



CHENMKO ENTERPRISE CO.,LTD

AXIAL LEAD

SILICON PLANAR POWER ZENER DIODES
VOLTAGE RANGE 2.4V TO 51V

Lead free devices

BZX79C 2V4PT

THRU

BZX79C 51PT

FEATURE

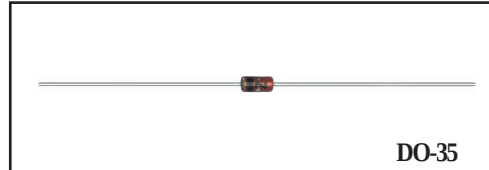
- * High temperature soldering type.
- * ESD rating of class 3(>16 kV) per human body model.
- * Silicon planar zener diodes.
- * Silicon-oxide passivated junction.
- * Low temperature coefficient voltage

MECHANICAL

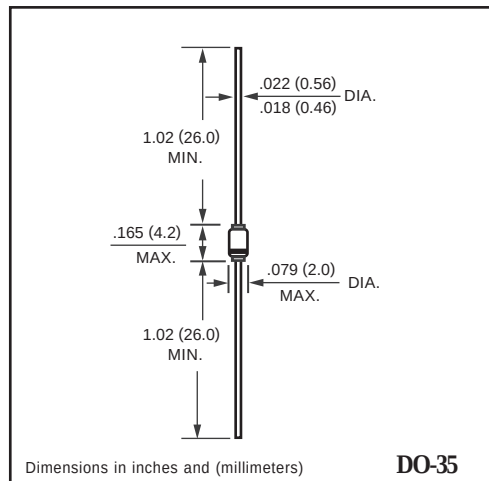
- * Axial-lead hermetically sealed package.
- * DO-35 Packaging.
- * Cathode indicated by polarity band.
- * Mounting position: Any.
- * Weight: Approx. 0.13g.

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.



DO-35



Dimensions in inches and (millimeters)

DO-35

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	+200	°C
Storage Temperature Range	T _{STG}	-65 to +200	°C

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

CHARACTERISTICS	SYMBOL	MIN.	TYP.	MAX.	UNITS
Thermal Resistance Junction to Ambient	R θ JA	-	-	300	°C/W
Max. Instantaneous Forward Voltage at IF= 10mA	VF	-	-	1.0	Volts

- NOTES :
1. The numbers listd have a standaerd tolerance on the normal zener voltage of $\pm 5\%$.
 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} .
 6. Measured at $I_{ZT}= 2mA$ and $I_{ZK}= 0.5mA$.

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ELECTRICAL CHARACTERISTIC (BZX79C 2V4PT THRU BZX79C 51PT)

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} (%/ $^\circ\text{C}$)	Maximum regulator current at $T_A = 50^\circ\text{C}$ 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)	at V_R (V)		
BZX79C 2V4PT	2.4	5	2.28 ~ 2.56	100	600	1	50	1	-0.08~-0.06	167
BZX79C 2V7PT	2.7	5	2.5 ~ 2.9	100	600	1	20	1	-0.08~-0.06	135
BZX79C 3V0PT	3.0	5	2.8 ~ 3.2	95	600	1	10	1	-0.08~-0.06	125
BZX79C 3V3PT	3.3	5	3.1 ~ 3.5	95	600	1	5	1	-0.08~-0.05	115
BZX79C 3V6PT	3.6	5	3.4 ~ 3.8	90	600	1	5	1	-0.08~-0.04	105
BZX79C 3V9PT	3.9	5	3.7 ~ 4.1	90	600	1	3	1	-0.07~-0.03	95
BZX79C 4V3PT	4.3	5	4.0 ~ 4.6	90	500	1	3	1	-0.04~-0.01	90
BZX79C 4V7PT	4.7	5	4.4 ~ 5.0	80	480	1	3	1	-0.03~+0.01	85
BZX79C 5V1PT	5.1	5	4.8 ~ 5.4	60	400	1	2	1	-0.02~+0.05	80
BZX79C 5V6PT	5.6	5	5.2 ~ 6.0	40	150	1	1	1	-0.01~+0.06	70
BZX79C 6V2PT	6.2	5	5.8 ~ 6.6	10	80	1	3	2	0.015~0.06	64
BZX79C 6V8PT	6.8	5	6.4 ~ 7.2	15	80	1	2	3	0~0.07	58
BZX79C 7V5PT	7.5	5	7.0 ~ 7.9	15	80	1	1	5	0.01~0.08	53
BZX79C 8V2PT	8.2	5	7.7 ~ 8.7	15	200	1	0.7	6	0.01~0.09	47
BZX79C 9V1PT	9.1	5	8.5 ~ 9.6	15	100	1	0.5	7	0.01~0.09	43
BZX79C 10PT	10	5	9.4 ~ 10.6	20	150	1	0.2	7.5	0.02~0.10	40
BZX79C 11PT	11	5	10.4 ~ 11.6	20	150	1	0.1	8.5	0.03~0.11	36
BZX79C 12PT	12	5	11.4 ~ 12.7	25	150	1	0.1	9	0.03~0.11	32
BZX79C 13PT	13	5	12.4 ~ 14.1	30	170	1	0.1	10	0.03~0.11	29
BZX79C 15PT	15	5	13.8 ~ 15.6	30	200	1	0.05	11	0.03~0.11	27
BZX79C 16PT	16	5	15.3 ~ 17.1	40	200	1	0.05	12	0.03~0.11	24
BZX79C 18PT	18	5	16.8 ~ 19.1	45	225	1	0.05	14	0.03~0.11	21
BZX79C 20PT	20	5	18.8 ~ 21.2	55	225	1	0.5	15	0.03~0.11	20
BZX79C 22PT	22	5	20.8 ~ 23.3	55	250	1	0.05	17	0.03~0.11	18
BZX79C 24PT	24	5	22.8 ~ 25.6	70	250	1	0.05	18	0.04~0.12	16
BZX79C 27PT	27	5	25.1 ~ 28.9	80 ⁽¹⁾	300 ⁽²⁾	1	0.05	20	0.04~0.12	14
BZX79C 30PT	30	5	28 ~ 32	80 ⁽¹⁾	300 ⁽²⁾	1	0.05	22	0.04~0.12	13
BZX79C 33PT	33	5	31 ~ 35	80 ⁽¹⁾	325 ⁽²⁾	1	0.05	24	0.04~0.12	12
BZX79C 36PT	36	5	34 ~ 38	90 ⁽¹⁾	350 ⁽²⁾	1	0.05	27	0.04~0.12	11
BZX79C 39PT	39	5	37 ~ 41	130 ⁽¹⁾	350 ⁽²⁾	1	0.05	28	0.04~0.12	10
BZX79C 43PT	43	5	40 ~ 46	150 ⁽¹⁾	375 ⁽²⁾	1	0.05	32	0.04~0.12	9.2
BZX79C 47PT	47	5	44 ~ 50	170 ⁽¹⁾	375 ⁽²⁾	1	0.05	35	0.04~0.12	7.8
BZX79C 51PT	51	5	48 ~ 54	180 ⁽¹⁾	400 ⁽²⁾	1	0.05	38	0.04~0.12	21

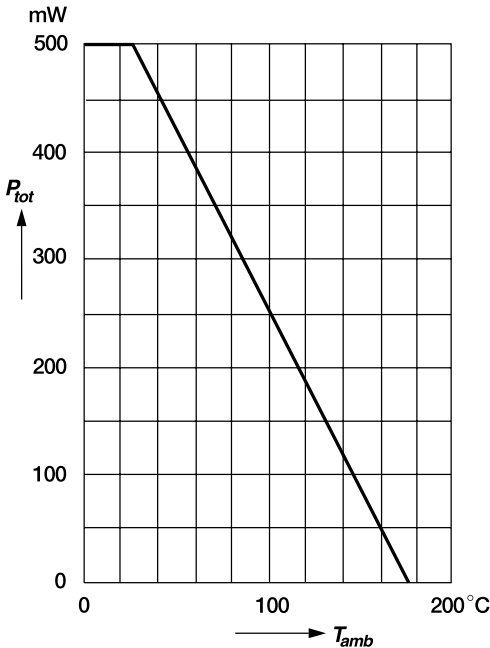
NOTES:

1. at $I_{ZT} = 2.0\text{mA}$.
2. at $I_{ZK} = 0.5\text{mA}$.

RATING CHARACTERISTIC CURVE (BZX79C 2V4PT THRU BZX79C 51PT)

**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.

