



CHENMKO ENTERPRISE CO.,LTD

Halogens free devices

AXIAL LEAD SILICON PLANAR POWER ZENER DIODES VOLTAGE RANGE 0.8V TO 200V

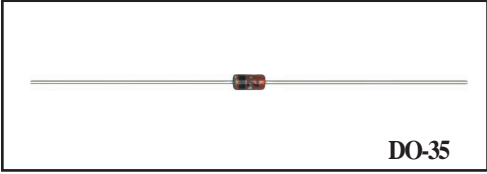
BZX55C 0V8; D
THRU
BZX55C 200; D

FEATURE

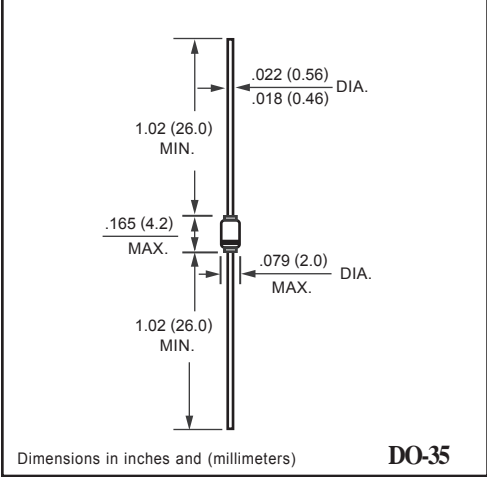
- * High temperature soldering type.
- * ESD rating of class 3(>16 kV) per human body model.
- * Silicon planar zener diodes.
- * Silicon-oxide passivated junction.
- * Low temperature coefficient voltage

MECHANICAL

- * Axial-lead hermetically sealed package.
- * DO-35 Packaging.
- * Cathode indicated by polarity band.
- * Mounting position: Any.
- * Weight: Approx. 0.13g.



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS
Ratings at 25°C ambient temperature unless otherwise specified.



MAXIMUM RATINGS (At TA = 25°C unless otherwise noted)

RATINGS	SYMBOL	VALUE	UNITS
Zener Current (see Table "Characteristics")	-	-	-
Max. Steady State Power Dissipation @TL=75°C,Lead Length=3/8"	P _D	500	mW
Max. Operating Temperature Range	T _J	+175	°C
Storage Temperature Range	T _{STG}	-55 to +175	°C

ELECTRICAL CHARACTERISTICS (At TA = 25°C unless otherwise noted)

CHARACTERISTICS	SYMBOL	MIN.	TYP.	MAX.	UNITS
Thermal Resistance Junction to Ambient	R θJA	-	-	300	°C/W
Max. Instantaneous Forward Voltage at IF= 100mA	V _F	-	-	1.0	Volts

- NOTES :
1. The numbers listed have a standard tolerance on the normal zener voltage of ±5%, Suffix " B " = ±2% tolerance.
 2. The zener impedance is derived from 1KHz AC voltage, which results when an AC current having an RMS value equal to 10% of DC zener current (I_{ZT} or I_{ZK}) is superimposed on I_{ZT} or I_{ZK}. Zener impedance is measured at two points to insure a sharp knee on the breakdown curve to eliminate unstable units.
 3. Valid provided that electrodes at distance of 8mm from case are kept ambient temperature.
 4. Measured under thermal equilibrium and DC test conditions.
 5. The rating listed in the electrical characteristics table is maximum peak, non-repetitive, reverse surge current of 1/2 square wave or equivalent sine wave pulse of 1/120 second duration superimposed on the test current, I_{ZT}.
- 2008-6

ELECTRICAL CHARACTERISTIC (BZX55C 0V8; D THRU BZX55C 200; D)

TYPE	Nominal Zener voltage at I _{ZT} V _Z (V)	Zener Voltage Range		Maximum Zener impedance			Maximum reverse leakage current			Type temperature coefficient at T _A = 25°C θ _{VZ} (%/°C)	Maximum regulator current at Note 2 I _{ZM} (mA)
		Test current at I _{ZT} (mA)	Zener Voltage V _Z (V)	Z _{ZT} at I _{ZT} (Ω)	Z _{ZK} (Ω)	at I _{ZK} (mA)	I _R (uA)	I _R ⁽²⁾ (uA)	at V _R (V)		
BZX55C 0V8GP	0.8	5	0.73 ~ 0.83	8	50	1.0	-	-	-	-	-
BZX55C 2V0GP	2.0	5	1.9 ~ 2.1	85	600	1.0	100	200	1	-0.09~-0.06	175
BZX55C 2V4GP	2.4	5	2.28 ~ 2.56	85	600	1.0	50	100	1	-0.09~-0.06	145
BZX55C 2V7GP	2.7	5	2.5 ~ 2.9	85	600	1.0	10	50	1	-0.09~-0.06	135
BZX55C 3V0GP	3.0	5	2.8 ~ 3.2	85	600	1.0	4	40	1	-0.08~-0.05	125
BZX55C 3V3GP	3.3	5	3.1 ~ 3.5	85	600	1.0	2	40	1	-0.08~-0.05	115
BZX55C 3V6GP	3.6	5	3.4 ~ 3.8	85	600	1.0	2	40	1	-0.08~-0.05	105
BZX55C 3V9GP	3.9	5	3.7 ~ 4.1	85	600	1.0	2	40	1	-0.08~-0.05	95
BZX55C 4V3GP	4.3	5	4.0 ~ 4.6	75	600	1.0	1	20	1	-0.06~-0.03	90
BZX55C 4V7GP	4.7	5	4.4 ~ 5.0	60	600	1.0	0.5	10	1	-0.05~+0.02	85
BZX55C 5V1GP	5.1	5	4.8 ~ 5.4	35	550	1.0	0.1	2	1	-0.02~+0.02	80
BZX55C 5V6GP	5.6	5	5.2 ~ 6.0	25	450	1.0	0.1	2	1	-0.05~+0.05	70
BZX55C 6V2GP	6.2	5	5.8 ~ 6.6	10	200	1.0	0.1	2	2	0.03~0.06	64
BZX55C 6V8GP	6.8	5	6.4 ~ 7.2	8	150	1.0	0.1	2	3	0.03~0.07	58
BZX55C 7V5GP	7.5	5	7.0 ~ 7.9	7	50	1.0	0.1	2	5	0.03~0.07	53
BZX55C 8V2GP	8.2	5	7.7 ~ 8.7	7	50	1.0	0.1	2	6.2	0.03~0.08	47
BZX55C 9V1GP	9.1	5	8.5 ~ 9.6	10	50	1.0	0.1	2	6.8	0.03~0.09	43
BZX55C 10GP	10	5	9.4 ~ 10.6	15	70	1.0	0.1	2	7.5	0.03~0.11	40
BZX55C 11GP	11	5	10.4 ~ 11.6	20	70	1.0	0.1	2	8.2	0.03~0.11	36
BZX55C 12GP	12	5	11.4 ~ 12.7	20	90	1.0	0.1	2	9.1	0.03~0.11	32
BZX55C 13GP	13	5	12.4 ~ 14.1	26	110	1.0	0.1	2	10	0.03~0.11	29
BZX55C 15GP	15	5	13.8 ~ 15.6	30	110	1.0	0.1	2	11	0.03~0.11	27
BZX55C 16GP	16	5	15.3 ~ 17.1	40	170	1.0	0.1	2	12	0.03~0.11	24
BZX55C 18GP	18	5	16.8 ~ 19.1	50	170	1.0	0.1	2	13	0.03~0.11	21
BZX55C 20GP	20	5	18.8 ~ 21.2	55	220	1.0	0.1	2	15	0.03~0.11	20
BZX55C 22GP	22	5	20.8 ~ 23.3	55	220	1.0	0.1	2	16	0.04~0.12	18
BZX55C 24GP	24	5	22.8 ~ 25.6	80	220	1.0	0.1	2	18	0.04~0.12	16
BZX55C 27GP	27	5	25.1 ~ 28.9	80	220	1.0	0.1	2	20	0.04~0.12	14
BZX55C 30GP	30	5	28 ~ 32	80	220	1.0	0.1	2	22	0.04~0.12	13
BZX55C 33GP	33	5	31 ~ 35	80	220	1.0	0.1	2	24	0.04~0.12	12
BZX55C 36GP	36	5	34 ~ 38	80	220	1.0	0.1	2	27	0.04~0.12	11
BZX55C 39GP	39	2.5	37 ~ 41	90	500	0.5	0.1	5	30	0.04~0.12	10
BZX55C 43GP	43	2.5	40 ~ 46	90	500	0.5	0.1	5	33	0.04~0.12	9.2
BZX55C 47GP	47	2.5	44 ~ 50	110	600	0.5	0.1	5	36	0.04~0.12	8.5
BZX55C 51GP	51	2.5	48 ~ 54	125	700	0.5	0.1	10	39	0.04~0.12	7.8
BZX55C 56GP	56	2.5	52 ~ 60	135	700	0.5	0.1	10	43	0.04~0.12	7.0
BZX55C 62GP	62	2.5	58 ~ 66	150	1000	0.5	0.1	10	47	0.04~0.12	6.4

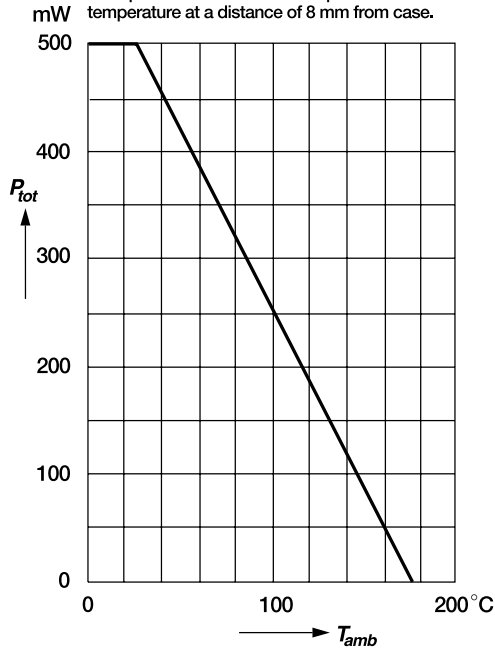
ELECTRICAL CHARACTERISTIC (BZX55C 0V8; D THRU BZX55C 200; D)

TYPE	Nominal Zener voltage at I_{zT} V_z (V)	Zener Voltage Range		Maximum Zener impedance			Maximum reverse leakage current			Type temperature coefficient at $T_A = 25^\circ\text{C}$ θ_{Vz} (%/°C)	Maximum regulator current at Note 2 I_{zM} (mA)
		Test current at I_{zT} (mA)	Zener Voltage V_z (V)	Z_{zT} at I_{zT} (Ω)	Z_{zK} (Ω)	at I_{zK} (mA)	I_R (μA)	$I_R^{(2)}$ (μA)	at V_R (V)		
BZX55C 68GP	68	2.5	64 ~ 72	200	1000	0.5	0.1	10	51	0.04~0.12	5.9
BZX55C 75GP	75	2.5	70 ~ 79	250	1000	0.5	0.1	10	56	0.04~0.12	5.3
BZX55C 82GP	82	2.5	77 ~ 87	300	1500	0.25	0.1	10	62	0.05~0.12	4.8
BZX55C 91GP	91	1	85 ~ 96	450	2000	0.1	0.1	10	68	0.05~0.12	4.4
BZX55C 100GP	100	1	94 ~ 106	450	5000	0.1	0.1	10	75	0.05~0.12	4.0
BZX55C 110GP	110	1	104 ~ 116	600	5000	0.1	0.1	10	82	0.05~0.12	3.6
BZX55C 120GP	120	1	114 ~ 117	800	5500	0.1	0.1	10	91	0.05~0.12	3.3
BZX55C 130GP	130	1	124 ~ 141	950	6000	0.1	0.1	10	100	0.05~0.12	3.0
BZX55C 150GP	150	1	138 ~ 156	1250	6500	0.1	0.1	10	110	0.05~0.12	2.7
BZX55C 160GP	160	1	153 ~ 171	1400	7000	0.1	0.1	10	120	0.05~0.12	2.4
BZX55C 180GP	180	1	168 ~ 191	1700	8500	0.1	0.1	10	130	0.05~0.12	2.2
BZX55C 200GP	200	1	188 ~ 212	2000	10000	0.1	0.1	10	150	0.05~0.12	2.0

- NOTES : 1. Tested with pulse $t_p=20\text{ms}$.
 2. Valid provided that leads are kept at ambient temperature at a distance of 8 mm from case.
 3. The BZX55C 0V8 is a silicon diode with operation in forward direction. hence, the index of all parameter should be "F" instead of "Z". Connect the cathode lead to the negative pole.

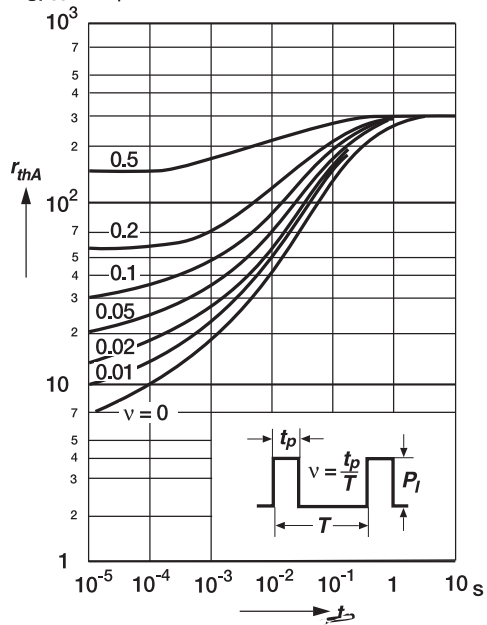
Admissible power dissipation versus ambient temperature

Valid provided that leads are kept ambient temperature at a distance of 8 mm from case.



Pulse thermal resistance versus pulse duration

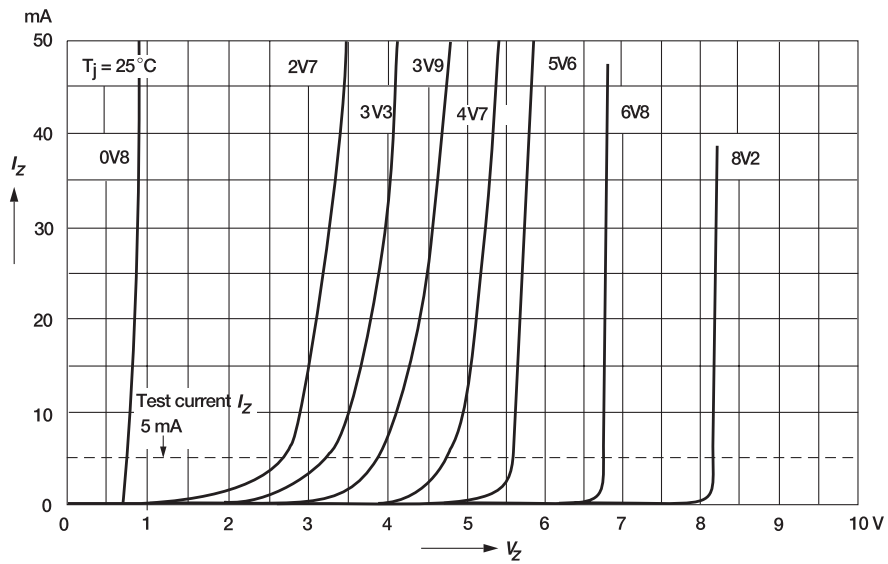
Valid provided that leads are kept at ambient temperature at a distance of 8 mm from case.



RATING CHARACTERISTIC CURVE (BZX55C 0V8; D THRU BZX55C 200; D)

Breakdown characteristics

at $T_j = \text{constant (pulsed)}$



Breakdown characteristics

at $T_j = \text{constant (pulsed)}$

