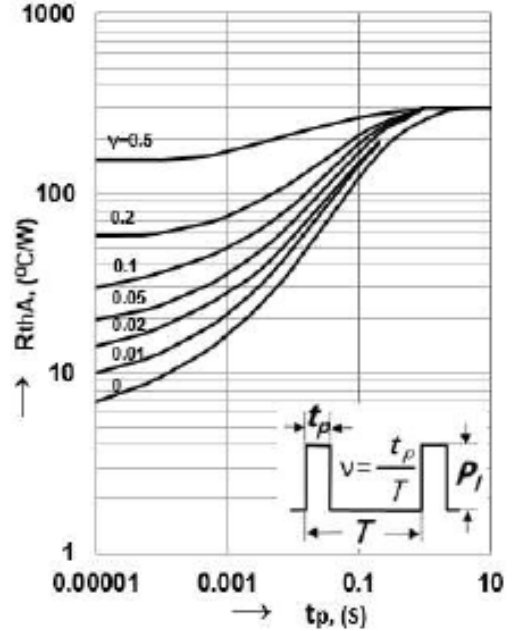
### Admissible power dissipation versus ambient temperature

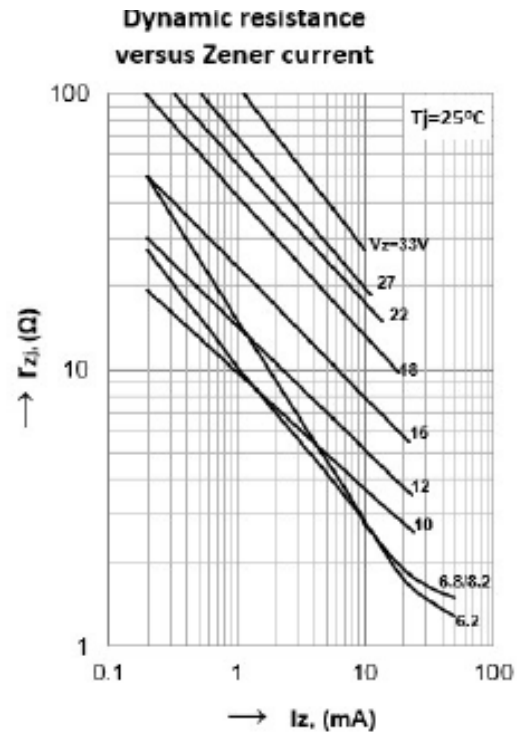
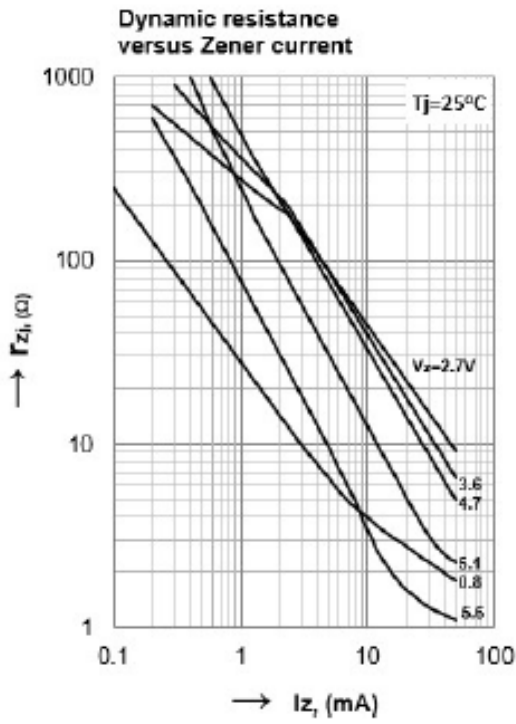
Valid provided that leads are kept at ambient temperature at a distance of 9.5 mm from case



### Pulse thermal resistance versus pulse duration

Valid provided that leads are kept at ambient temperature at a distance of 9.5 mm from case



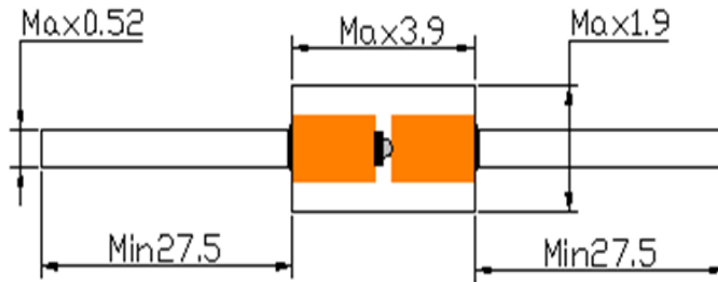


**Package Outline Dimensions**

in inches (millimeters)

**DO-35 (DO-204AH)**

CASE DIMENSION (DO-35 Type, 52mm), Unit: mm



**Revision History**

Document Version	Date of release	Description of changes
Rev.A	2021.06.15	Released Datasheet
Rev.B	2023.10.31	Modify document format

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