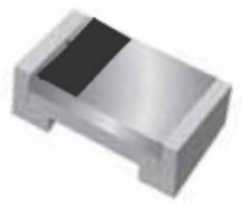
Small Signal Product

2% Tolerance SMD Zener Diode

FEATURES

- Wide zener voltage range selection : 2.4V to 36V
- Surface device type mounting
- Matte Tin(Sn) lead finish with Nickel(Ni) underplate
- Moisture sensitivity: level 1, per J-STD-020
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21 definition



1206

Pb-Free

RoHS COMPLIANT

MECHANICAL DATA

Case: 1206

Molding compound, UL flammability classification rating 94V-0

Base P/N with suffix "G" on packing code - green compound (halogen-free)

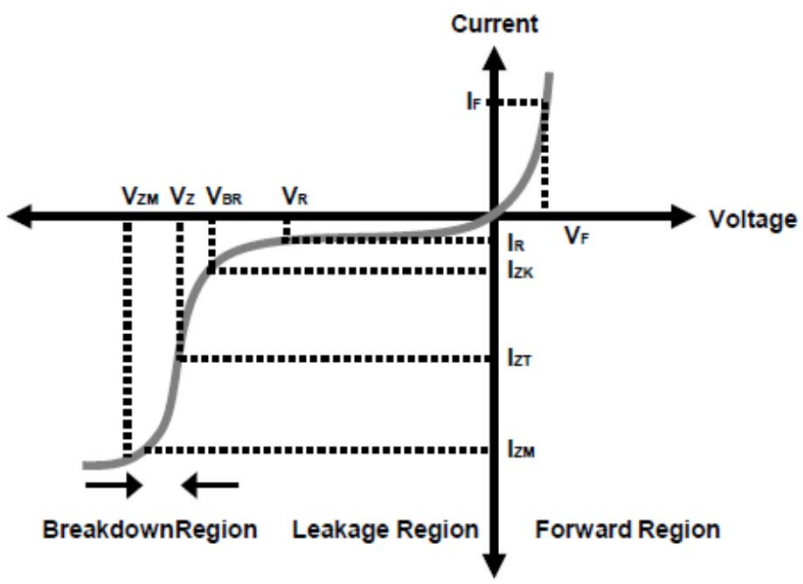
Terminal: Matte tin plated leads, solderable per JESD22-B102

Weight: 0.01 g (approximately)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted)				
PARAMETER		SYMBOL	VALUE	UNIT
Power Dissipation		P_D	500	mW
Forward Voltage	I_F=10mA	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

Note 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}

ELECTRICAL CHARACTERISTICS (T_A= 25°C unless otherwise noted)

Part Number	Device Marking	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						
BZS55B2V4	2V4	2.4	2.35	2.45	5	85	1.0	600	50	1.0
BZS55B2V7	2V7	2.7	2.65	2.75	5	85	1.0	600	10	1.0
BZS55B3V0	3	3.0	2.94	3.06	5	85	1.0	600	4	1.0
BZS55B3V3	3V3	3.3	3.23	3.37	5	85	1.0	600	2	1.0
BZS55B3V6	3V6	3.6	3.53	3.67	5	85	1.0	600	2	1.0
BZS55B3V9	3V9	3.9	3.82	3.98	5	85	1.0	600	2	1.0
BZS55B4V3	4V3	4.3	4.21	4.39	5	80	1.0	600	1	1.0
BZS55B4V7	4V7	4.7	4.61	4.79	5	70	1.0	600	0.5	1.0
BZS55B5V1	5V1	5.1	5.00	5.20	5	50	1.0	550	0.1	1.0
BZS55B5V6	5V6	5.6	5.49	5.71	5	30	1.0	450	0.1	1.0
BZS55B6V2	6V2	6.2	6.08	6.32	5	10	1.0	200	0.1	2.0
BZS55B6V8	6V8	6.8	6.66	6.94	5	8	1.0	150	0.1	3.0
BZS55B7V5	7V5	7.5	7.35	7.65	5	7	1.0	50	0.1	5.0
BZS55B8V2	8V2	8.2	8.04	8.36	5	7	1.0	50	0.1	6.2
BZS55B9V1	9V1	9.1	8.92	9.28	5	10	1.0	50	0.1	6.8
BZS55B10	10	10	9.80	10.20	5	15	1.0	70	0.1	7.5
BZS55B11	11	11	10.78	11.22	5	20	1.0	70	0.1	8.2
BZS55B12	12	12	11.76	12.24	5	20	1.0	90	0.1	9.1
BZS55B13	13	13	12.74	13.26	5	26	1.0	110	0.1	10.0
BZS55B15	15	15	14.70	15.30	5	30	1.0	110	0.1	11.0
BZS55B16	16	16	15.68	16.32	5	40	1.0	170	0.1	12.0
BZS55B18	18	18	17.64	18.36	5	50	1.0	170	0.1	13.0
BZS55B20	20	20	19.60	20.40	5	55	1.0	220	0.1	15.0
BZS55B22	22	22	21.56	22.44	5	55	1.0	220	0.1	16.0
BZS55B24	24	24	23.52	24.48	5	80	1.0	220	0.1	18.0
BZS55B27	27	27	26.46	27.54	5	80	1.0	220	0.1	20.0
BZS55B30	30	30	29.40	30.60	5	80	1.0	220	0.1	22.0
BZS55B33	33	33	32.34	33.66	5	80	1.0	220	0.1	24.0
BZS55B36	36	36	35.28	36.72	5	80	1.0	220	0.1	27.0

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 nomial 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.

RATINGS AND CHARACTERISTICS CURVES

(TA=25°C unless otherwise noted)

Fig. 1 Typical Forward Characteristics

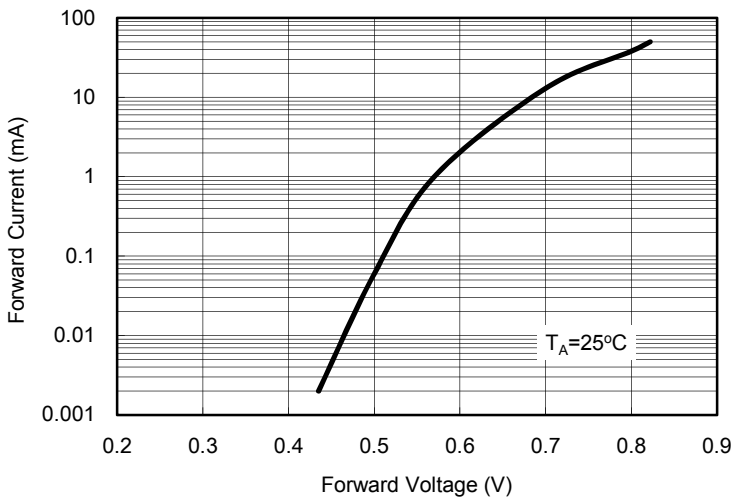


Fig. 2 Zener Breakdown Characteristics

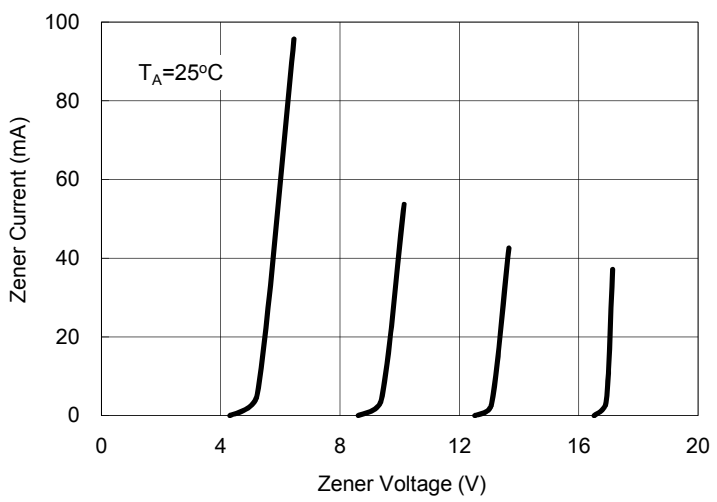


Fig. 3 Zener Breakdown

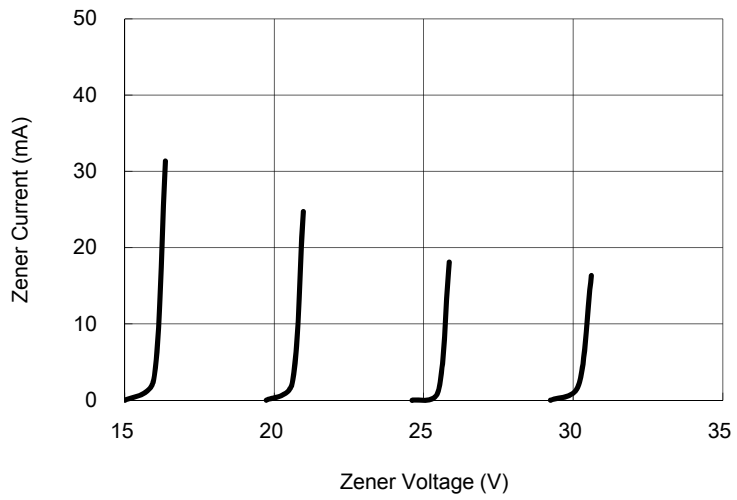


Fig. 4 Admissible Power Dissipation Curve

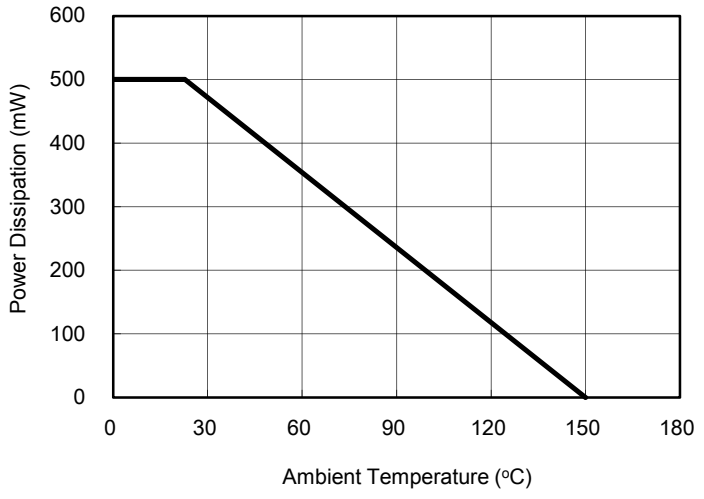
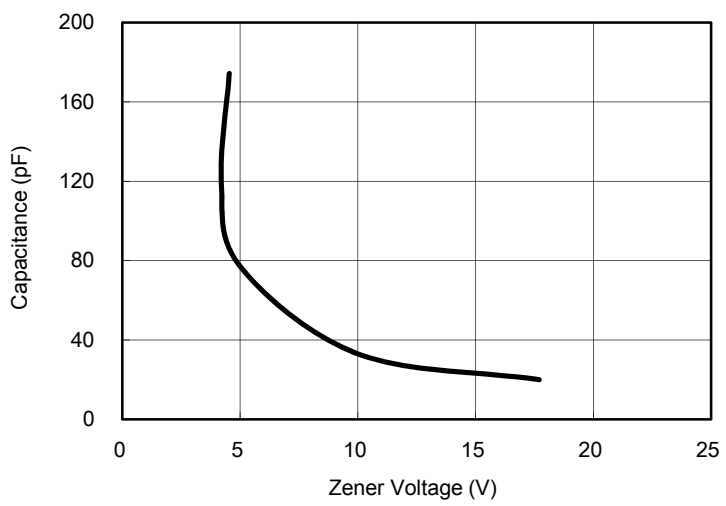


Fig. 5 Typical Capacitance



ORDERING INFORMATION					
PART NO.	MANUFACTURE CODE	PACKING CODE	GREEN COMPOUND CODE	PACKAGE	PACKING
BZS55Bxx (Note 1)	(Note 2)	RX	Suffix "G"	1206	5K / 7" Reel
		RA			10K / 13" Reel

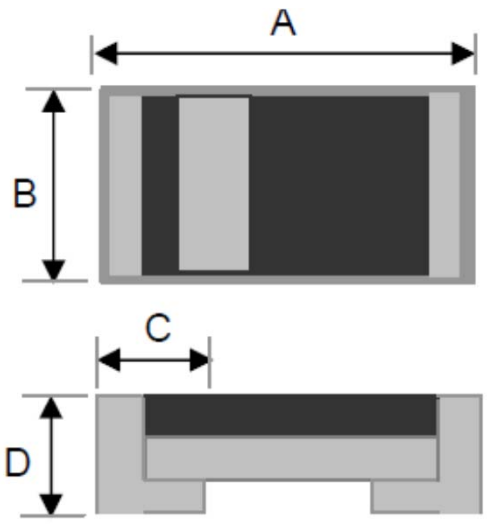
Note 1: "xx" defines voltage from 2.4V (BZS55B2V4) to 36V (BZS55B36)

Note 2: Manufacture special control, if empty means no special control requirement.

EXAMPLE					
PREFERRED P/N	PART NO.	MANUFACTURE CODE	PACKING CODE	GREEN COMPOUND CODE	DESCRIPTION
BZS55B36 RXG	BZS55B36		RX	G	Green compound
BZS55B36-C0 RXG	BZS55B36	C0	RX	G	Green compound

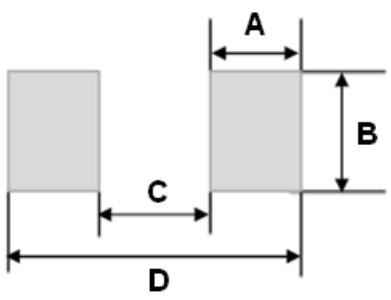
PACKAGE OUTLINE DIMENSIONS

1206



DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	3.00	3.40	0.118	0.134
B	1.30	1.70	0.051	0.067
C	0.35	0.75	0.014	0.030
D	0.75	0.95	0.030	0.037

SUGGEST PAD LAYOUT



DIM.	Unit (mm)	Unit (inch)
	Typ.	Typ.
A	1.20	0.047
B	1.70	0.067
C	2.20	0.087
D	4.60	0.181

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