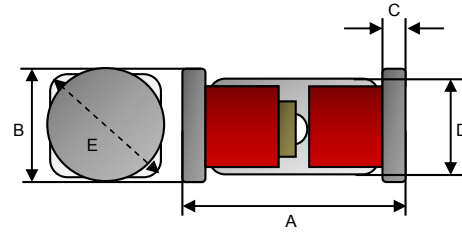


**Small Signal Diode**



**QUADRO Mini-MELF (LS34)**  
**HERMETICALLY SEALED GLASS**



**Features**

- ◇Wide zener voltage range selection : 2.4V to 75V
- ◇V<sub>Z</sub> 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

**Mechanical Data**

- ◇Case : QUADRO Mini-MELF Package (JEDEC DO-213)
- ◇High temperature soldering guaranteed : 270°C/10s
- ◇Polarity : Indicated by cathode band
- ◇Weight : 29 ± 2.5 mg

Dimensions	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	3.30	3.70	0.130	0.146
B	1.40	1.60	0.055	0.063
C	0.25	0.40	0.010	0.016
D	1.25	1.40	0.049	0.055
E	1.80		0.071	

**Ordering Information**

Part No.	Package	Packing
BZT55BXXX L1	QUADRO Mini-MELF	2.5Kpcs / 7" Reel
BZT55BXXX L0	QUADRO Mini-MELF	10Kpcs / 13" Reel

**Maximum Ratings and Electrical Characteristics**

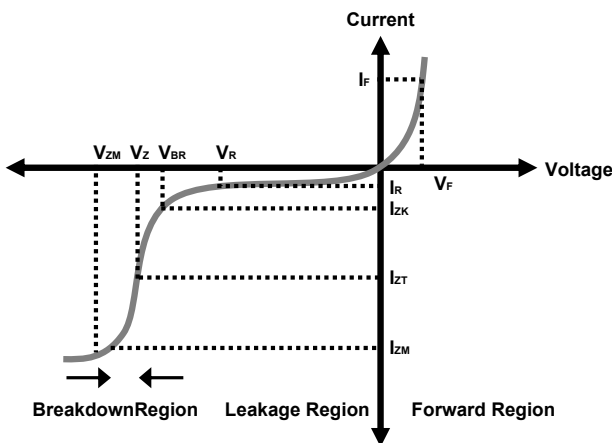
Rating at 25°C ambient temperature unless otherwise specified.

**Maximum Ratings**

Type Number	Symbol	Value	Units
Power Dissipation	P <sub>D</sub>	500	mW
Forward Voltage	V <sub>F</sub>	1.0	V
Thermal Resistance (Junction to Ambient)	R <sub>θJA</sub>	500	°C/W
Junction and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-65 to + 175	°C

Notes:1. Valid provided that electrodes are kept at ambient temperature

**Zener I vs. V Characteristics**



- V<sub>BR</sub> : Voltage at I<sub>ZK</sub>
- I<sub>ZK</sub> : Test current for voltage V<sub>BR</sub>
- Z<sub>ZK</sub> : Dynamic impedance at I<sub>ZK</sub>
- I<sub>ZT</sub> : Test current for voltage V<sub>Z</sub>
- V<sub>Z</sub> : Voltage at current I<sub>ZT</sub>
- Z<sub>ZT</sub> : Dynamic impedance at I<sub>ZT</sub>
- I<sub>ZM</sub> : Maximum steady state current
- V<sub>ZM</sub> : Voltage at I<sub>ZM</sub>

**Small Signal Diode**

**Electrical Characteristics**

Ta = 25°C unless otherwise noted

V<sub>F</sub> Forward Voltage = 1.0V Maximum @ I<sub>F</sub> = 10 mA for all part numbers

Part Number	V <sub>Z</sub> @ I <sub>ZT</sub> (Volt)			I <sub>ZT</sub> (mA)	Z <sub>ZT</sub> @ I <sub>ZT</sub> (Ω) Max	I <sub>ZK</sub> (mA)	Z <sub>ZK</sub> @ I <sub>ZK</sub> (Ω) Max	I <sub>R</sub> @ V <sub>R</sub> (μA) Max	V <sub>R</sub> (V)
	Nom	Min	Max						
BZT55B2V4	2.4	2.35	2.45	5	85	1	600	50	1
BZT55B2V7	2.7	2.65	2.75	5	85	1	600	10	1
BZT55B3V0	3.0	2.94	3.06	5	85	1	600	4	1
BZT55B3V3	3.3	3.23	3.37	5	85	1	600	2	1
BZT55B3V6	3.6	3.53	3.67	5	85	1	600	2	1
BZT55B3V9	3.9	3.82	3.98	5	85	1	600	2	1
BZT55B4V3	4.3	4.21	4.39	5	75	1	600	1	1
BZT55B4V7	4.7	4.61	4.79	5	60	1	600	0.5	1
BZT55B5V1	5.1	5.00	5.20	5	35	1	550	0.1	1
BZT55B5V6	5.6	5.49	5.71	5	25	1	450	0.1	1
BZT55B6V2	6.2	6.08	6.32	5	10	1	200	0.1	2
BZT55B6V8	6.8	6.66	6.94	5	8	1	150	0.1	3
BZT55B7V5	7.5	7.35	7.65	5	7	1	50	0.1	5
BZT55B8V2	8.2	8.04	8.36	5	7	1	50	0.1	6.2
BZT55B9V1	9.1	8.92	9.28	5	10	1	50	0.1	6.8
BZT55B10	10	9.80	10.20	5	15	1	70	0.1	7.5
BZT55B11	11	10.78	11.22	5	20	1	70	0.1	8.2
BZT55B12	12	11.76	12.24	5	20	1	90	0.1	9.1
BZT55B13	13	12.74	13.26	5	26	1	110	0.1	10
BZT55B15	15	14.70	15.30	5	30	1	110	0.1	11
BZT55B16	16	15.68	16.32	5	40	1	170	0.1	12
BZT55B18	18	17.64	18.36	5	50	1	170	0.1	13
BZT55B20	20	19.60	20.40	5	55	1	220	0.1	15
BZT55B22	22	21.56	22.44	5	55	1	220	0.1	16
BZT55B24	24	23.52	24.48	5	80	1	220	0.1	18
BZT55B27	27	26.46	27.54	5	80	1	220	0.1	20
BZT55B30	30	29.40	30.60	5	80	1	220	0.1	22
BZT55B33	33	32.34	33.66	5	80	1	220	0.1	24
BZT55B36	36	35.28	36.72	5	80	1	220	0.1	27
BZT55B39	39	38.22	39.78	2.5	90	0.5	500	0.1	28
BZT55B43	43	42.14	43.86	2.5	90	0.5	600	0.1	32
BZT55B47	47	46.06	47.94	2.5	110	0.5	700	0.1	35
BZT55B51	51	49.98	52.02	2.5	125	0.5	700	0.1	38
BZT55B56	56	54.88	57.12	2.5	135	0.5	1000	0.1	42
BZT55B62	62	60.76	63.24	2.5	150	0.5	1000	0.1	47
BZT55B68	68	66.64	69.36	2.5	160	0.5	1000	0.1	51
BZT55B75	75	73.50	76.50	2.5	170	0.5	1000	0.1	56

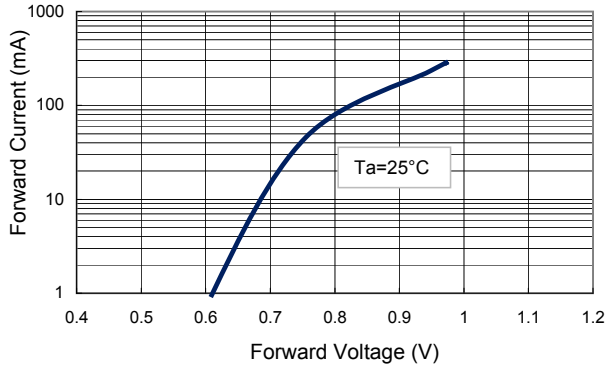
**Notes:**

1. The Zener Voltage (V<sub>Z</sub>) 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 and 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 value equal to 10% of the DC zener current (I<sub>ZT</sub> or I<sub>ZK</sub>) is superimposed to I<sub>ZT</sub> or I<sub>ZK</sub>.

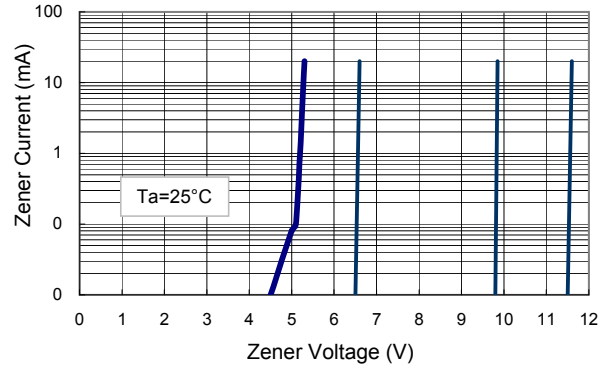
**Small Signal Diode**

**Rating and Sharacteristic Curves**

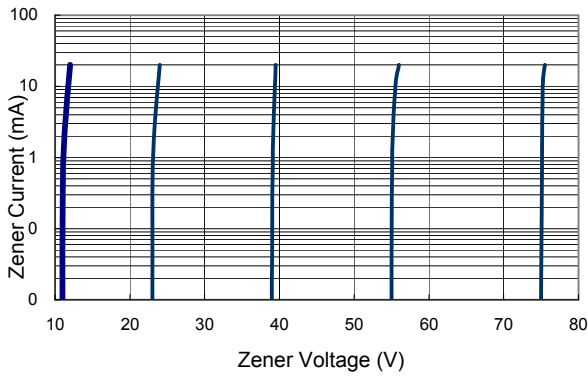
**FIG 1 Typical Forward Characteristics**



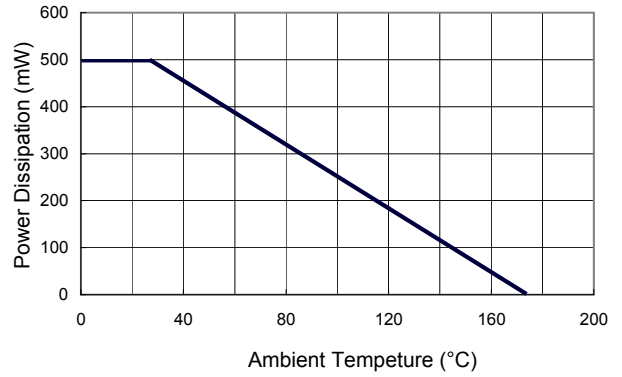
**FIG 2 Zener Breakdown Characteristics**



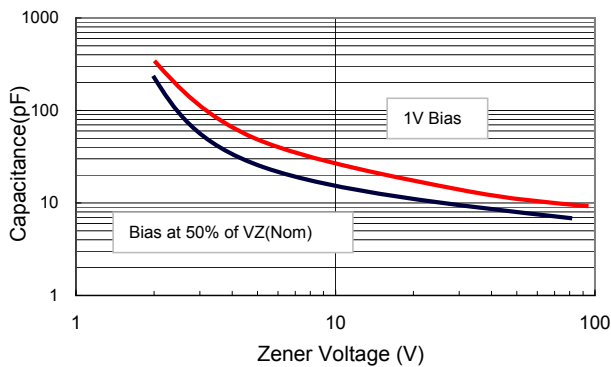
**FIG 3 Zener Breakdown Characteristics**



**FIG 4 Admissible Power Dissipation Curve**



**FIG 5 Typical Capacitance**



**FIG 6 Effect of Zener Voltage on Impedance**

