CHENMKO ENTERPRISE CO.,LTD

AXIAL LEAD

SILICON PLANAR POWER ZENER DIODES

VOLTAGE RANGE 0.8V TO 200V

BZX55C 0V8PT

THRU

BZX55C 200PT

Lead free devices

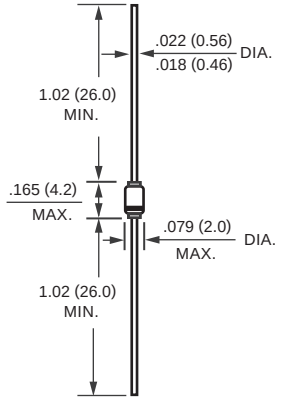
FEATURE

* High temperature soldering type.
* ESD rating of class 3(>16 kV) per human body model.
* Silicon planar zener diodes.
* Silcon-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.

DO-35



Dimensions in inches and (millimeters)

DO-35

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

MAXIMUM RATINGES (At T_A = 25°C unless otherwise noted)

RATINGS	SYMBOL	VALUE	UNITS
Zener Current (see Table "Characteristics")	-	-	-
Max. Steady State Power Dissipation @T_L=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 T_A = 25°C unless otherwise noted)

CHARACTERISTICS	SYMBOL	MIN.	TYP.	MAX.	UNITS
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	-	-	300	°C/W
Max. Instantaneous Forward Voltage at I_F= 100mA	V_F	-	-	1.0	Volts

2001-6

NOTES :
1. The numbers listd have a standaerd 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 listd 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}.

ELECTRICAL CHARACTERISTIC (BZX55C 0V8PT THRU BZX55C 200PT)

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 0V8PT	0.8	5	0.73 ~ 0.83	8	50	1.0	-	-	-	-	-
BZX55C 2V0PT	2.0	5	1.9 ~ 2.1	85	600	1.0	100	200	1	-0.09~-0.06	175
BZX55C 2V4PT	2.4	5	2.28 ~ 2.56	85	600	1.0	50	100	1	-0.09~-0.06	145
BZX55C 2V7PT	2.7	5	2.5 ~ 2.9	85	600	1.0	10	50	1	-0.09~-0.06	135
BZX55C 3V0PT	3.0	5	2.8 ~ 3.2	85	600	1.0	4	40	1	-0.08~-0.05	125
BZX55C 3V3PT	3.3	5	3.1 ~ 3.5	85	600	1.0	2	40	1	-0.08~-0.05	115
BZX55C 3V6PT	3.6	5	3.4 ~ 3.8	85	600	1.0	2	40	1	-0.08~-0.05	105
BZX55C 3V9PT	3.9	5	3.7 ~ 4.1	85	600	1.0	2	40	1	-0.08~-0.05	95
BZX55C 4V3PT	4.3	5	4.0 ~ 4.6	75	600	1.0	1	20	1	-0.06~-0.03	90
BZX55C 4V7PT	4.7	5	4.4 ~ 5.0	60	600	1.0	0.5	10	1	-0.05~+0.02	85
BZX55C 5V1PT	3.6	5	4.8 ~ 5.4	35	550	1.0	0.1	2	1	-0.02~+0.02	80
BZX55C 5V6PT	5.6	5	5.2 ~ 6.0	25	450	1.0	0.1	2	1	-0.05~+0.05	70
BZX55C 6V2PT	6.2	5	5.8 ~ 6.6	10	200	1.0	0.1	2	2	0.03~0.06	64
BZX55C 6V8PT	6.8	5	6.4 ~ 7.2	8	150	1.0	0.1	2	3	0.03~0.07	58
BZX55C 7V5PT	7.5	5	7.0 ~ 7.9	7	50	1.0	0.1	2	5	0.03~0.07	53
BZX55C 8V2PT	8.2	5	7.7 ~ 8.7	7	50	1.0	0.1	2	6.2	0.03~0.08	47
BZX55C 9V1PT	9.1	5	8.5 ~ 9.6	10	50	1.0	0.1	2	6.8	0.03~0.09	43
BZX55C 10PT	10	5	9.4 ~ 10.6	15	70	1.0	0.1	2	7.5	0.03~0.11	40
BZX55C 11PT	11	5	10.4 ~ 11.6	20	70	1.0	0.1	2	8.2	0.03~0.11	36
BZX55C 12PT	12	5	11.4 ~ 12.7	20	90	1.0	0.1	2	9.1	0.03~0.11	32
BZX55C 13PT	13	5	12.4 ~ 14.1	26	110	1.0	0.1	2	10	0.03~0.11	29
BZX55C 15PT	15	5	13.8 ~ 15.6	30	110	1.0	0.1	2	11	0.03~0.11	27
BZX55C 16PT	16	5	15.3 ~ 17.1	40	170	1.0	0.1	2	12	0.03~0.11	24
BZX55C 18PT	18	5	16.8 ~ 19.1	50	170	1.0	0.1	2	13	0.03~0.11	21
BZX55C 20PT	20	5	18.8 ~ 21.2	55	220	1.0	0.1	2	15	0.03~0.11	20
BZX55C 22PT	22	5	20.8 ~ 23.3	55	220	1.0	0.1	2	16	0.04~0.12	18
BZX55C 24PT	24	5	22.8 ~ 25.6	80	220	1.0	0.1	2	18	0.04~0.12	16
BZX55C 27PT	27	5	25.1 ~ 28.9	80	220	1.0	0.1	2	20	0.04~0.12	14
BZX55C 30PT	30	5	28 ~ 32	80	220	1.0	0.1	2	22	0.04~0.12	13
BZX55C 33PT	33	5	31 ~ 35	80	220	1.0	0.1	2	24	0.04~0.12	12
BZX55C 36PT	36	5	34 ~ 38	80	220	1.0	0.1	2	27	0.04~0.12	11
BZX55C 39PT	39	2.5	37 ~ 41	90	500	0.5	0.1	5	30	0.04~0.12	10
BZX55C 43PT	43	2.5	40 ~ 46	90	500	0.5	0.1	5	33	0.04~0.12	9.2
BZX55C 47PT	47	2.5	44 ~ 50	110	600	0.5	0.1	5	36	0.04~0.12	8.5
BZX55C 51PT	51	2.5	48 ~ 54	125	700	0.5	0.1	10	39	0.04~0.12	7.8
BZX55C 56PT	56	2.5	52 ~ 60	135	700	0.5	0.1	10	43	0.04~0.12	7.0
BZX55C 62PT	62	2.5	58 ~ 66	150	1000	0.5	0.1	10	47	0.04~0.12	6.4

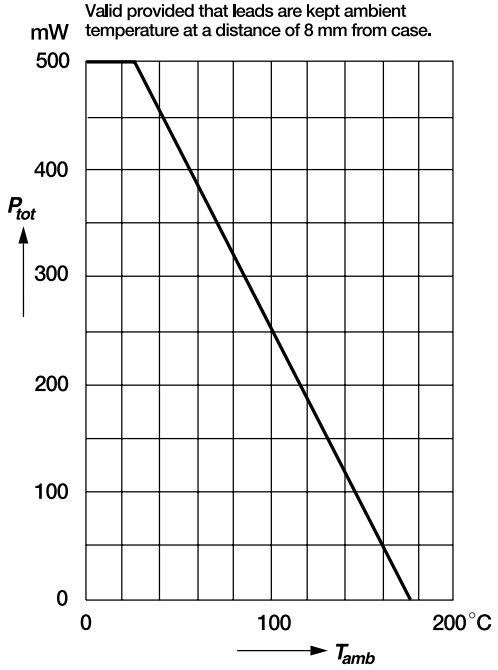
ELECTRICAL CHARACTERISTIC (BZX55C 0V8PT THRU BZX55C 200PT)

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 68PT	68	2.5	64 ~ 72	200	1000	0.5	0.1	10	51	0.04~0.12	5.9
BZX55C 75PT	75	2.5	70 ~ 79	250	1000	0.5	0.1	10	56	0.04~0.12	5.3
BZX55C 82PT	82	2.5	77 ~ 87	300	1500	0.25	0.1	10	62	0.05~0.12	4.8
BZX55C 91PT	91	1	85 ~ 96	450	2000	0.1	0.1	10	68	0.05~0.12	4.4
BZX55C 100PT	100	1	94 ~ 106	450	5000	0.1	0.1	10	75	0.05~0.12	4.0
BZX55C 110PT	110	1	104 ~ 116	600	5000	0.1	0.1	10	82	0.05~0.12	3.6
BZX55C 120PT	120	1	114 ~ 117	800	5500	0.1	0.1	10	91	0.05~0.12	3.3
BZX55C 130PT	130	1	124 ~ 141	950	6000	0.1	0.1	10	100	0.05~0.12	3.0
BZX55C 150PT	150	1	138 ~ 156	1250	6500	0.1	0.1	10	110	0.05~0.12	2.7
BZX55C 160PT	160	1	153 ~ 171	1400	7000	0.1	0.1	10	120	0.05~0.12	2.4
BZX55C 180PT	180	1	168 ~ 191	1700	8500	0.1	0.1	10	130	0.05~0.12	2.2
BZX55C 200PT	200	1	188 ~ 212	2000	10000	0.1	0.1	10	150	0.05~0.12	2.0

NOTES : 1. Tested with puless tp=20mS.
2. Vaild 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.

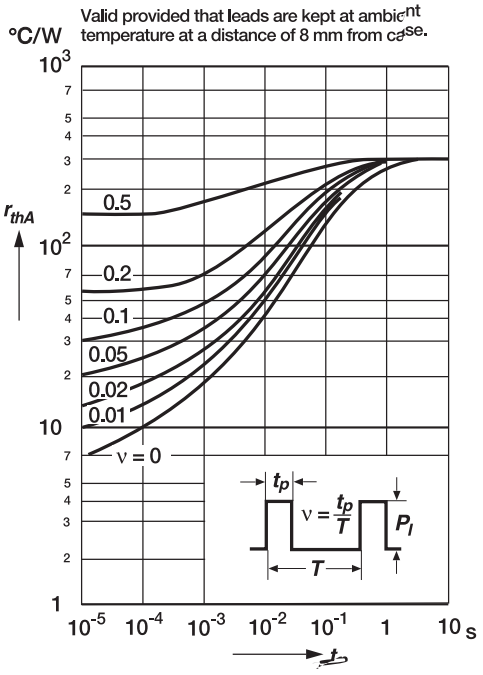
Admissible power dissipation versus ambient temperature

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



Pulse thermal resistance versus pulse duration

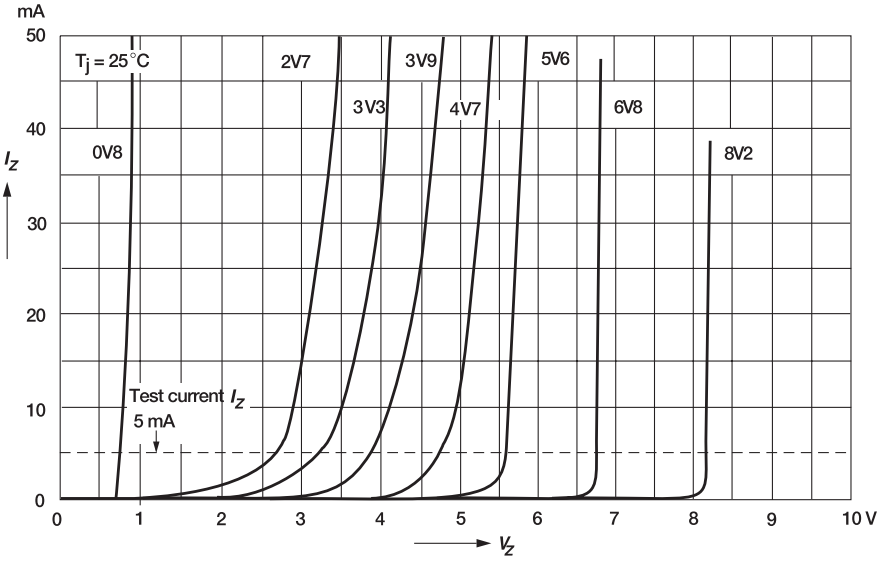
Valid provided that leads are kept at ambient temperature at a distance of 8 mm from case.



RATING CHARACTERISTIC CURVE (BZX55C 0V8PT THRU BZX55C 200PT)

Breakdown characteristics

at T_j = constant (pulsed)



Breakdown characteristics

at T_j = constant (pulsed)