

## IV. Zener Diode

### Zener Diode (500mW) BZX55 Series

(Package: DO-35(Glass))

<p><u>FEATURES</u></p> <ul style="list-style-type: none"> <li>• Low zener impedance</li> <li>• Low regulation factor</li> <li>• Glass passivated junction</li> <li>• High temperature soldering guaranteed : 260°C/10Sec./9.5mm lead length at 5 lbs tension</li> </ul> <p><u>MECHANICAL DATA</u></p> <ul style="list-style-type: none"> <li>• Case : JEDEC DO-35(Glass) molded glass body</li> <li>• Terminals : Plated axial leads, solderable per MIL-STD-750, Method 2026</li> <li>• Polarity : Color band denotes cathode end</li> <li>• Mounting Position : Any</li> <li>• Weight : 0.005 ounce, 0.14 gram</li> </ul>	<p>Case: DO-35(Glass) Dimensions in inches and (millimeters)</p>
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### Electrical Characteristics ( Ta = 25°C unless otherwise noted )

Device Type	Nominal Zener Voltage V <sub>Z</sub> @I <sub>ZT</sub>		Test Current I <sub>ZT</sub> mA	Maximum Zener Impedance			Maximum Reverse Leakage Current		Typical Temperature Coefficient (%/°C)	Maximum Regulator Current I <sub>ZM</sub> mA
	Min	Max		Z <sub>ZT</sub> @I <sub>ZT</sub> Ohms	Z <sub>ZK</sub> @I <sub>ZK</sub> Ohms	I <sub>ZK</sub> mA	I <sub>R</sub> μA	@V <sub>R</sub> Volts		
BZX55C2V4	2.28	2.56	5.0	85	600	1.0	50	1.0	-0.085	155
BZX55C2V7	2.5	2.9	5.0	85	600	1.0	10	1.0	-0.080	135
BZX55C3V0	2.8	3.2	5.0	85	600	1.0	4.0	1.0	-0.075	125
BZX55C3V3	3.1	3.5	5.0	85	600	1.0	2.0	1.0	-0.070	115
BZX55C3V6	3.4	3.8	5.0	85	600	1.0	2.0	1.0	-0.065	105
BZX55C3V9	3.7	4.1	5.0	85	600	1.0	2.0	1.0	-0.060	95
BZX55C4V3	4.0	4.6	5.0	75	600	1.0	1.0	1.0	±0.055	90
BZX55C4V7	4.4	5.0	5.0	60	600	1.0	0.5	1.0	±0.030	85
BZX55C5V1	4.8	5.4	5.0	35	550	1.0	0.1	1.0	±0.030	80
BZX55C5V6	5.2	6.0	5.0	25	450	1.0	0.1	1.0	+0.038	70
BZX55C6V2	5.8	6.6	5.0	10	200	1.0	0.1	2.0	+0.045	64
BZX55C6V8	6.4	7.2	5.0	8.0	150	1.0	0.1	3.0	+0.050	58
BZX55C7V5	7.0	7.9	5.0	7.0	50	1.0	0.1	5.0	+0.058	53
BZX55C8V2	7.7	8.7	5.0	7.0	50	1.0	0.1	6.2	+0.062	74
BZX55C9V1	8.5	9.6	5.0	10	50	1.0	0.1	6.8	+0.068	43
BZX55C10	9.4	10.6	5.0	15	70	1.0	0.1	7.5	+0.075	40
BZX55C11	10.4	11.6	5.0	20	70	1.0	0.1	8.2	+0.076	36
BZX55C12	11.4	12.7	5.0	20	90	1.0	0.1	9.1	+0.077	32
BZX55C13	12.4	14.1	5.0	26	110	1.0	0.1	10	+0.079	29
BZX55C15	13.8	15.6	5.0	30	110	1.0	0.1	11	+0.082	27
BZX55C16	15.3	17.1	5.0	40	170	1.0	0.1	12	+0.083	24
BZX55C18	16.8	19.1	5.0	50	170	1.0	0.1	13	+0.085	21
BZX55C20	18.8	21.2	5.0	55	220	1.0	0.1	15	+0.086	20
BZX55C22	20.8	23.3	5.0	55	220	1.0	0.1	16	+0.087	18
BZX55C24	22.8	25.6	5.0	80	220	1.0	0.1	18	+0.088	16
BZX55C27	25.1	28.9	5.0	80	220	1.0	0.1	20	+0.090	14
BZX55C30	28	32	5.0	80	220	1.0	0.1	22	+0.091	13
BZX55C33	31	35	5.0	80	220	1.0	0.1	24	+0.092	12
BZX55C36	34	38	5.0	80	220	1.0	0.1	27	+0.093	11
BZX55C39	37	41	2.5	90	500	0.5	0.1	30	+0.094	10
BZX55C43	40	46	2.5	90	600	0.5	0.1	33	+0.095	9.2
BZX55C47	44	50	2.5	110	700	0.5	0.1	36	+0.095	8.5

Notes:

1. Forward voltage at I<sub>F</sub> = 100mA, V<sub>F</sub> = 1.0 Volts
2. Junction temperature, T<sub>J</sub> : 200°C
3. Storage temperature range, T<sub>stg</sub> : -65°C to +200°C

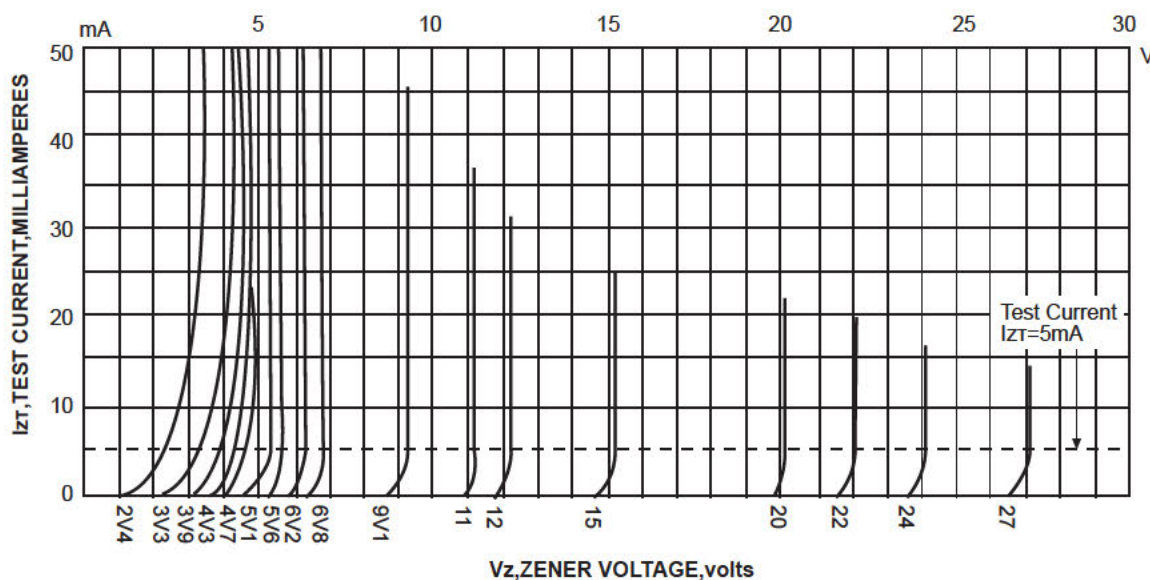
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## Electrical Characteristics of BZX55 Series (Cont'd)

Device Type	Nominal Zener Voltage $V_Z@I_{ZT}$		Test Current $I_{ZT}$	Maximum Zener Impedance			Maximum Reverse Leakage Current		Typical Temperature Coefficient (%/°C)	Maximum Regulator Current $I_{ZM}$
	Min	Max		$Z_{ZT}@I_{ZT}$	$Z_{ZK}@I_{ZK}$	$I_{ZK}$	$I_R$	@ $V_R$		
			mA	Ohms	Ohms	mA	$\mu A$	Volts		
BZX55C51	48	54	2.5	125	700	0.5	0.1	39	+0.096	7.8
BZX55C56	52	60	2.5	135	1000	0.5	0.1	43	+0.096	7.0
BZX55C62	58	66	2.5	150	1000	0.5	0.1	47	+0.096	6.4
BZX55C68	64	72	2.5	200	1000	0.5	0.1	51	+0.096	5.9
BZX55C75	70	80	2.5	250	1500	0.5	0.1	56	+0.096	5.3
BZX55C82	77	87	2.5	300	2000	0.5	0.1	62	+0.096	4.8
BZX55C91	85	96	1.0	450	5000	0.1	0.1	68	+0.096	4.4

## Ratings and Characteristic Curves of BZX55 Series

Breakdown characteristics



Admissible power dissipation versus ambient temperature

Valid provided that leads are kept at ambient temperature at a distance of 10mm from case

