

2EZ11 THRU 2EZ200



GLASS PASSIVATED JUNCTION SILICON ZENER DIODE

VOLTAGE - 11 TO 200 Volts Power - 2.0 Watts

FEATURES

- Low profile package
- Built-in strain relief
- Glass passivated junction
- Low inductance
- Excellent clamping capability
- Typical I_D less than 1 μ A above 11V
- High temperature soldering :
260 $^{\circ}$ C/10 seconds at terminals
- Plastic package has Underwriters Laboratory
Flammability Classification 94V-O

MECHANICAL DATA

Case: JEDEC DO-15, Molded plastic over passivated junction

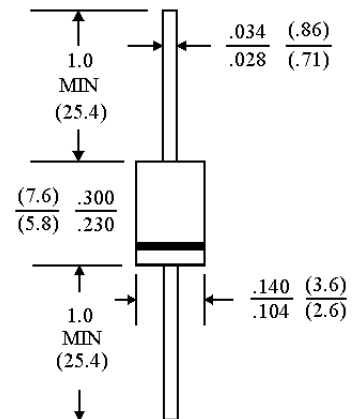
Terminals: Solder plated, solderable per MIL-STD-750,
method 2026

Polarity: Color band denotes positive end (cathode)

Standard Packaging: 52mm tape

Weight: 0.015 ounce, 0.04 gram

DO-15



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 $^{\circ}$ C ambient temperature unless otherwise specified.

	SYMBOL	VALUE	UNITS
Peak Pulse Power Dissipation (Note A) Derate above 75 $^{\circ}$ C	P_D	2 24	Watts mW/ $^{\circ}$ C
Peak forward Surge Current 8.3ms single half sine-wave superimposed on rated load(JEDEC Method) (Note B)	I_{FSM}	15	Amps
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-55 to +150	$^{\circ}$ C

NOTES:

A. Mounted on 5.0mm²(.013mm thick) land areas.

B. Measured on 8.3ms, single half sine-wave or equivalent square wave, duty cycle = 4 pulses
per minute maximum.

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ELECTRICAL CHARACTERISTICS ($T_A=25\text{ }^{\circ}\text{C}$ unless otherwise noted) $V_F=1.2\text{ V max}$, $I_F=500\text{ mA}$ for all types

Type No. (Note 1.)	Nominal Zener Voltage V_Z @ I_{ZT} volts (Note 2.)	Test current I_{ZT} mA	Maximum Zener Impedance (Note 3.)			Leakage Current		Maximum Zener Current I_{ZM} Madc	Surge Current @ $T_A = 25\text{ }^{\circ}\text{C}$ I_R - mA (Note 4.)
			Z_{ZT} @ I_{ZT} Ohms	Z_{ZK} @ I_{ZK} Ohms	I_{ZK} mA	I_R Eg A Max @	V_R Volts		
2EZ11	11.0	45.5	4.0	700	0.25	1.0	8.4	166	1.82
2EZ12	12.0	41.5	4.5	700	0.25	1.0	9.1	152	1.66
2EZ13	13.0	38.5	5.0	700	0.25	0.5	9.9	138	1.54
2EZ14	14.0	35.7	5.5	700	0.25	0.5	10.6	130	1.43
2EZ15	15.0	33.4	7.0	700	0.25	0.5	11.4	122	1.33
2EZ16	16.0	31.2	8.0	700	0.25	0.5	12.2	114	1.25
2EZ17	17.0	29.4	9.0	750	0.25	0.5	13.0	107	1.18
2EZ18	18.0	27.8	10.0	750	0.25	0.5	13.7	100	1.11
2EZ19	19.0	26.3	11.0	750	0.25	0.5	14.4	95	1.05
2EZ20	20.0	25.0	11.0	750	0.25	0.5	15.2	90	1.00
2EZ22	22.0	22.8	12.0	750	0.25	0.5	16.7	82	0.91
2EZ24	24.0	20.8	13.0	750	0.25	0.5	18.2	76	0.83
2EZ27	27.0	18.5	18.0	750	0.25	0.5	20.6	68	0.74
2EZ30	30.0	16.6	20.0	1000	0.25	0.5	22.5	60	0.67
2EZ33	33.0	15.1	23.0	1000	0.25	0.5	25.1	55	0.61
2EZ36	36.0	13.9	25.0	1000	0.25	0.5	27.4	50	0.56
2EZ39	39.0	12.8	30.0	1000	0.25	0.5	29.7	47	0.51
2EZ43	43.0	11.6	35.0	1500	0.25	0.5	32.7	43	0.45
2EZ47	47.0	10.6	40.0	1500	0.25	0.5	35.8	39	0.42
2EZ51	51.0	9.8	48.0	1500	0.25	0.5	38.8	36	0.39
2EZ56	56.0	9.0	55.0	2000	0.25	0.5	42.6	32	0.36
2EZ62	62.0	8.1	60.0	2000	0.25	0.5	47.1	29	0.32
2EZ68	68.0	7.4	75.0	2000	0.25	0.5	51.7	27	0.29
2EZ75	75.0	6.7	90.0	2000	0.25	0.5	56.0	24	0.27
2EZ82	82.0	6.1	100.0	3000	0.25	0.5	62.2	22	0.24
2EZ91	91.0	5.5	125.0	3000	0.25	0.5	69.2	20	0.22
2EZ100	100.0	5.0	175.0	3000	0.25	0.5	76.0	18	0.20
2EZ110	110.0	4.5	250.0	4000	0.25	0.5	83.6	17	0.18
2EZ120	120.0	4.2	325.0	4500	0.25	0.5	91.2	15	0.16
2EZ130	130.0	3.8	400.0	5000	0.25	0.5	98.8	14	0.15
2EZ140	140.0	3.6	500.0	5500	0.25	0.5	106.4	13	0.14
2EZ150	150.0	3.3	575.0	6000	0.25	0.5	114.0	12	0.13
2EZ160	160.0	3.1	650.0	6500	0.25	0.5	121.6	11	0.12
2EZ170	170.0	2.9	675.0	7000	0.25	0.5	130.4	11	0.12
2EZ180	180.0	2.8	725.0	7000	0.25	0.5	136.8	10	0.11
2EZ190	190.0	2.6	825.0	8000	0.25	0.5	144.8	10	0.10
2EZ200	200.0	2.5	900.0	8000	0.25	0.5	152.0	9	0.10

NOTES:

1. TOLERANCES - Suffix indicates 5% tolerance any other tolerance will be considered as a special device.
2. ZENER VOLTAGE (V_Z) MEASUREMENT - guarantees the zener voltage when measured at 40 ms $\pm$ 10ms from the diode body, and an ambient temperature of $25\text{ }^{\circ}\text{C}$ ($\pm$ 68 $^{\circ}\text{C}$, $-2\text{ }^{\circ}\text{C}$).
3. ZENER IMPEDANCE (Z_Z) DERIVATION - The zener impedance is derived from the 60 cycle 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} .
4. SURGE CURRENT (I_R) NON-REPETITIVE - 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_{ZT} , per JEDEC standards, however, actual device capability is as described in Figure 3.

RATING AND CHARACTERISTICS CURVES
2EZ11 THRU 2EZ200

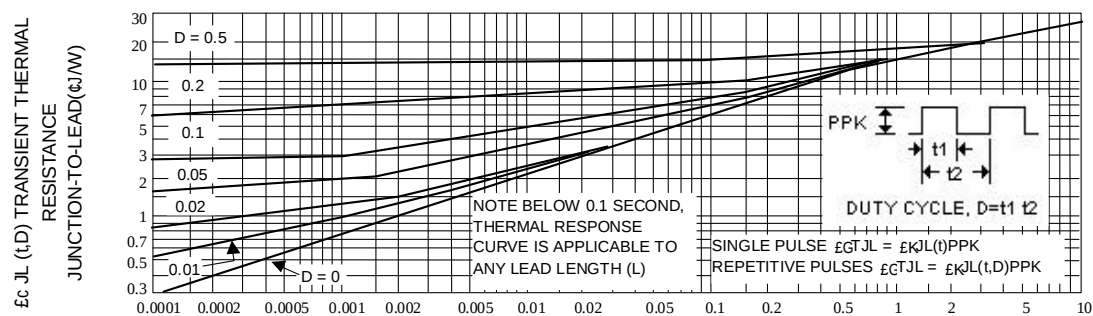


Fig. 2-TYPICAL THERMAL RESPONSE L,

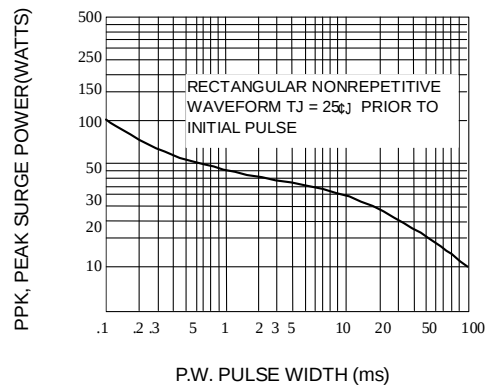


Fig. 3-MAXIMUM SURGE POWER

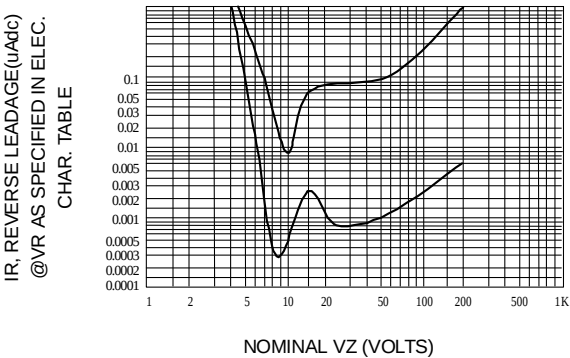


Fig. 4-TYPICAL REVERSE LEAKAGE

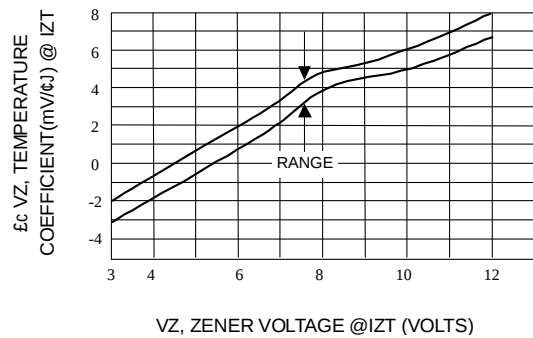


Fig. 5-UNITS TO 12 VOLTS

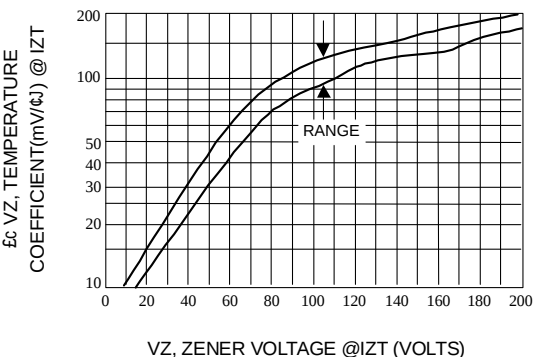


Fig. 6-UNITS 10 TO 200 VOLTS

RATING AND CHARACTERISTICS CURVES
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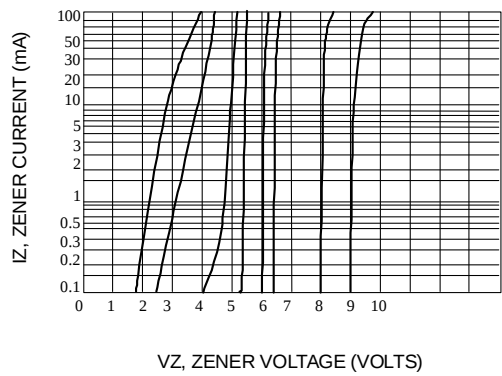


Fig. 7- $V_Z = 3.9$ THRU 10 VOLTS

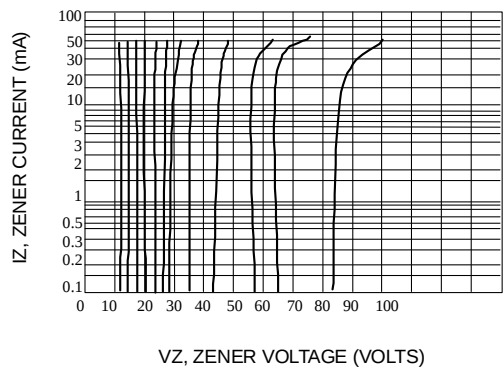


Fig. 8- $V_Z = 12$ THRU 82 VOLTS

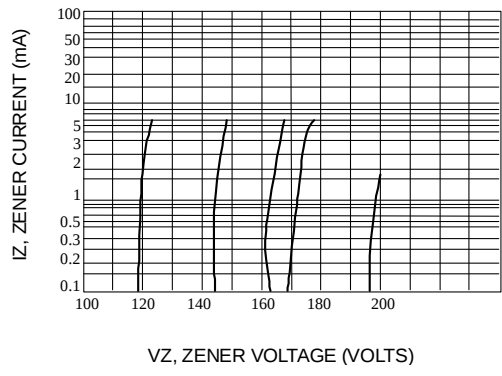


Fig. 9- $V_Z = 100$ THRU 200 VOLTS

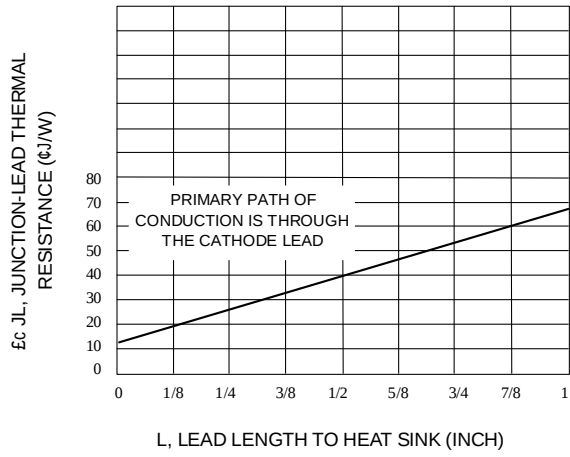


Fig. 10-TYPICAL THERMAL RESISTANCE