

**Small Signal Diode**



**Features**

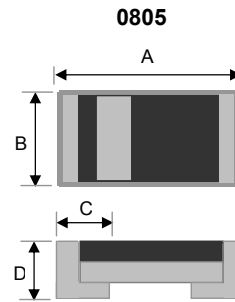
- ◇Wide zener voltage range selection : 2.4V to 36V
- ◇Surface device type mounting
- ◇Moisture sensitivity level 1
- ◇Matte Tin(Sn) lead finish with Nickel(Ni) underplate
- ◇Pb free version and RoHS compliant
- ◇Halogen free

**Mechanical Data**

- ◇Case :0805 standard package, molded plastic
- ◇Terminal: Matte tin plated, lead free., solderable per MIL-STD-202, Method 208 guaranteed
- ◇High temperature soldering guaranteed:260°C/10s
- ◇Polarity : Indicated by cathode band
- ◇Weight :0.006 gram (approximately)

**Ordering Information**

Part No.	Package code	Package	Packing
BZY55B2V4~BZY55B36	RYG	0805	5K / 7" Reel

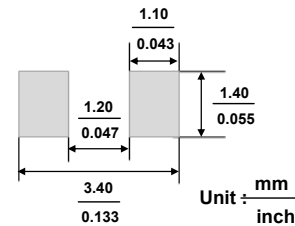


Dimensions	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	1.80	2.20	0.071	0.086
B	1.05	1.45	0.041	0.057
C	0.25	0.65	0.010	0.026
D	0.75	0.95	0.030	0.037

**Pin Configuration**



**Suggested PAD Layout**



**Maximum Ratings and Electrical Characteristics**

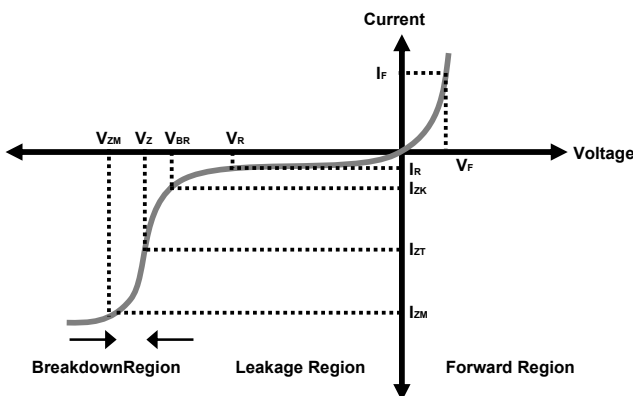
Rating at 25°C ambient temperature unless otherwise specified.

**Maximum Ratings**

Type Number	Symbol	Value	Units
Power Dissipation	$P_D$	500	mW
Forward Voltage	$V_F$	1.5	V
Thermal Resistance (Junction to Ambient) (Note 1)	$R_{\theta JA}$	300	°C/W
Junction and Storage Temperature Range	$T_J, T_{STG}$	-55 to + 150	°C

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

**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  $I_{ZM}$

**Small Signal Diode**

**Electrical Characteristics**

Ta = 25°C unless otherwise noted

V<sub>F</sub> Forward Voltage = 1.5V Maximum @ I<sub>F</sub> = 200 mA for all part numbers

Part Number	Device Marking	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						
BZY55B2V4	2V4	2.4	2.35	2.45	5	85	1.0	600	50	1.0
BZY55B2V7	2V7	2.7	2.65	2.75	5	85	1.0	600	10	1.0
BZY55B3V0	3	3.0	2.94	3.06	5	85	1.0	600	4	1.0
BZY55B3V3	3V3	3.3	3.23	3.37	5	85	1.0	600	2	1.0
BZY55B3V6	3V6	3.6	3.53	3.67	5	85	1.0	600	2	1.0
BZY55B3V9	3V9	3.9	3.82	3.98	5	85	1.0	600	2	1.0
BZY55B4V3	4V3	4.3	4.21	4.39	5	80	1.0	600	1	1.0
BZY55B4V7	4V7	4.7	4.61	4.79	5	70	1.0	600	0.5	1.0
BZY55B5V1	5V1	5.1	5.00	5.20	5	50	1.0	550	0.1	1.0
BZY55B5V6	5V6	5.6	5.49	5.71	5	30	1.0	450	0.1	1.0
BZY55B6V2	6V2	6.2	6.08	6.32	5	10	1.0	200	0.1	2.0
BZY55B6V8	6V8	6.8	6.66	6.94	5	8	1.0	150	0.1	3.0
BZY55B7V5	7V5	7.5	7.35	7.65	5	7	1.0	50	0.1	5.0
BZY55B8V2	8V2	8.2	8.04	8.36	5	7	1.0	50	0.1	6.2
BZY55B9V1	9V1	9.1	8.92	9.28	5	10	1.0	50	0.1	6.8
BZY55B10	10	10	9.80	10.20	5	15	1.0	70	0.1	7.5
BZY55B11	11	11	10.78	11.22	5	20	1.0	70	0.1	8.2
BZY55B12	12	12	11.76	12.24	5	20	1.0	90	0.1	9.1
BZY55B13	13	13	12.74	13.26	5	26	1.0	110	0.1	10.0
BZY55B15	15	15	14.70	15.30	5	30	1.0	110	0.1	11.0
BZY55B16	16	16	15.68	16.32	5	40	1.0	170	0.1	12.0
BZY55B18	18	18	17.64	18.36	5	50	1.0	170	0.1	13.0
BZY55B20	20	20	19.60	20.40	5	55	1.0	220	0.1	15.0
BZY55B22	22	22	21.56	22.44	5	55	1.0	220	0.1	16.0
BZY55B24	24	24	23.52	24.48	5	80	1.0	220	0.1	18.0
BZY55B27	27	27	26.46	27.54	5	80	1.0	220	0.1	20.0
BZY55B30	30	30	29.40	30.60	5	80	1.0	220	0.1	22.0
BZY55B33	33	33	32.34	33.66	5	80	1.0	220	0.1	24.0
BZY55B36	36	36	35.28	36.72	5	80	1.0	220	0.1	27.0

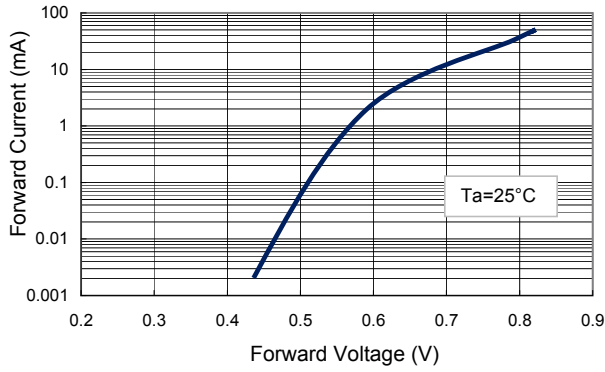
**Notes:**

1. The Zener Voltage (V<sub>Z</sub>) is tested under pulse condition of 10ms
2. The device numbers listed have optional standard tolerance on the nominal zener voltage of ±5%.
3. For detailed information on price, availability and delivery of nominal zener voltages between the voltages shown and tighter voltage tolerances,
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

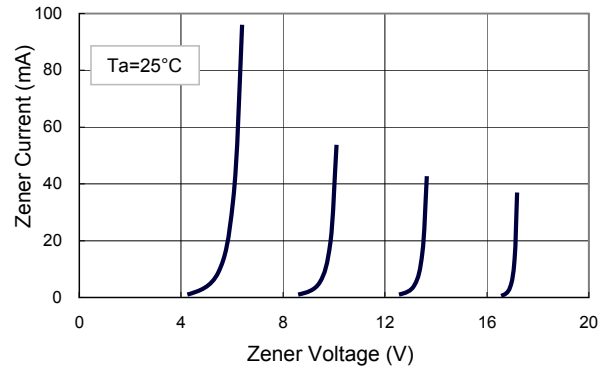
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**Rating and Sharacteristic Curves**

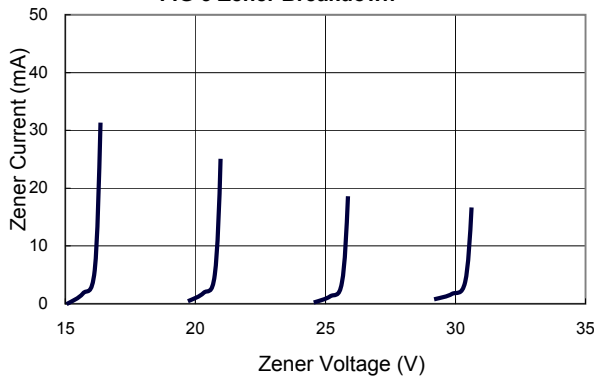
**FIG 1 Typical Forward Characteristics**



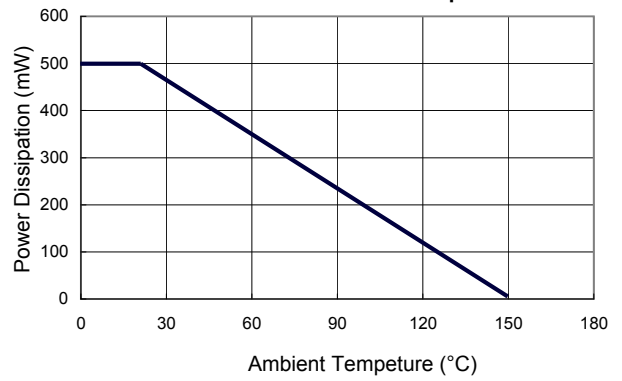
**FIG 2 Zener Breakdown Characteristics**



**FIG 3 Zener Breakdown**



**FIG 4 Admissible Power Dissipation Curve**



**FIG 5 Typical Capacitance**

