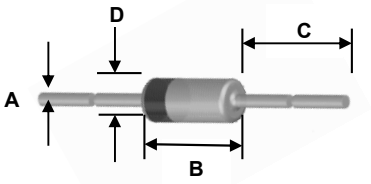
TAIWAN SEMICONDUCTOR

BZX55B2V4-BZX55B75
500mW, 2% Tolerance SMD Zener Diode

Small Signal Diode

DO-35 Axial Lead
HERMETICALLY SEALED GLASS



Dimensions	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	0.45	0.55	0.018	0.022
B	3.05	5.08	0.120	0.200
C	25.40	38.10	1.000	1.500
D	1.53	2.28	0.060	0.090

Features

- ✧Wide zener voltage range selection : 2.4V to 75V
- ✧V_Z Tolerance Selection of ±2%
- ✧Moisture sensitivity level 1
- ✧Matte Tin(Sn) lead finish with Nickel(Ni) underplate
- ✧Pb free version and RoHS compliant
- ✧All External Surfaces are Corrosion Resistant and Leads are Readily Solderable
- ✧ESD rating 15KV per human body model

Mechanical Data

- ✧Case : DO-35 package (SOD-27)
- ✧High temperature soldering guaranteed : 260°C/10s
- ✧Polarity : Indicated by cathode band
- ✧Weight : 109 ± 4 mg

Ordering Information

Part No.	Package	Packing
BZX55BXXX A0	DO-35	5Kpcs / Ammo
BZX55BXXX R0	DO-35	10Kpcs / 14" Reel

Maximum Ratings and Electrical Characteristics

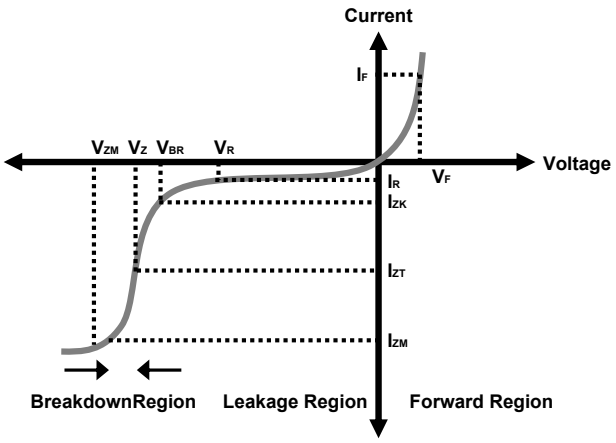
Rating at 25°C ambient temperature unless otherwise specified.

Maximum Ratings

Type Number	Symbol	Value	Units
Power Dissipation	P_D	500	mW
Forward Voltage I_F=10mA	V_F	1.0	V
Thermal Resistance (Junction to Ambient) (Note 1)	RθJA	240	°C/W
Junction and Storage Temperature Range	T_J, T_{STG}	-65 to + 200	°C

Notes:1. Valid provided that electrodes are kept at ambient temperature, and mount on PC board 50mmx50mmx1.6mm

Zener I vs. V Characteristics



V_{BR} : Voltage at I_{ZK}
I_{ZK} : Test current for voltage V_{BR}
Z_{ZK} : Dynamic impedance at I_{ZK}
I_{ZT} : Test current for voltage V_Z
V_Z : Voltage at current I_{ZT}
Z_{ZT} : Dynamic impedance at I_{ZT}
I_{ZM} : Maximum steady state current
V_{ZM} : Voltage at I_{ZM}

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500mW, 2% Tolerance SMD Zener Diode

Electrical Characteristics

Ta = 25°C unless otherwise noted

V_F Forward Voltage = 1.0V Maximum @ I_F = 10 mA for all part numbers

Part Number	V_Z @ I_{ZT} (Volt)			I_{ZT}(mA)	Z_{ZT} @ I_{ZT}(Ω) Max	I_{ZK}(mA)	Z_{ZK} @ I_{ZK}(Ω) Max	I_R @ V_R(μA) Max	V_R(V)
	Nom	Min	Max						
BZX55B2V4	2.4	2.35	2.45	5.0	85	1.0	600	50	1.0
BZX55B2V7	2.7	2.65	2.75	5.0	85	1.0	600	10	1.0
BZX55B3V0	3.0	2.94	3.06	5.0	85	1.0	600	4.0	1.0
BZX55B3V3	3.3	3.23	3.37	5.0	85	1.0	600	2.0	1.0
BZX55B3V6	3.6	3.53	3.67	5.0	85	1.0	600	2.0	1.0
BZX55B3V9	3.9	3.82	3.98	5.0	85	1.0	600	2.0	1.0
BZX55B4V3	4.3	4.21	4.39	5.0	75	1.0	600	1.0	1.0
BZX55B4V7	4.7	4.61	4.79	5.0	60	1.0	600	0.5	1.0
BZX55B5V1	5.1	5.00	5.20	5.0	35	1.0	550	0.1	1.0
BZX55B5V6	5.6	5.49	5.71	5.0	25	1.0	450	0.1	1.0
BZX55B6V2	6.2	6.08	6.32	5.0	10	1.0	200	0.1	2.0
BZX55B6X8	6.8	6.66	6.94	5.0	8	1.0	150	0.1	3.0
BZX55B7V5	7.5	7.35	7.65	5.0	7	1.0	50	0.1	5.0
BZX55B8V2	8.2	8.04	8.36	5.0	7	1.0	50	0.1	6.2
BZX55B9V1	9.1	8.92	9.28	5.0	10	1.0	50	0.1	6.8
BZX55B10	10	9.80	10.20	5.0	15	1.0	70	0.1	7.5
BZX55B11	11	10.78	11.22	5.0	20	1.0	70	0.1	8.2
BZX55B12	12	11.76	12.24	5.0	20	1.0	90	0.1	9.1
BZX55B13	13	12.74	13.26	5.0	26	1.0	110	0.1	10
BZX55B15	15	14.70	15.30	5.0	30	1.0	110	0.1	11
BZX55B16	16	15.68	16.32	5.0	40	1.0	170	0.1	12
BZX55B18	18	17.64	18.36	5.0	50	1.0	170	0.1	14
BZX55B20	20	19.60	20.40	5.0	55	1.0	220	0.1	15
BZX55B22	22	21.56	22.44	5.0	55	1.0	220	0.1	17
BZX55B24	24	23.52	24.48	5.0	80	1.0	220	0.1	18
BZX55B27	27	26.46	27.54	5.0	80	1.0	220	0.1	20
BZX55B30	30	29.40	30.60	5.0	80	1.0	220	0.1	22
BZX55B33	33	32.34	33.66	5.0	80	1.0	220	0.1	24
BZX55B36	36	35.28	36.72	5.0	80	1.0	220	0.1	27
BZX55B39	39	38.22	39.78	2.5	90	0.5	500	0.1	28
BZX55B43	43	42.14	43.86	2.5	90	0.5	600	0.1	32
BZX55B47	47	46.06	47.94	2.5	110	0.5	700	0.1	35
BZX55B51	51	49.98	52.02	2.5	125	0.5	700	0.1	38
BZX55B56	56	54.88	57.12	2.5	135	0.5	1000	0.1	42
BZX55B62	62	60.76	63.24	2.5	150	0.5	1000	0.1	47
BZX55B68	68	66.64	69.36	2.5	160	0.5	1000	0.1	51
BZX55B75	75	73.50	76.50	2.5	170	0.5	1000	0.1	56

Notes:

1. The Zener Voltage (V_Z) is tested under pulse condition of 10ms
2. The device numbers listed have a standard tolerance on the nominal zener voltage of **±2%**.
3. For detailed information on price, availability and delivery of nominal zener voltages between the voltages shown an tighter voltage tolerances, contact your nearest **Taiwan semiconductor** representative.
4. The zener impedance is derived from the 60-cycle ac voltage, which results when an ac current having an rms valu equal to 10% of the DC zener current (I_{ZT} or I_{ZK}) is superimposed to I_{ZT} or I_{ZK}.

Small Signal Diode

Rating and Sharacteristic Curves

FIG 1 Typical Forward Characteristics

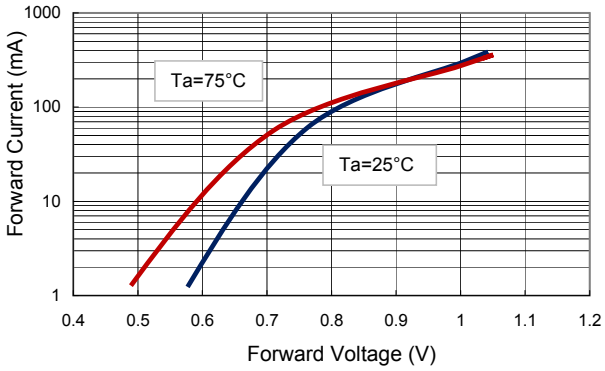

FIG 2 Zener Breakdown Characteristics

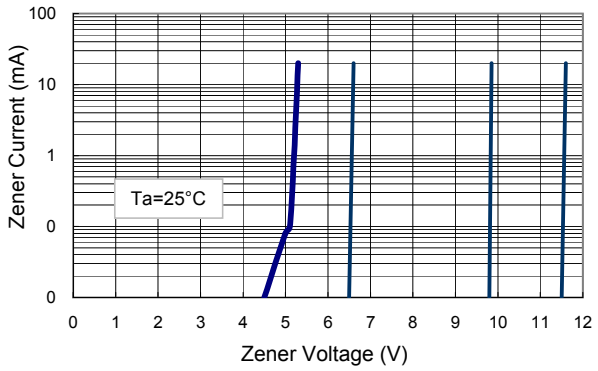

FIG 3 Zener Breakdown Characteristics

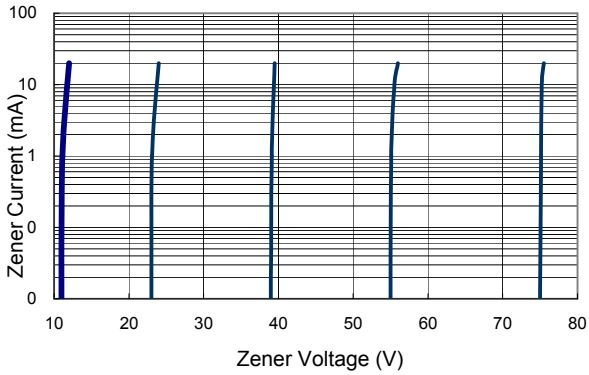

FIG 4 Admissible Power Disspation Curve

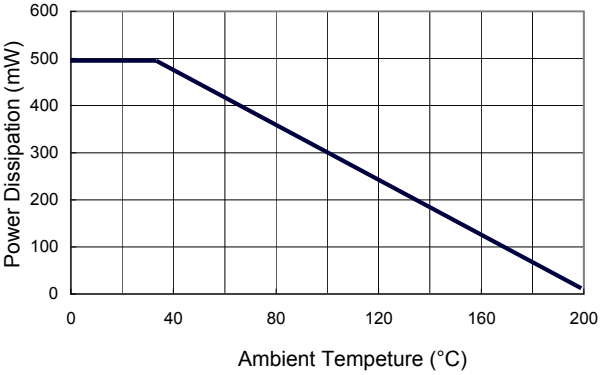

FIG 5 Typical Capacitance

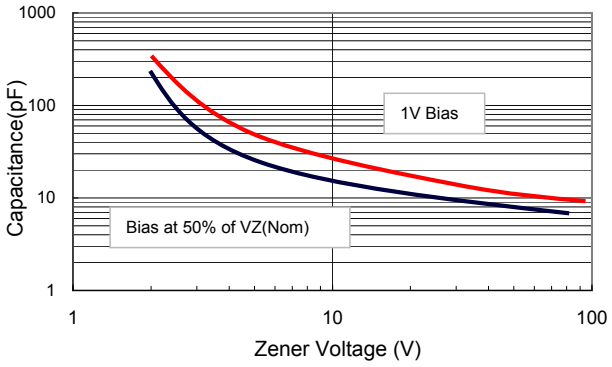

FIG 6 Effect of Zener Voltage on Impedence