

500mW 5% Zener Diodes

FEATURES

- Wide zener voltage range selection: 2.4V to 36V
- VZ Tolerance Selection of $\pm 5\%$
- Surface device type mountin
- Compliant to RoHS directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21

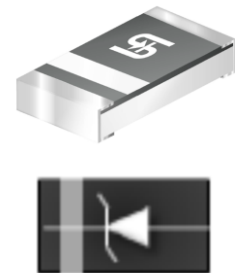
APPLICATIONS

- Low voltage stabilzers or voltage references
- Adapters
- Lighting application
- On-board DC/DC converter

MECHANICAL DATA

- Case: 0805
- Molding compound: UL flammability classification rating 94HB
- Moisture sensitivity level: level 1, per J-STD-020
- Packing code with suffix "G" means green compound (halogen-free)
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 1A whisker test
- Polarity: Indicated by cathode band
- Weight: 0.006grams (approximately)

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
V_Z	2.4-36	V
Test current I_{ZT}	5	mA
P_{tot}	500	mW
V_F at $I_F=10mA$	1.5	V
T_J Max.	150	$^{\circ}C$
Package	0805	
Configuration	Single dice	



ABSOLUTE MAXIMUM RATINGS ($T_A = 25^{\circ}C$ unless otherwise noted)			
PARAMETER	SYMBOL	PART NUMBER	UNIT
Forward voltage @ $I_F=10mA$	V_F	1.5	V
Total power dissipation	P_{tot}	500	mW
Junction temperature range	T_J	-55 to +150	$^{\circ}C$
Storage temperature range	T_{STG}	-55 to +150	$^{\circ}C$

THERMAL PERFORMANCE			
PARAMETER	SYMBOL	LIMIT	UNIT
Junction-to-ambient thermal resistance	$R_{\theta JA}$	300	$^{\circ}C/W$

ELECTRICAL SPECIFICATIONS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

PART NUMBER	MARKING CODE	ZENER VOLTAGE			TEST CURRENT	REGULAR IMPEDANCE		TEST CURRENT	LEAKAGE CURRENT	
		$V_Z @ I_{ZT}$			I_{ZT}	$Z_{ZT} @ I_{ZT}$	$Z_{ZK} @ I_{ZK}$	I_{ZK}	$V_Z @ I_{ZT}$	
		V			mA	Ω	Ω	mA	μA	V
		Min.	Nom.	Max.		Max.	Max.		Max.	
BZY55C2V4	2V4	2.28	2.40	2.52	5	85	600	1	50	1.0
BZY55C2V7	2V7	2.57	2.70	2.84	5	85	600	1	10	1.0
BZY55C3V0	3.0	2.85	3.00	3.15	5	85	600	1	4	1.0
BZY55C3V3	3V3	3.14	3.30	3.47	5	85	600	1	2	1.0
BZY55C3V6	3V6	3.42	3.60	3.78	5	85	600	1	2	1.0
BZY55C3V9	3V9	3.71	3.90	4.10	5	85	600	1	2	1.0
BZY55C4V3	4V3	4.09	4.30	4.52	5	80	600	1	1	1.0
BZY55C4V7	4V7	4.47	4.70	4.94	5	70	600	1	0.5	1.0
BZY55C5V1	5V1	4.85	5.10	5.36	5	50	550	1	0.1	1.0
BZY55C5V6	5V6	5.32	5.60	5.88	5	30	450	1	0.1	1.0
BZY55C6V2	6V2	5.89	6.20	6.51	5	10	200	1	0.1	2.0
BZY55C6V8	6V8	6.46	6.80	7.14	5	8	150	1	0.1	3.0
BZY55C7V5	7V5	7.13	7.50	7.88	5	7	50	1	0.1	5.0
BZY55C8V2	8V2	7.79	8.20	8.61	5	7	50	1	0.1	6.2
BZY55C9V1	9V1	8.65	9.10	9.56	5	10	50	1	0.1	6.8
BZY55C10	10	9.50	10.00	10.50	5	15	70	1	0.1	7.5
BZY55C11	11	10.45	11.00	11.55	5	20	70	1	0.1	8.2
BZY55C12	12	11.40	12.00	12.60	5	20	90	1	0.1	9.1
BZY55C13	13	12.35	13.00	13.65	5	26	110	1	0.1	10
BZY55C15	15	14.25	15.00	15.75	5	30	110	1	0.1	11
BZY55C16	16	15.20	16.00	16.80	5	40	170	1	0.1	12
BZY55C18	18	17.10	18.00	18.90	5	50	170	1	0.1	13
BZY55C20	20	19.00	20.00	21.00	5	55	220	1	0.1	15
BZY55C22	22	20.90	22.00	23.10	5	55	220	1	0.1	16
BZY55C24	24	22.80	24.00	25.20	5	80	220	1	0.1	18
BZY55C27	27	25.65	27.00	28.35	5	80	220	1	0.1	20
BZY55C30	30	28.50	30.00	31.50	5	80	220	1	0.1	22
BZY55C33	33	31.35	33.00	34.65	5	80	220	1	0.1	24
BZY55C36	36	34.20	36.00	37.80	5	80	220	1	0.1	27

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 $\pm 2\%$
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_{ZT} or I_{ZK}) is superimposed to I_{ZT} or I_{ZK}

ORDERING INFORMATION

PART NO.	PACKING CODE	PACKING CODE SUFFIX	PACKAGE	PACKING
BZY55CXXX (Note 1&2)	RY	G	0805	5K / 7" Reel
	RB			10K / 13" Reel

Notes:

1. "xxx" defines voltage from 2.4V (BZY55C2V4) to 36V (BZY55C36)
2. Whole series with green compound

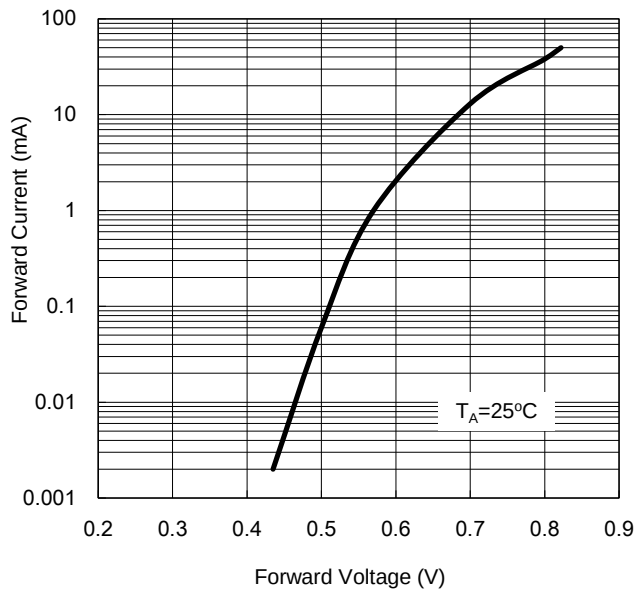
EXAMPLE

EXAMPLE P/N	PART NO.	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
BZY55C36 RYG	BZY55C36	RY	G	Green compound

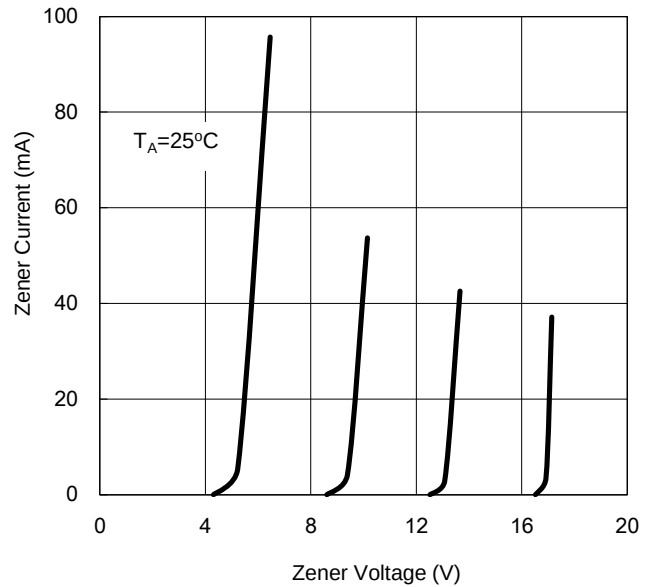
CHARACTERISTICS CURVES

($T_A = 25^\circ\text{C}$ unless otherwise noted)

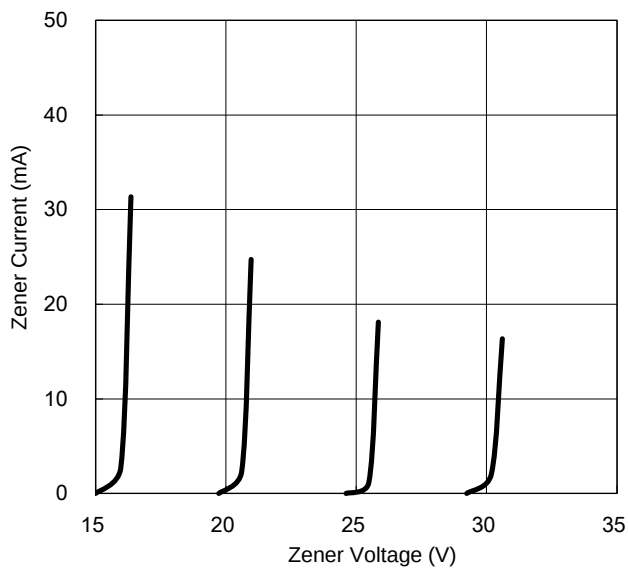
Typical Forward Characteristics



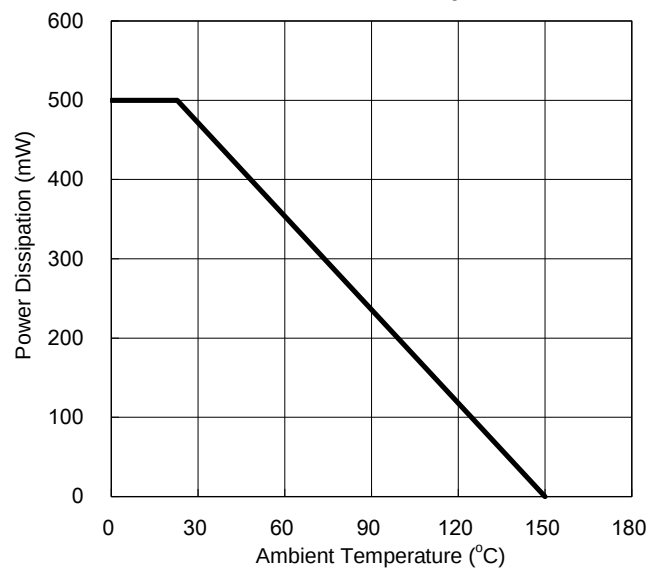
Zener Breakdown Characteristics



Zener Breakdown

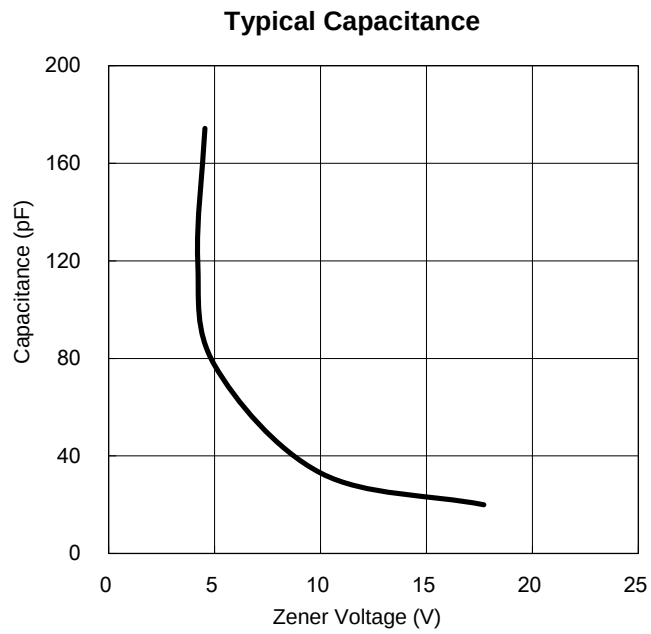


Admissible Power Dissipation Curve

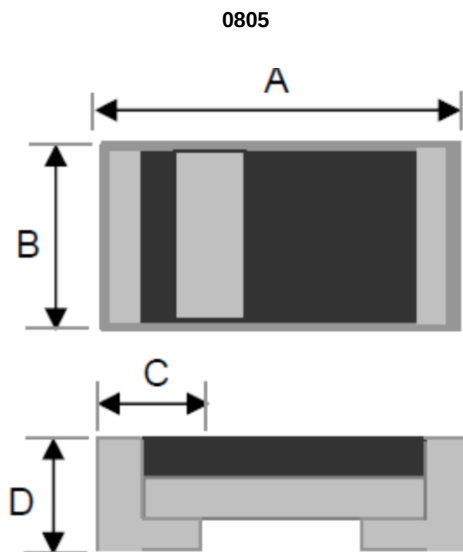


CHARACTERISTICS CURVES

($T_A = 25^\circ\text{C}$ unless otherwise noted)

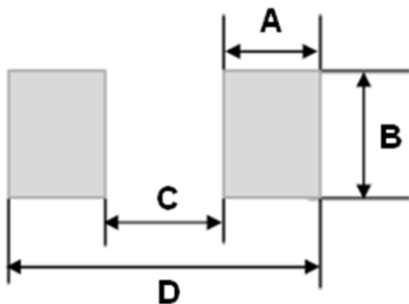


PACKAGE OUTLINE DIMENSION



DIM.	Unit(mm)		Unit(inch)	
	Min	Max	Min	Max
A	1.80	2.20	0.071	0.087
B	1.05	1.45	0.041	0.057
C	0.25	0.65	0.010	0.026
D	0.65	0.85	0.026	0.033

SUGGEST PAD LAYOUT



DIM.	Unit(mm)	Unit(inch)
	Typ	Typ
A	1.10	0.043
B	1.40	0.055
C	1.20	0.047
D	3.40	0.134

Notice

Specifications of the products displayed herein are subject to change without notice. TSC or anyone on its behalf, assumes no responsibility or liability for any errors or inaccuracies.

Information contained herein is intended to provide a product description only. No license, express or implied, to any intellectual property rights is granted by this document. Except as provided in TSC's terms and conditions of sale for such products, TSC assumes no liability whatsoever, and disclaims any express or implied warranty, relating to sale and/or use of TSC products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright, or other intellectual property right.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify TSC for any damages resulting from such improper use or sale.

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Taiwan Semiconductor:

[BZY55C10](#) [BZY55C11](#) [BZY55C12](#) [BZY55C13](#) [BZY55C15](#) [BZY55C16](#) [BZY55C18](#) [BZY55C20](#) [BZY55C22](#)
[BZY55C24](#) [BZY55C27](#) [BZY55C2V4](#) [BZY55C2V7](#) [BZY55C30](#) [BZY55C33](#) [BZY55C36](#) [BZY55C3V0](#) [BZY55C3V3](#)
[BZY55C3V6](#) [BZY55C3V9](#) [BZY55C4V3](#) [BZY55C4V7](#) [BZY55C5V1](#) [BZY55C5V6](#) [BZY55C6V2](#) [BZY55C6V8](#)
[BZY55C7V5](#) [BZY55C8V2](#) [BZY55C9V1](#) [BZY55C12 RYG](#) [BZY55C27 RYG](#) [BZY55C24 RYG](#) [BZY55C2V7 RYG](#)
[BZY55C7V5 RYG](#) [BZY55C8V2 RYG](#) [BZY55C2V4 RYG](#) [BZY55C3V6 RYG](#) [BZY55C3V3 RYG](#) [BZY55C30 RYG](#)
[BZY55C36 RYG](#) [BZY55C4V3 RYG](#) [BZY55C22 RYG](#) [BZY55C10 RYG](#) [BZY55C4V7 RYG](#) [BZY55C13 RYG](#)
[BZY55C3V9 RYG](#) [BZY55C6V2 RYG](#) [BZY55C6V8 RYG](#) [BZY55C18 RYG](#) [BZY55C33 RYG](#) [BZY55C5V6 RYG](#)
[BZY55C11 RYG](#) [BZY55C15 RYG](#) [BZY55C16 RYG](#) [BZY55C5V1 RYG](#) [BZY55C9V1 RYG](#) [BZY55C3V0 RYG](#)
[BZY55C20 RYG](#) [BZY55C27 RBG](#) [BZY55C33 RBG](#) [BZY55C9V1 RBG](#) [BZY55C8V2 RBG](#) [BZY55C36 RBG](#)
[BZY55C20 RBG](#) [BZY55C18 RBG](#) [BZY55C30 RBG](#) [BZY55C4V3 RBG](#) [BZY55C22 RBG](#) [BZY55C5V1 RBG](#)
[BZY55C2V7 RBG](#) [BZY55C10 RBG](#) [BZY55C11 RBG](#) [BZY55C12 RBG](#) [BZY55C13 RBG](#) [BZY55C15 RBG](#) [BZY55C16](#)
[RBG](#) [BZY55C24 RBG](#) [BZY55C2V4 RBG](#) [BZY55C3V0 RBG](#) [BZY55C3V3 RBG](#) [BZY55C3V6 RBG](#) [BZY55C3V9 RBG](#)
[BZY55C4V7 RBG](#) [BZY55C5V6 RBG](#) [BZY55C6V2 RBG](#) [BZY55C6V8 RBG](#) [BZY55C7V5 RBG](#)