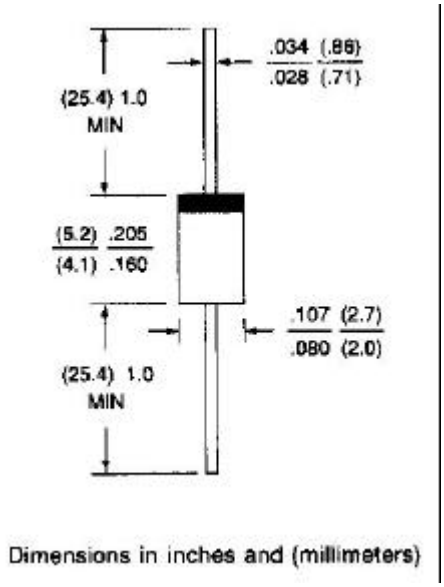
1N4741A THRU 1M200Z

GLASS PASSIVATED JUNCTION SILICON ZENER DIODE

VOLTAGE - 11 TO 200 Volts Power - 1.0 Watt

DO-41



Dimensions in inches and (millimeters)

FEATURES

- Low profile package
- Built-in strain relief
- Glass passivated junction
- Low inductance
- Typical I_R less than 5.0 A above 11V
- High temperature soldering :

260 /10 seconds at terminals

- Plastic package has Underwriters Laboratory

Flammability Classification 94V-O

MECHANICAL DATA

Case: Molded plastic, DO-41

Epoxy: UL 94V-O rate flame retardant

Lead: Axial leads, solderable per MIL-STD-202,

method 208 guaranteed

Polarity: Color band denotes cathode end

Mounting position: Any

Weight: 0.012 ounce, 0.3 gram

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 ambient temperature unless otherwise specified.

	SYMBOL	VALUE	UNITS
Peak Pulse Power Dissipation on T_A=50 (Note A) Derate above 50	P_D	1.0 6.67	Watts mW/
Peak forward Surge Current 8.3ms single half sine-wave superimposed on rated load(JEDEC Method) (Note B)	I_{FSM}	10	Amps
Operating Junction and Storage Temperature Range	T_J,T_{STG}	-55 to +150	

NOTES:

A. Mounted on 5.0mm^2(.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 unless otherwise noted) V_F=1.2V max, I_F=200mA for all types.

Type No. (Note 1.)	Nominal Zener Voltage Vz @ I_{ZT} volts (Notes2. And 3.)	Test current I_{ZT} mA	Maximum Zener Impedance (Note 4.)			Leakage Current		Surge Current @ T_A=25 Ir - mA (Note 5.)
			Z_{ZT} @ I_{ZT} Ohms	Z_{Zk} @ I_{ZK} Ohms	I_{ZK} mA	I_R A Max	V_R Volts	
1N4741A	11	23	8.0	700	0.25	5.0	8.4	414
1N4742A	12	21	9.0	700	0.25	5.0	9.1	380
1N4743A	13	19	10	700	0.25	5.0	9.9	344
1N4744A	15	17	14	700	0.25	5.0	11.4	304
1N4745A	16	15.5	16	700	0.25	5.0	12.2	285
1N4746A	18	14	20	750	0.25	5.0	13.7	250
1N4747A	20	12.5	22	750	0.25	5.0	15.2	225
1N4748A	22	11.5	23	750	0.25	5.0	16.7	205
1N4749A	24	10.5	25	750	0.25	5.0	18.2	190
1N4750A	27	9.5	35	750	0.25	5.0	20.6	170
1N4751A	30	8.5	40	1000	0.25	5.0	22.8	150
1N4752A	33	7.5	45	1000	0.25	5.0	25.1	135
1N4753A	36	7.0	50	1000	0.25	5.0	27.4	125
1N4754A	39	6.5	60	1000	0.25	5.0	29.7	115
1N4755A	43	6.0	70	1500	0.25	5.0	32.7	110
1N4756A	47	5.5	80	1500	0.25	5.0	35.8	95
1N4757A	51	5.0	95	1500	0.25	5.0	38.8	90
1N4758A	56	4.5	110	2000	0.25	5.0	42.6	80
1N4759A	62	4.0	125	2000	0.25	5.0	47.1	70
1N4760A	68	3.7	150	2000	0.25	5.0	51.7	65
1N4761A	75	3.3	175	2000	0.25	5.0	56.0	60
1N4762A	82	3.0	200	3000	0.25	5.0	62.2	55
1N4763A	91	2.8	250	3000	0.25	5.0	69.2	50
1N4764A	100	2.5	350	3000	0.25	5.0	76.0	45
1M110Z	110	2.3	450	4000	0.25	5.0	83.6	-
1M120Z	120	2	550	4500	0.25	5.0	91.2	-
1M130Z	130	1.9	700	5000	0.25	5.0	98.8	-
1M150Z	150	1.7	1000	6000	0.25	5.0	114.0	-
1M160Z	160	1.6	1100	6500	0.25	5.0	121.6	-
1M180Z	180	1.4	1200	7000	0.25	5.0	136.8	-
1M200Z	200	1.2	1500	8000	0.25	5.0	152.0	-

NOTE:

1.Tolerance and Type Number Designation. The type numbers listed have a standard tolerance on the nominal zener voltage of ±5%.

2.Specials Available Include:

A. Nominal zener voltages between the voltages shown and tighter voltage tolerances.

B. Matched sets.

3.Zener Voltage (V_Z) Measurement. Guarantees the zener voltage when measured at 90 seconds while maintaining the lead temperature (T_L) at 30 ±1 , from the diode body.

4.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 $I_{ZK.}$

5.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 registration; however, actual device capability is as described in Figure 5.

RATING AND CHARACTERISTICS CURVES

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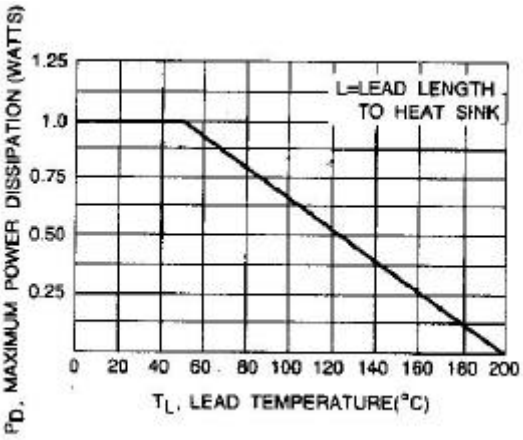

Fig. 1-POWER TEMPERATURE DERATING CUVE

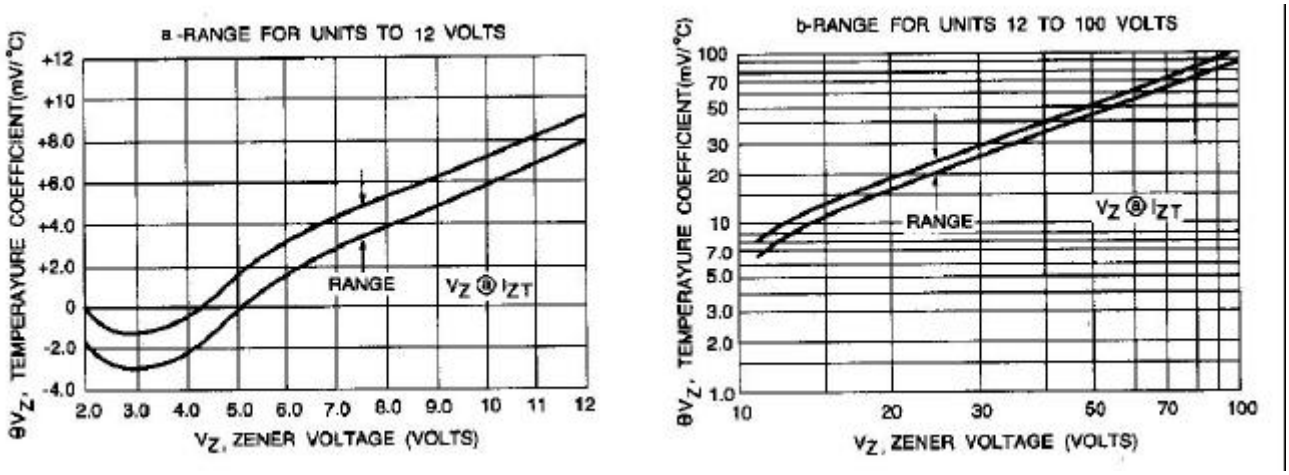

Fig. 2-TEMPERATURE COEFFICIENTS

(-55 to +150 temperature range; 90% of the units are in the ranges indicated.)

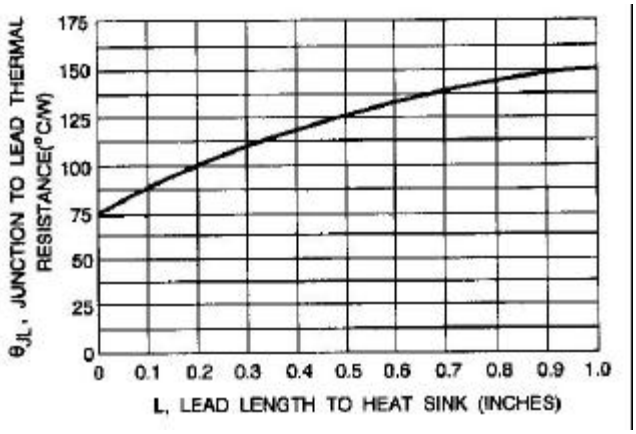

Fig. 3-TYPICAL THERMAL RESISTANCE versus LEAD LENGTH

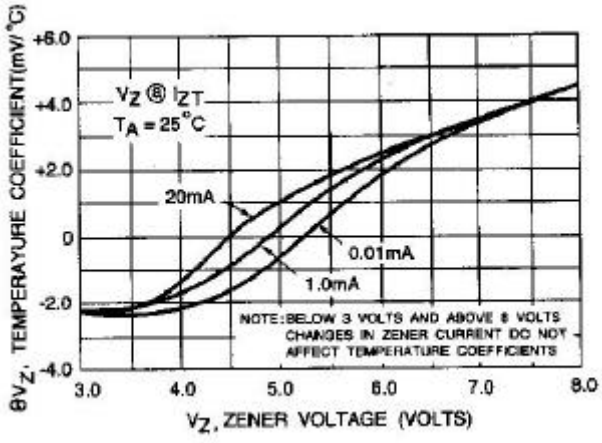

Fig. 4-EFFECT OF ZENER CURRENT

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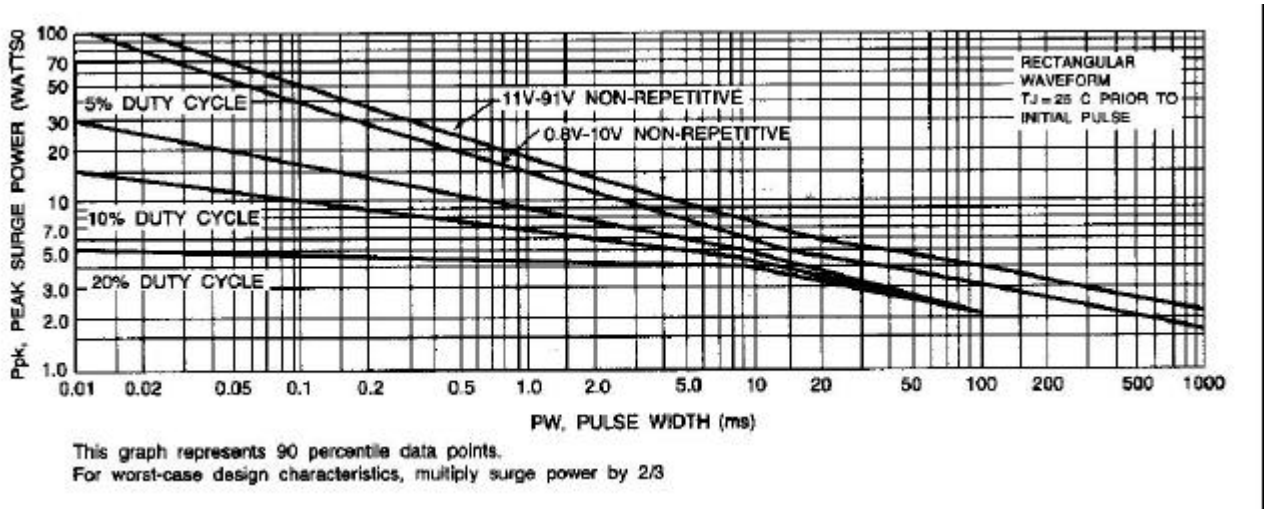

Fig. 5-MAXIMUM SURGE POWER

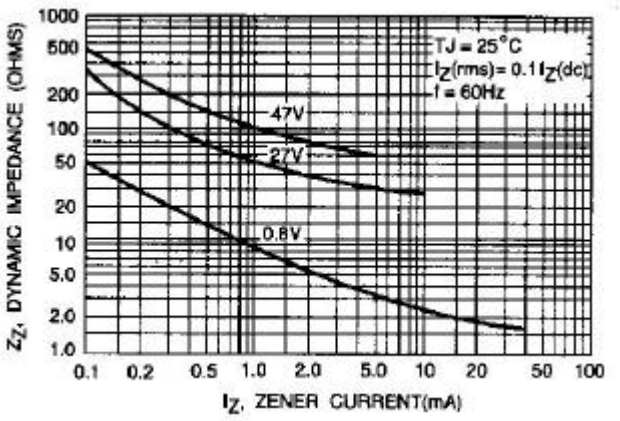

Fig. 6-EFFECT OF ZENER CURRENT ON ZENER IMPEDANCE

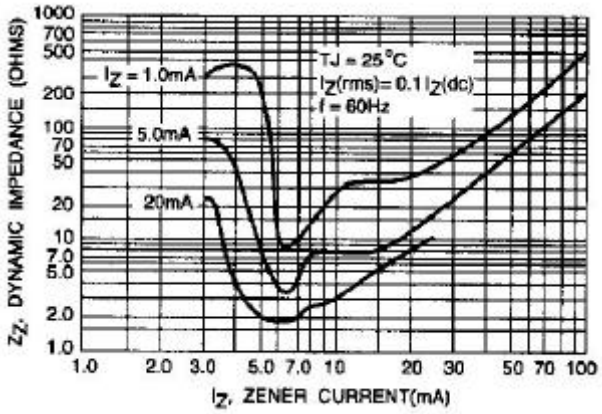

Fig. 7-EFFECT OF ZENER VOLTAGE ON ZENER IMPEDANCE

RATING AND CHARACTERISTICS CURVES

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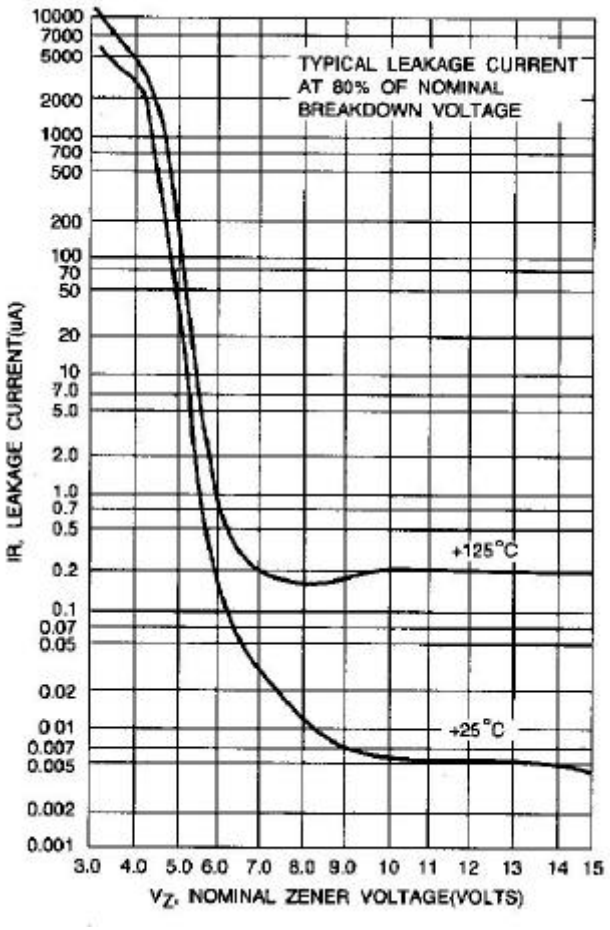

Fig. 8-TYPICAL LEAKAGE CURRENT

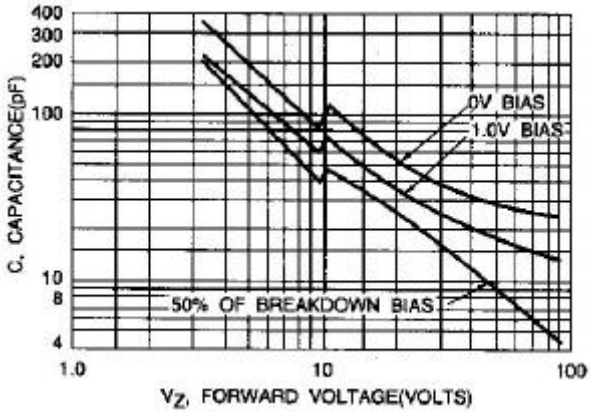

Fig. 9-TYPICAL CAPACITANCE versus Vz

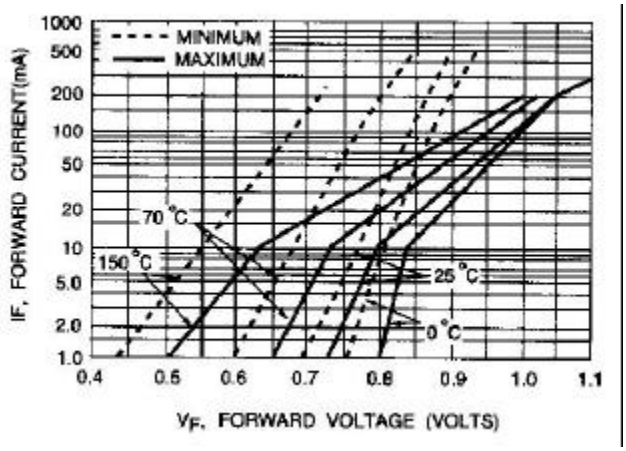

Fig. 10-TYPICAL FORWARD CHARACTERISTICS