

# BZX85B Series

Silicon Zener Diodes



**V<sub>Z</sub> : 2.4 - 220 Volts**  
**P<sub>D</sub> : 1.3 Watts**



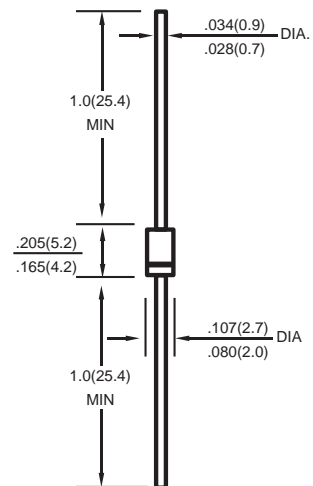
## Features

- ✧ Complete Voltage Range 2.4 to 220 Volts
- ✧ High peak reverse power dissipation
- ✧ High reliability
- ✧ Low leakage current
- ✧ **Pb / RoHS Free**

## Mechanical Data

- ✧ Case : DO-41 Molded plastic
- ✧ Epoxy : UL94V-0 rate flame retardant
- ✧ Lead : Axial lead solderable per MIL-STD-202, method 208 guaranteed
- ✧ Polarity : Color band denotes cathode end
- ✧ Mounting position : Any
- ✧ Weight : 0.34 gram

## DO-41



Dimensions in inches and (millimeters)

## MAXIMUM RATINGS

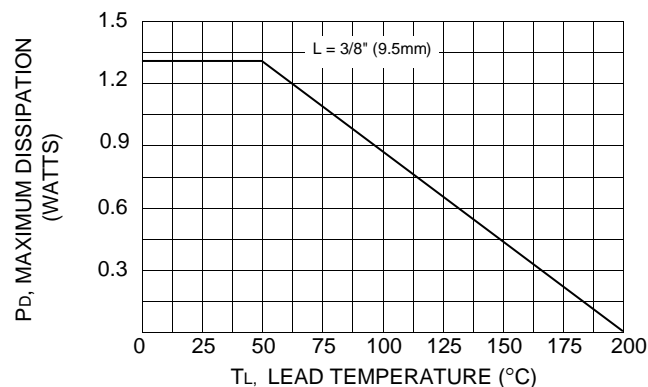
Rating at 25 °C ambient temperature unless otherwise specified

Rating	Symbol	Value	Unit
DC Power Dissipation at T <sub>L</sub> = 50 °C (Note1)	P <sub>D</sub>	1.3	W
Maximum Forward Voltage at I <sub>F</sub> = 200 mA	V <sub>F</sub>	1.2	V
Maximum Thermal Resistance Junction to Ambient Air (Note2)	R <sub>θJA</sub>	130	K / W
Junction Temperature Range	T <sub>J</sub>	- 65 to + 200	°C
Storage Temperature Range	T <sub>STG</sub>	- 65 to + 200	°C

### Notes :

- (1) T<sub>L</sub> = Lead temperature at 3/8 " (9.5mm) from body
- (2) Valid provided that leads are kept at ambient temperature at a distance of 10 mm from case.

Fig. 1 POWER TEMPERATURE DERATING



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## ELECTRICAL CHARACTERISTICS (Rating at 25 °C ambient temperature unless otherwise specified)

TYPE	Nominal Zener Voltage		Maximum Zener Impedance			Maximum Reverse Leakage Current		Maximum DC Zener Current
	$V_Z @ I_{ZT}$	$I_{ZT}$	$Z_{ZT} @ I_{ZT}$	$Z_{ZK} @ I_{ZK}$	$I_{ZK}$	$I_R @ V_R$	$I_{ZM}$	
	(V)	(mA)	( $\Omega$ )	( $\Omega$ )	(mA)	( $\mu$ A)	(V)	(mA)
BZX85B2V4	2.4	80	20	400	1.0	150	1.0	410
BZX85B2V7	2.7	80	20	400	1.0	150	1.0	370
BZX85B3V0	3.0	80	20	400	1.0	100	1.0	340
BZX85B3V3	3.3	80	20	400	1.0	40	1.0	320
BZX85B3V6	3.6	70	20	500	1.0	20	1.0	290
BZX85B3V9	3.9	60	15	500	1.0	10	1.0	280
BZX85B4V3	4.3	50	13	500	1.0	3.0	1.0	250
BZX85B4V7	4.7	45	13	500	1.0	3.0	1.0	215
BZX85B5V1	5.1	45	10	500	1.0	1.0	1.5	200
BZX85B5V6	5.6	45	7.0	400	1.0	1.0	2.0	190
BZX85B6V2	6.2	35	4.0	300	1.0	1.0	3.0	170
BZX85B6V8	6.8	35	3.5	300	1.0	50	4.0	155
BZX85B7V5	7.5	35	3.0	200	0.5	50	4.5	140
BZX85B8V2	8.2	25	5.0	200	0.5	50	6.2	130
BZX85B9V1	9.1	25	5.0	200	0.5	50	6.8	120
BZX85B10V	10	25	7.0	200	0.5	50	7.5	105
BZX85B11V	11	20	8.0	300	0.5	50	8.2	97
BZX85B12V	12	20	9.0	350	0.5	0.5	9.1	88
BZX85B13V	13	20	10	400	0.5	0.5	10	79
BZX85B15V	15	15	15	500	0.5	0.5	11	71
BZX85B16V	16	15	15	500	0.5	0.5	12	66
BZX85B18V	18	15	20	500	0.5	0.5	13	62
BZX85B19V	19	15	20	550	0.5	0.5	14	58
BZX85B20V	20	10	24	600	0.5	0.5	15	56
BZX85B22V	22	10	25	600	0.5	0.5	16	52
BZX85B24V	24	10	25	600	0.5	0.5	18	47
BZX85B27V	27	8.0	30	750	0.25	0.5	20	41
BZX85B30V	30	8.0	30	1000	0.25	0.5	22	36
BZX85B33V	33	8.0	35	1000	0.25	0.5	24	33
BZX85B36V	36	8.0	40	1000	0.25	0.5	27	30
BZX85B39V	39	6.0	50	1000	0.25	0.5	30	28
BZX85B43V	43	6.0	50	1000	0.25	0.5	33	26
BZX85B47V	47	4.0	90	1500	0.25	0.5	36	23
BZX85B51V	51	4.0	115	1500	0.25	0.5	39	21
BZX85B56V	56	4.0	120	2000	0.25	0.5	43	19
BZX85B62V	62	4.0	125	2000	0.25	0.5	47	16
BZX85B68V	68	4.0	130	2000	0.25	0.5	51	15
BZX85B75V	75	4.0	135	2000	0.25	0.5	56	14
BZX85B82V	82	2.7	200	3000	0.25	0.5	62	12
BZX85B91V	91	2.7	250	3000	0.25	0.5	68	10
BZX85B100V	100	2.7	350	3000	0.25	0.5	75	9.4
BZX85B110V	110	2.7	450	4000	0.25	0.5	82	8.6
BZX85B120V	120	2.0	550	4500	0.25	0.5	91	7.8
BZX85B130V	130	2.0	700	5000	0.25	0.5	100	7.0
BZX85B150V	150	2.0	1000	6000	0.25	0.5	110	6.4
BZX85B160V	160	1.5	1100	6500	0.25	0.5	120	5.8
BZX85B180V	180	1.5	1200	7000	0.25	0.5	130	5.2
BZX85B200V	200	1.5	1900	9990	0.25	0.5	150	4.7
BZX85B220V	220	1.5	1500	8000	0.25	0.5	167	4.5

**Notes :**

- (1) The type number listed have a standard tolerance on the nominal zener voltage of  $\pm 2.0\%$ .
- (2) " BZX " will be omitted in marking on the diode

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