

BZX 85/C 2V7 THRU BZX 85/C 220

SILICON PLANAR ZENER DIODES

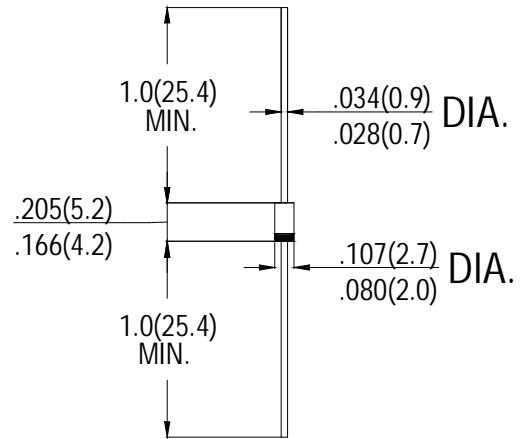
FEATURES

- Voltage Range: 2.7V to 220V
- Double siug type construction

MECHANICAL DATA

- **Case:** Molded plastic
- **Epoxy:** UL94V-0 rate flame retardant
- **Lead:** MIL-STD- 202E, Method 208 guaranteed
- **Polarity:**Color band denotes cathode end
- **Mounting position:** Any
- **Weight:** 0.33 grams

DO-41



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

Absolute Maximum Ratings (T_a=25°C)

	SYMBOL	VALUE	units
Zener Current see Table "Characterstics"			
Power Dissipation at T _{amb} =25°C	P _{tot}	1.3 ¹⁾	W
Junction Temperature	T _J	200	°C

¹⁾ Valid provided that leads at a distance of 8 mm form case are kept at ambient temperature.

Characteristics at T_{amb}=25°C

	SYMBOL	Min.	Typ.	Max.	units
Thermal Resistance Junction to Ambient Air	R _{thA}	--	--	130 ¹⁾	K/W
Forward Voltage at I _F =200mA	V _F	--	--	1	V

¹⁾ Valid provided that leads at a distance of 8 mm form case are kept at ambient temperature.

BZX 85... SILICON PLANAR POWER ZENER DIODES

TYPE	Zener Voltage range ¹⁾			Dynamic resistance ³⁾			Reverse leakage current		Temp coefficient Zener Voltage
	V _{znom} V	I _{ZT} mA	for V _{ZT} ²⁾ V	r _{ZJT} Ω	R _{Zjt} at Ω	I _{Zk} mA	I _R ²⁾ μA	at V _R V	TK _{VZ}
									%/K
BZX 85/C 2V7	2.7	80	2.5...2.9	20	400	1	150	1	-0.08...-0.05
BZX 85/C 3V0	3	80	2.8...3.2	20	400	1	100	1	-0.08...-0.05
BZX 85/C 3V3	3.3	70	3.1...3.5	20	400	1	40	1	-0.08...-0.05
BZX 85/C 3V6	3.6	60	3.4...3.8	15	500	1	20	1	-0.08...-0.05
BZX 85/C 3V9	3.9	60	3.7...4.1	15	500	1	10	1	-0.07...-0.02
BZX 85/C 4V3	4.3	50	4.0...4.6	13	500	1	3	1	-0.07...+0.01
BZX 85/C 4V7	4.7	45	4.4...5.0	13	600	1	3	1	-0.03...+0.04
BZX 85/C 5V1	5.1	45	4.8...5.4	10	500	1	1	1.5	-0.01...+0.04
BZX 85/C 5V6	5.6	45	5.2...6.0	7	400	1	1	2	0...+0.045
BZX 85/C 6V2	6.2	35	5.8...6.6	4	300	1	1	3	+0.01...+0.055
BZX 85/C 6V8	6.8	35	6.4...7.2	3.5	300	1	1	4	+0.015...+0.06
BZX 85/C 7V5	7.5	35	7.0...7.9	3	200	0.5	1	4.5	+0.02...+0.065
BZX 85/C 8V2	8.2	25	7.7...8.7	5	200	0.5	1	6.2	0.03...0.07
BZX 85/C 9V1	9.1	25	8.5...9.6	5	200	0.5	1	6.8	0.03...0.075
BZX 85/C 10	10	25	9.4...10.6	7	200	0.5	0.5	7	0.04...0.08
BZX 85/C 11	11	20	10.4...11.6	8	300	0.5	0.5	8.2	0.045...0.08
BZX 85/C 12	12	20	11.4...12.7	9	350	0.5	0.5	9.1	0.045...0.085
BZX 85/C 13	13	20	12.4...14.1	10	400	0.5	0.5	10	0.05...0.085
BZX 85/C 15	15	15	13.8...15.6	15	500	0.5	0.5	11	0.055...0.09
BZX 85/C 16	16	15	15.3...17.1	15	500	0.5	0.5	12	0.055...0.09
BZX 85/C 18	18	15	16.8...19.1	20	400	0.5	0.5	13	0.06...0.09
BZX 85/C 20	20	10	18.8...21.2	24	600	0.5	0.5	15	0.06...0.09
BZX 85/C 22	22	10	20.8...23.3	25	600	0.5	0.5	16	0.06...0.095
BZX 85/C 24	24	10	22.8...25.6	25	600	0.5	0.5	18	0.06...0.095
BZX 85/C 27	27	8	25.1...28.9	30	750	0.25	0.5	20	0.06...0.095
BZX 85/C 30	30	8	28...32	30	1000	0.25	0.5	22	0.06...0.095
BZX 85/C 33	33	8	31...35	35	1000	0.25	0.5	24	0.06...0.095
BZX 85/C 36	36	8	34...38	40	1000	0.25	0.5	27	0.06...0.095
BZX 85/C 39	39	6	37...41	50	1000	0.25	0.5	30	0.06...0.095
BZX 85/C 43	43	6	40...46	50	1000	0.25	0.5	33	0.06...0.095
BZX 85/C 47	47	4	44...50	90	1500	0.25	0.5	36	0.06...0.095
BZX 85/C 51	51	4	48...54	115	1500	0.25	0.5	39	0.06...0.095
BZX 85/C 56	56	4	52...60	120	2000	0.25	0.5	43	0.06...0.095
BZX 85/C 62	62	4	58...66	125	2000	0.25	0.5	47	0.06...0.095
BZX 85/C 68	68	4	64...72	130	2000	0.25	0.5	51	0.06...0.095
BZX 85/C 75	75	4	70...79	135	2000	0.25	0.5	56	0.06...0.095
BZX 85/C 82	82	2.7	77...87	200	3000	0.25	0.5	62	0.07...0.10



BZX 85/C 91	91	2.7	85...96	250	3000	0.25	0.5	68	0.07...0.10
BZX 85/C 100	100	2.7	94...106	350	3000	0.25	0.5	75	0.07...0.11
BZX 85/C 110	110	2.7	104...116	450	4000	0.25	0.5	82	0.07...0.11
BZX 85/C 120	120	2	114...127	550	4500	0.25	0.5	91	0.07...0.11
BZX 85/C 130	130	2	124...141	700	5000	0.25	0.5	100	0.07...0.11
BZX 85/C 150	150	2	138...156	1000	6000	0.25	0.5	110	0.07...0.11
BZX 85/C 160	160	1.5	153...171	1100	6500	0.25	0.5	120	0.07...0.11
BZX 85/C 180	180	1.5	168...191	1200	7000	0.25	0.5	130	0.07...0.11
BZX 85/C 200	200	1.5	188...212	1500	8000	0.25	0.5	150	0.07...0.11
BZX 85/C 220	220	1	218...232	1600	9000	0.25	0.5	170	0.07...0.11

¹⁾ Tested with pulses $t_p=5$ ms. **SPECIALS AVAILABLE INCLUDE:** Nominal zener voltages between the voltages shown and tighter voltage tolerances. For detailed information on price, availability, and delivery, contact your nearest Motorola representative; **ZENER VOLTAGE (VZ) MEASUREMENT:** VZ is measured after the test current has been applied to 40 ± 10 msec., while maintaining the lead temperature (TL) at $30^\circ\text{C} \pm 1^\circ\text{C}$, 3/8, from the diode body.

²⁾ Valid provided that leads are kept at ambient temperature at a distance of 10 mm from case.

³⁾ The zener impedance is derived from the 1 kHz cycle ac voltage, which results when an ac current having an rms value equal to 10% of the dc zener current (IZT) or (IZK) is superimposed on IZT or IZK.