



# CHENMKO ENTERPRISE CO.,LTD

## AXIAL LEAD

SILICON PLANAR POWER ZENER DIODES  
VOLTAGE RANGE 2.7V TO 200V

BZX85C 2V7PT

THRU

BZX85C 200PT

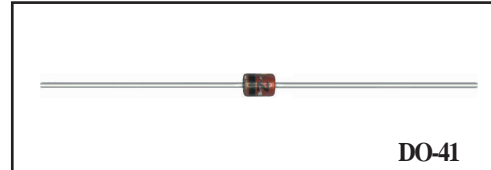
Lead free devices

### FEATURE

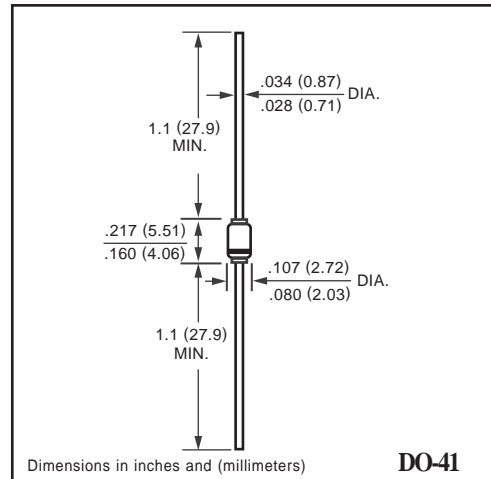
- \* High temperature soldering type.
- \* ESD rating of class 3(>16 kV) per human body model.
- \* Silicon planar zener diodes.
- \* Silicon-oxide passivated junction.
- \* Low temperature coefficient voltage

### MECHANICAL

- \* Axial-lead hermetically sealed package.
- \* DO-41 Packaging.
- \* Cathode indicated by polarity band.
- \* Mounting position: Any.
- \* Weight: Approx. 0.35g.



DO-41



DO-41

### 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 <sub>D</sub>	1.0	W
Max. Operating Temperature Range	T <sub>J</sub>	+200	°C
Storage Temperature Range	T <sub>STG</sub>	-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 <sub>θJA</sub>	-	-	130	°C/W
Max. Instantaneous Forward Voltage at I <sub>F</sub> = 100mA	V <sub>F</sub>	-	-	1.0	Volts

- NOTES :
1. The numbers listed have a standard tolerance on the normal zener voltage of ±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<sub>ZT</sub> or I<sub>ZK</sub>) is superimposed on I<sub>ZT</sub> or I<sub>ZK</sub>. 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 10mm 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<sub>ZT</sub>.

## ELECTRICAL CHARACTERISTIC ( BZX85C 2V7PT THRU BZX85C 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 $T_A = 25^\circ\text{C}$ $\theta_{VZ}$ (%/°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 $I_{ZT}$ ( $\Omega$ )	$Z_{ZK}$ ( $\Omega$ )	at $I_{ZK}$ (mA)	$I_R$ ( $\mu\text{A}$ )	at $V_R$ (V)		
BZX85C 2V7PT	2.7	80	2.5 ~ 2.9	20	400	1.0	150	1	-0.08~-0.05	390
BZX85C 3V0PT	3.0	80	2.8 ~ 3.2	20	400	1.0	100	1	-0.08~-0.05	350
BZX85C 3V3PT	3.3	70	3.1 ~ 3.5	20	400	1.0	40	1	-0.08~-0.05	315
BZX85C 3V6PT	3.6	60	3.4 ~ 3.8	15	500	1.0	20	1	-0.08~-0.05	290
BZX85C 3V9PT	3.9	60	3.7 ~ 4.1	15	500	1.0	10	1	-0.07~-0.02	280
BZX85C 4V3PT	4.3	50	4.0 ~ 4.6	13	500	1.0	3	1	-0.07~-0.01	250
BZX85C 4V7PT	4.7	45	4.4 ~ 5.0	13	600	1.0	3	1	-0.03~+0.04	215
BZX85C 5V1PT	3.6	45	4.8 ~ 5.4	10	500	1.0	1	1.5	0~+0.045	200
BZX85C 5V6PT	5.6	45	5.2 ~ 6.0	7	400	1.0	1	2	0.01~0.055	190
BZX85C 6V2PT	6.2	35	5.8 ~ 6.6	4	300	1.0	1	3	0.015~0.06	170
BZX85C 6V8PT	6.8	35	6.4 ~ 7.2	3.5	300	1.0	1	4	0.03~0.07	155
BZX85C 7V5PT	7.5	35	7.0 ~ 7.9	3	200	0.50	1	4.5	0.04~0.08	140
BZX85C 8V2PT	8.2	25	7.7 ~ 8.7	5	200	0.50	1	6.2	0.045~0.08	130
BZX85C 9V1PT	9.1	25	8.5 ~ 9.6	5	200	0.50	1	6.8	0.045~0.085	120
BZX85C 10PT	10	25	9.4 ~ 10.6	7	200	0.50	0.5	7	0.05~0.085	105
BZX85C 11PT	11	20	10.4 ~ 11.6	8	300	0.50	0.5	8.2	0.055~0.09	97
BZX85C 12PT	12	20	11.4 ~ 12.7	9	350	0.50	0.5	9.1	0.05~0.09	88
BZX85C 13PT	13	20	12.4 ~ 14.1	10	400	0.50	0.5	10	0.06~0.09	79
BZX85C 15PT	15	15	13.8 ~ 15.6	15	500	0.50	0.5	11	0.06~0.09	71
BZX85C 16PT	16	15	15.3 ~ 17.1	15	500	0.50	0.5	12	0.06~0.095	66
BZX85C 18PT	18	15	16.8 ~ 19.1	20	500	0.50	0.5	13	0.06~0.095	62
BZX85C 20PT	20	10	18.8 ~ 21.2	24	600	0.50	0.5	15	0.06~0.095	56
BZX85C 22PT	22	10	20.8 ~ 23.3	25	600	0.50	0.5	16	0.06~0.095	52
BZX85C 24PT	24	10	22.8 ~ 25.6	25	600	0.50	0.5	18	0.06~0.095	47
BZX85C 27PT	27	8	25.1 ~ 28.9	30	750	0.25	0.5	20	0.06~0.095	41
BZX85C 30PT	30	8	28 ~ 32	30	1000	0.25	0.5	22	0.06~0.095	36
BZX85C 33PT	33	8	31 ~ 35	35	1000	0.25	0.5	24	0.06~0.095	33
BZX85C 36PT	36	8	34 ~ 38	40	1000	0.25	0.5	27	0.06~0.095	30
BZX85C 39PT	39	6	37 ~ 41	50	1000	0.25	0.5	30	0.06~0.095	28
BZX85C 43PT	43	6	40 ~ 46	50	1000	0.25	0.5	33	0.06~0.095	26
BZX85C 47PT	47	4	44 ~ 50	90	1500	0.25	0.5	36	0.06~0.095	23
BZX85C 51PT	51	4	48 ~ 54	115	1500	0.25	0.5	39	0.06~0.095	21
BZX85C 56PT	56	4	52 ~ 60	120	2000	0.25	0.5	43	0.06~0.095	19
BZX85C 62PT	62	4	58 ~ 66	125	2000	0.25	0.5	47	0.06~0.095	16
BZX85C 68PT	68	4	64 ~ 72	130	2000	0.25	0.5	51	0.06~0.095	14
BZX85C 75PT	75	4	70 ~ 79	135	3000	0.25	0.5	56	0.06~0.095	13
BZX85C 82PT	82	2.7	77 ~ 87	200	3000	0.25	0.5	62	0.07~0.11	12

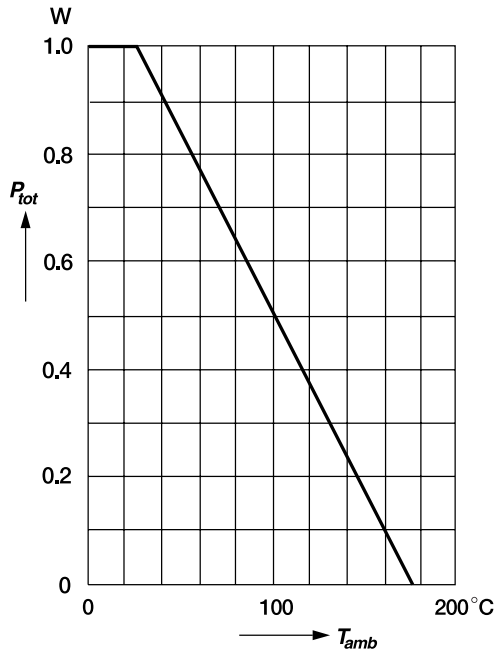
## ELECTRICAL CHARACTERISTIC ( BZX85C 2V7PT THRU BZX85C 200PT )

TYPE	Nominal Zener voltage at $I_{ZT}$ $V_Z$ (V)	Zener Voltage Range		Maximum Zener impedance			Maximum reverse leakage current		Type temperature coefficient at $T_A = 25^\circ\text{C}$ $\theta_{VZ}$ (%/°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 $I_{ZT}$ ( $\Omega$ )	$Z_{ZK}$ ( $\Omega$ )	at $I_{ZK}$ (mA)	$I_R$ ( $\mu\text{A}$ )	at $V_R$ (V)		
BZX85C 91PT	91	2.7	85 ~ 96	250	3000	0.25	0.5	68	0.07~0.11	11
BZX85C 100PT	100	2.7	94 ~ 106	350	3000	0.25	0.5	75	0.07~0.11	10
BZX85C 110PT	11	2.7	104 ~ 116	450	4000	0.25	0.5	82	0.07~0.11	9
BZX85C 120PT	120	2	114 ~ 127	550	4500	0.25	0.5	91	0.07~0.11	8
BZX85C 130PT	130	2	124 ~ 141	700	5000	0.25	0.5	100	0.07~0.11	7.5
BZX85C 150PT	150	2	138 ~ 156	1000	6000	0.25	0.5	110	0.07~0.11	6.5
BZX85C 160PT	160	1.5	153 ~ 171	1000	6500	0.25	0.5	120	0.07~0.11	6.25
BZX85C 180PT	180	1.5	168 ~ 191	1200	7000	0.25	0.5	130	0.07~0.11	5.5
BZX85C 200PT	200	1.5	188 ~ 212	1500	8000	0.25	0.5	150	0.07~0.11	5

# RATING CHARACTERISTIC CURVE ( BZX85C 2V7PT THRU BZX85C 200PT )

## Admissible power dissipation versus ambient temperature

Valid provided that leads are kept ambient temperature at a distance of 10 mm from case.



## Pulse thermal resistance versus pulse duration

Valid provided that leads are kept at ambient temperature at a distance of 10 mm from case.

