



# 1EZ110D5 THRU 1EZ200D5

## 1 WATT SILICON ZENER DIODE



### FEATURES

- \* Zener voltage 110V to 200V
- \* Withstands large surge stresses
- \* Also available in glass. (See Note 6).

### MECHANICAL CHARACTERISTICS

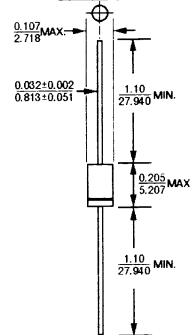
- \* CASE: Molded encapsulation, axial lead package.
- \* FINISH: Corrosion resistant. Leads are solderable.
- \* THERMAL RESISTANCE: 75°C/Watt.
- \* POLARITY: Banded end is cathode.
- \* WEIGHT: 0.4 grams (Typical).

### MAXIMUM RATINGS

Junction and Storage Temperatures: - 65°C to + 175°C  
 DC Power Dissipation: 1 Watt  
 Power Derating: 13.3mW/°C above 100°C  
 Forward Voltage @ 200mA: 1.2 Volts

**VOLTAGE RANGE**  
110 to 200 Volts

### DO-41



### \* ELECTRICAL CHARACTERISTICS @ 25°C

JEDEC TYPE NUMBER (Note 1)	NOMINAL ZENER VOLTAGE (Note 2 & 5)		MAXIMUM ZENER IMPEDANCE Note 3			MAXIMUM RATED ZENER CURRENT @ 100°C	TYPICAL TEMP. COEF. OF ZENER VOLTAGE	MAXIMUM SURGE CURRENT IS	
	$V_Z @ I_{ZT}$		$Z_{ZT} @ I_{ZT}$	$Z_{ZK} @ I_{ZK}$					$I_{ZM}$
	VOLTS	mA	OHMS	OHMS	mA				mA
1EZ110D5	110	2.3	570	5200	0.25	8.3	+0.095	0.15	
1EZ120D5	120	2.0	710	5800	0.25	8.0	+0.095	0.14	
1EZ130D5	130	1.9	910	6500	0.25	6.9	+0.095	0.13	
1EZ140D5	140	1.8	1100	7000	0.25	6.5	+0.095	0.12	
1EZ150D5	150	1.7	1300	7500	0.25	5.7	+0.095	0.12	
1EZ160D5	160	1.6	1400	8000	0.25	5.4	+0.095	0.11	
1EZ170D5	170	1.5	1450	8500	0.25	5.2	+0.095	0.10	
1EZ180D5	180	1.4	1500	9000	0.25	4.9	+0.095	0.10	
1EZ190D5	190	1.3	1700	9500	0.25	4.7	+0.095	0.10	
1EZ200D5	200	1.2	1900	10000	0.25	4.6	+0.100	0.10	

**NOTE 1** Suffix 5 indicates  $\pm 5\%$  tolerance. Suffix 10 indicates  $\pm 10\%$ , no suffix indicates  $\pm 20\%$ . Also, Suffix 1 indicates  $\pm 1\%$ , 2nd suffix indicates  $\pm 2\%$  on  $V_Z$  tolerance.

**NOTE 2** Zener voltage ( $V_Z$ ) is measured in still air at a temperature of 25°C. The test currents ( $I_{ZT}$ ) have been selected so that at nominal voltages the dissipation is a constant 0.25 watts. This results in a nominal junction temperature rise of 10°C.

### \* JEDEC Registered Data

**NOTE 3** The zener impedance is derived from the 60 Hz ac voltage, which results when an ac current having an rms value equal to 10% of the DC zener current ( $I_{ZT}$  or  $I_{ZK}$ ) is superimposed on  $I_{ZT}$  or  $I_{ZK}$ .

**NOTE 4** Maximum Surge Current is a non recurrent maximum peak reverse surge with a pulse width of 8.3 milliseconds at  $T_A$  25°C (+8, -2°C)

**NOTE 5** Voltage measurements to be performed 90 seconds after application of DC current.

## RATINGS AND CHARACTERISTIC CURVES

(1EZ110D5 THRU 1EZ200D5)

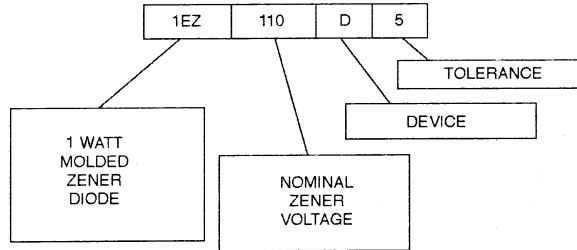


FIGURE 1

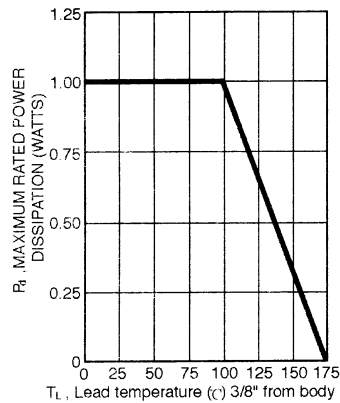


FIGURE 2 POWER DERATING CURVE