

# BZT55 Series

## SILICON EPITAXIAL PLANAR ZENER DIODES

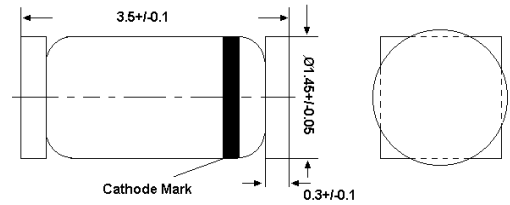
### Features

- Very sharp reverse characteristic
- Low reverse current level
- Available with tighter tolerances
- Very high stability
- Low noise

### Applications

- Voltage stabilization

LS-34



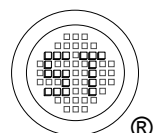
QuadromELF  
Dimensions in mm

### Absolute Maximum Ratings ( $T_a = 25\text{ }^\circ\text{C}$ )

Parameter	Symbol	Value	Unit
Power Dissipation	$P_{tot}$	500	mW
Junction Temperature	$T_j$	175	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	- 65 to + 175	$^\circ\text{C}$

### Characteristics at $T_a = 25\text{ }^\circ\text{C}$

Parameter	Symbol	Max.	Unit
Thermal Resistance Junction to Ambient Air On PC board 50 mm X 50 mm X 1.6 mm	$R_{thJA}$	500	K/W
Forward Voltage at $I_F = 200\text{ mA}$	$V_F$	1.5	V

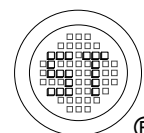


# BZT55 Series

Type	Zener Voltage Range <sup>1)</sup>		Dynamic Resistance			Reverse Leakage Current			Temp Coefficient of Zener Voltage
	V <sub>ZT</sub>	I <sub>ZT</sub>	Z <sub>ZT</sub>	Z <sub>ZK</sub>	at I <sub>ZK</sub>	T <sub>a</sub> = 25 °C	T <sub>a</sub> = 150 °C	I <sub>R</sub> at V <sub>R</sub>	TKvz
	V	mA	Max. (Ω)	Max. (Ω)	mA	Max. (μA)	Max. (μA)	V	%/K
BZT55C2V4	2.28...2.56	5	85	600	1	50	100	1	-0.09...-0.06
BZT55C2V7	2.5...2.9	5	85	600	1	10	50	1	-0.09...-0.06
BZT55C3V0	2.8...3.2	5	90	600	1	4	40	1	-0.08...-0.05
BZT55C3V3	3.1...3.5	5	90	600	1	2	40	1	-0.08...-0.05
BZT55C3V6	3.4...3.8	5	90	600	1	2	40	1	-0.08...-0.05
BZT55C3V9	3.7...4.1	5	90	600	1	2	40	1	-0.08...-0.05
BZT55C4V3	4.0...4.6	5	90	600	1	1	20	1	-0.06...-0.03
BZT55C4V7	4.4...5.0	5	80	600	1	0.5	10	1	-0.05...0.02
BZT55C5V1	4.8...5.4	5	60	550	1	0.1	2	1	-0.02...0.02
BZT55C5V6	5.2...6.0	5	40	450	1	0.1	2	1	-0.05...+0.05
BZT55C6V2	5.8...6.6	5	10	200	1	0.1	2	2	0.03...0.06
BZT55C6V8	6.4...7.2	5	8	150	1	0.1	2	3	0.03...0.07
BZT55C7V5	7.0...7.9	5	7	50	1	0.1	2	5	0.03...0.07
BZT55C8V2	7.7...8.7	5	7	50	1	0.1	2	6.2	0.03...0.08
BZT55C9V1 <sup>2)</sup>	8.5...9.6	5	10	50	1	0.1	2	6.8	0.03...0.09
BZT55C10 <sup>2)</sup>	9.4...10.6	5	15	70	1	0.1	2	7.5	0.03...0.10
BZT55C11 <sup>2)</sup>	10.4...11.6	5	20	70	1	0.1	2	8.2	0.03...0.11
BZT55C12 <sup>2)</sup>	11.4...12.7	5	20	90	1	0.1	2	9.1	0.03...0.11
BZT55C13 <sup>2)</sup>	12.4...14.1	5	26	110	1	0.1	2	10	0.03...0.11
BZT55C15 <sup>2)</sup>	13.8...15.6	5	30	110	1	0.1	2	11	0.03...0.11
BZT55C16 <sup>2)</sup>	15.3...17.1	5	40	170	1	0.1	2	12	0.03...0.11
BZT55C18 <sup>2)</sup>	16.8...19.1	5	50	170	1	0.1	2	13	0.03...0.11
BZT55C20 <sup>2)</sup>	18.8...21.2	5	55	220	1	0.1	2	15	0.03...0.11
BZT55C22 <sup>2)</sup>	20.8...23.3	5	55	220	1	0.1	2	16	0.04...0.12
BZT55C24 <sup>2)</sup>	22.8...25.6	5	80	220	1	0.1	2	18	0.04...0.12
BZT55C27 <sup>2)</sup>	25.1...28.9	5	80	220	1	0.1	2	20	0.04...0.12
BZT55C30 <sup>2)</sup>	28...32	5	80	220	1	0.1	2	22	0.04...0.12
BZT55C33 <sup>2)</sup>	31...35	5	80	220	1	0.1	2	24	0.04...0.12
BZT55C36 <sup>2)</sup>	34...38	5	80	220	1	0.1	2	27	0.04...0.12
BZT55C39 <sup>2)</sup>	37...41	2.5	90	500	0.5	0.1	5	30	0.04...0.12
BZT55C43 <sup>2)</sup>	40...46	2.5	90	600	0.5	0.1	5	33	0.04...0.12
BZT55C47 <sup>2)</sup>	44...50	2.5	110	700	0.5	0.1	5	36	0.04...0.12
BZT55C51 <sup>2)</sup>	48...54	2.5	125	700	0.5	0.1	10	39	0.04...0.12
BZT55C56 <sup>2)</sup>	52...60	2.5	135	1000	0.5	0.1	10	43	0.04...0.12
BZT55C62 <sup>2)</sup>	58...66	2.5	150	1000	0.5	0.1	10	47	0.04...0.12
BZT55C68 <sup>2)</sup>	64...72	2.5	200	1000	0.5	0.1	10	51	0.04...0.12
BZT55C75 <sup>2)</sup>	70...79	2.5	250	1500	0.5	0.1	10	56	0.04...0.12

<sup>1)</sup> Tested with pulses t<sub>p</sub> = 20 ms.

<sup>2)</sup> Additional measurement of Voltage group 9V1 to 75 at 95% V<sub>Zmin</sub> ≤ 35 nA

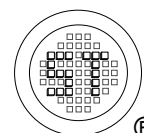


# BZT55 Series

Type	Zener Voltage Range <sup>1)</sup>		Dynamic Resistance			Reverse Leakage Current			Temp Coefficient of Zener Voltage
	V <sub>ZT</sub>	I <sub>ZT</sub>	Z <sub>ZT</sub>	Z <sub>ZK</sub>	at I <sub>ZK</sub>	T <sub>a</sub> = 25 °C	T <sub>a</sub> = 150 °C	I <sub>R</sub> at V <sub>R</sub>	TKvz
	V	mA	Max. (Ω)	Max. (Ω)	mA	Max. (μA)	Max. (μA)	V	%/K
BZT55B2V4	2.35...2.45	5	85	600	1	50	100	1	-0.09...-0.06
BZT55B2V7	2.64...2.76	5	85	600	1	10	50	1	-0.09...-0.06
BZT55B3V0	2.94...3.06	5	90	600	1	4	40	1	-0.08...-0.05
BZT55B3V3	3.24...3.36	5	90	600	1	2	40	1	-0.08...-0.05
BZT55B3V6	3.52...3.68	5	90	600	1	2	40	1	-0.08...-0.05
BZT55B3V9	3.82...3.98	5	90	600	1	2	40	1	-0.08...-0.05
BZT55B4V3	4.22...4.38	5	90	600	1	1	20	1	-0.06...-0.03
BZT55B4V7	4.6...4.8	5	80	600	1	0.5	10	1	-0.05...0.02
BZT55B5V1	5.0...5.2	5	60	550	1	0.1	2	1	-0.02...0.02
BZT55B5V6	5.48...5.72	5	40	450	1	0.1	2	1	-0.05...+0.05
BZT55B6V2	6.08...6.32	5	10	200	1	0.1	2	2	0.03...0.06
BZT55B6V8	6.66...6.94	5	8	150	1	0.1	2	3	0.03...0.07
BZT55B7V5	7.35...7.65	5	7	50	1	0.1	2	5	0.03...0.07
BZT55B8V2	8.04...8.36	5	7	50	1	0.1	2	6.2	0.03...0.08
BZT55B9V1 <sup>2)</sup>	8.92...9.28	5	10	50	1	0.1	2	6.8	0.03...0.09
BZT55B10 <sup>2)</sup>	9.8...10.2	5	15	70	1	0.1	2	7.5	0.03...0.10
BZT55B11 <sup>2)</sup>	10.78...11.22	5	20	70	1	0.1	2	8.2	0.03...0.11
BZT55B12 <sup>2)</sup>	11.76...12.24	5	20	90	1	0.1	2	9.1	0.03...0.11
BZT55B13 <sup>2)</sup>	12.74...13.26	5	26	110	1	0.1	2	10	0.03...0.11
BZT55B15 <sup>2)</sup>	14.7...15.3	5	30	110	1	0.1	2	11	0.03...0.11
BZT55B16 <sup>2)</sup>	15.7...16.3	5	40	170	1	0.1	2	12	0.03...0.11
BZT55B18 <sup>2)</sup>	17.64...18.36	5	50	170	1	0.1	2	13	0.03...0.11
BZT55B20 <sup>2)</sup>	19.6...20.4	5	55	220	1	0.1	2	15	0.03...0.11
BZT55B22 <sup>2)</sup>	21.55...22.45	5	55	220	1	0.1	2	16	0.04...0.12
BZT55B24 <sup>2)</sup>	23.5...24.5	5	80	220	1	0.1	2	18	0.04...0.12
BZT55B27 <sup>2)</sup>	26.4...27.6	5	80	220	1	0.1	2	20	0.04...0.12
BZT55B30 <sup>2)</sup>	29.4...30.6	5	80	220	1	0.1	2	22	0.04...0.12
BZT55B33 <sup>2)</sup>	32.4...33.6	5	80	220	1	0.1	2	24	0.04...0.12
BZT55B36 <sup>2)</sup>	35.3...36.7	5	80	220	1	0.1	2	27	0.04...0.12
BZT55B39 <sup>2)</sup>	38.2...39.8	2.5	90	500	0.5	0.1	5	30	0.04...0.12
BZT55B43 <sup>2)</sup>	42.1...43.9	2.5	90	600	0.5	0.1	5	33	0.04...0.12
BZT55B47 <sup>2)</sup>	46.1...47.9	2.5	110	700	0.5	0.1	5	36	0.04...0.12
BZT55B51 <sup>2)</sup>	50...52	2.5	125	700	0.5	0.1	10	39	0.04...0.12
BZT55B56 <sup>2)</sup>	54.9...57.1	2.5	135	1000	0.5	0.1	10	43	0.04...0.12
BZT55B62 <sup>2)</sup>	60.8...63.2	2.5	150	1000	0.5	0.1	10	47	0.04...0.12
BZT55B68 <sup>2)</sup>	66.6...69.4	2.5	200	1000	0.5	0.1	10	51	0.04...0.12
BZT55B75 <sup>2)</sup>	73.5...76.5	2.5	250	1500	0.5	0.1	10	56	0.04...0.12

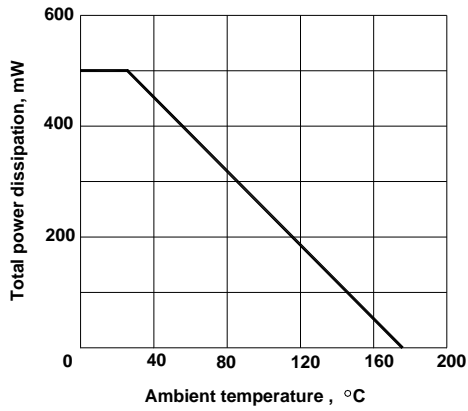
<sup>1)</sup> Tested with pulses t<sub>p</sub> = 20 ms.

<sup>2)</sup> Additional measurement of Voltage group 9V1 to 75 at 95% V<sub>Zmin</sub> ≤ 35 nA

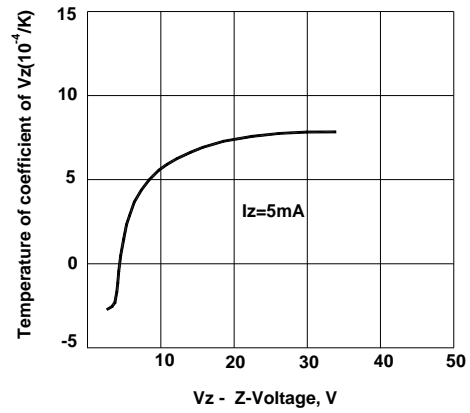


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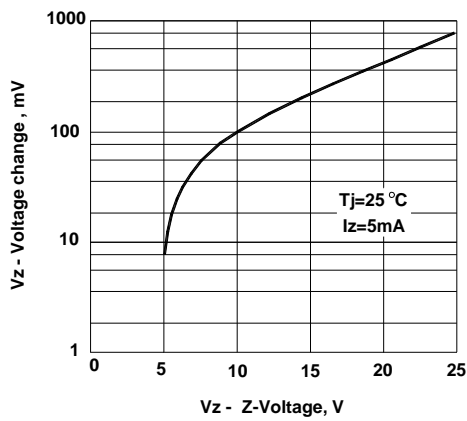
Total power dissipation vs. Ambient temperature



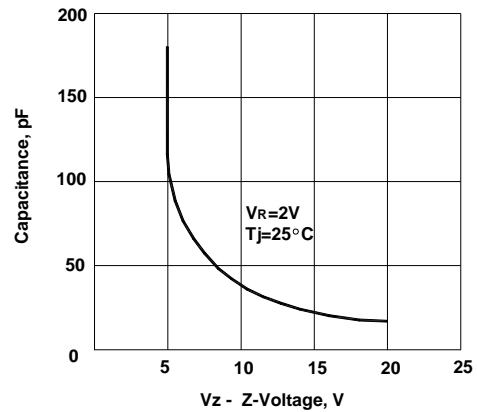
Temperature coefficient of Vz vs. Z-Voltage



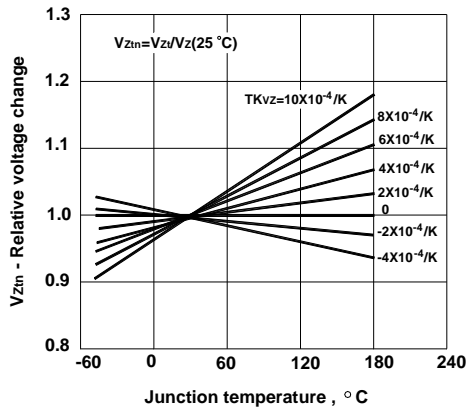
Typical change of working voltage under operating conditions at Ta=25°C



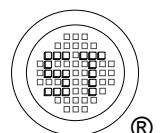
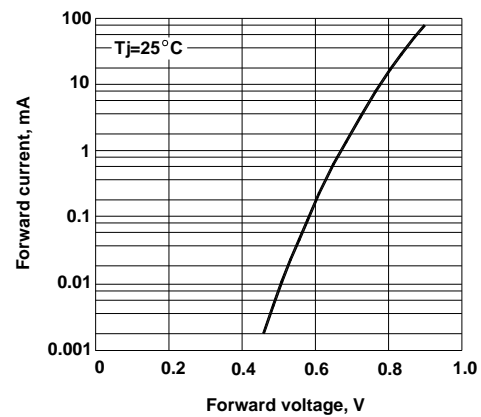
Capacitance vs. Z-Voltage



Typical change of working voltage vs. Junction temperature



Forward current vs. Forward voltage



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