

T-11-07

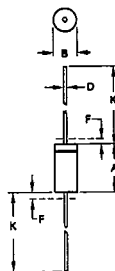
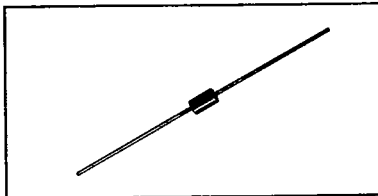
MOTOROLA SEMICONDUCTOR TECHNICAL DATA

**1/4M2.4AZ10
thru
1/4M105Z10**

1/4 WATT SILICON ZENER DIODES

Hermetically sealed, all-glass case with all external surfaces corrosion resistant. Cathode end, indicated by color band, will be positive with respect to anode end when operated in the zener region. These devices are in the same 400 mW glass package as the 1N746 and 1N957 Series, but designated 1/4 Watt to allow characterization at a different test current level.

**1/4 WATT SILICON ZENER DIODES
2.4-105 VOLTS**



- NOTES**
1. PACKAGE CONTOUR OPTIONAL WITHIN A AND B HEAT SLUGS, IF ANY, SHALL BE INCLUDED WITHIN THIS CYLINDER, BUT NOT SUBJECT TO THE MINIMUM LIMIT OF B.
 2. LEAD DIAMETER NOT CONTROLLED IN ZONE F TO ALLOW FOR FLASH, LEAD FINISH BUILDUP AND MINOR IRREGULARITIES OTHER THAN HEAT SLUGS.
 3. POLARITY OBTAINED BY CATHODE BAND.
 4. DIMENSIONING AND TOLERANCING PER ANSI Y14.5, 1973

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	3.05	5.08	0.120	0.200
B	1.52	2.29	0.060	0.090
D	0.46	0.56	0.018	0.022
F	-	1.27	-	0.050
K	1.25-4.0	3.8-10	1.000	1.500

AN JEDEC dimensions and notes apply

**CASE 299-02
DO-204AH
GLASS**

MAXIMUM RATINGS

Junction and Storage Temperature: -65°C to +175°C
DC Power Dissipation: 1/4 Watt (Derate 1.67 mW/°C Above 25°C)

The type numbers specified have a standard voltage (V_Z) tolerance of ±10%. For closer tolerances, add suffix "5" for ±5%, (3%, 2%, 1% tolerances also available).

ELECTRICAL CHARACTERISTICS (T_A = 25°C, V_F = 1.5 V max @ 100 mA)

Type No.	Nominal Zener Voltage @ I _{ZT} (V _Z) Volts	Test Current (I _{ZT}) mA	Maximum Zener Impedance (Z _{ZT}) @ I _{ZT} Ohms	Maximum DC Zener Current (I _{ZM}) mA	Reverse Leakage Current		
					I _R Max (μA)	Test Voltage V _{dc} *	
						V _{R1}	V _{R2}
1/4M2.4AZ10	2.4	10	60	70	75	1	1
1/4M2.7AZ10	2.7	10	60	65	75	1	1
1/4M3.0AZ10	3.0	10	55	60	50	1	1
1/4M3.3AZ10	3.3	10	55	55	50	1	1
1/4M3.6AZ10	3.6	10	50	52	50	1	1

*V_{R1} — Test Voltage for 5% Tolerance Device

V_{R2} — Test Voltage for 10% Tolerance Device

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1/4M2.4AZ10 thru 1/4M105Z10

ELECTRICAL CHARACTERISTICS (T_A = 25°C, V_F = 1.5 V max @ 100 mA)

Type No.	Nominal Zener Voltage @ I _{ZT} (V _Z) Volts	Test Current (I _{ZT}) mA	Maximum Zener Impedance (Z _{ZT}) @ I _{ZT} Ohms	Maximum DC Zener Current (I _{ZM}) mA	Reverse Leakage Current		
					I _R Max (μA)	Test Voltage V _{dc} *	
						V _{R1}	V _{R2}
1/4M3.9AZ10	3.9	10	50	49	25	1	1
1/4M4.3AZ10	4.3	10	45	46	25	1.5	1.5
1/4M4.7AZ10	4.7	10	35	42	10	1.5	1.5
1/4M5.1AZ10	5.1	10	25	39	5	1.5	1.5
1/4M5.6AZ10	5.6	10	20	36	5	1.5	1.5
1/4M6.2AZ10	6.2	10	15	33	5	3.5	3.5
1/4M6.8Z10	6.8	9.2	7.0	33	150	5.2	4.9
1/4M7.5Z10	7.5	8.3	8.0	30	75	5.7	5.4
1/4M8.2Z10	8.2	7.6	9.0	26	50	6.2	5.9
1/4M9.1Z10	9.1	6.9	10	24	25	6.9	6.6
1/4M10Z10	10	6.3	11	21	10	7.6	7.2
1/4M11Z10	11	5.7	13	19	5	8.4	8.0
1/4M12Z10	12	5.2	15	18	5	9.1	8.6
1/4M13Z10	13	4.8	18	16	5	9.9	9.4
1/4M14Z10	14	4.5	20	15	5	10.6	10.1
1/4M15Z10	15	4.2	22	14	5	11.4	10.8
1/4M16Z10	16	3.9	24	13	5	12.2	11.5
1/4M17Z10	17	3.7	26	12.5	5	13.0	12.2
1/4M18Z10	18	3.5	28	11.5	5	13.7	13.0
1/4M19Z10	19	3.3	30	11.0	5	14.4	13.7
1/4M20Z10	20	3.1	33	10.5	5	15.2	14.4
1/4M22Z10	22	2.8	40	9.5	5	16.7	15.8
1/4M24Z10	24	2.6	46	9.0	5	18.2	17.3
1/4M25Z10	25	2.5	50	8.0	5	19.0	18.0
1/4M27Z10	27	2.3	58	7.5	5	20.6	19.4
1/4M30Z10	30	2.1	70	7.0	5	22.8	21.6
1/4M33Z10	33	1.9	85	6.5	5	25.1	23.8
1/4M36Z10	36	1.7	100	6.0	5	27.4	25.9
1/4M39Z10	39	1.6	120	5.0	5	29.7	28.1
1/4M43Z10	43	1.5	140	4.8	5	32.7	31.0
1/4M45Z10	45	1.4	150	4.5	5	34.2	32.4
1/4M47Z10	47	1.3	160	4.3	5	35.8	33.8
1/4M50Z10	50	1.2	180	4.1	5	38.0	36.0
1/4M52Z10	52	1.2	200	4.0	5	39.5	37.4
1/4M56Z10	56	1.1	230	3.8	5	42.6	40.3
1/4M62Z10	62	1.0	290	3.3	5	47.1	44.6
1/4M68Z10	68	0.92	350	3.0	5	51.7	49.0
1/4M75Z10	75	0.83	450	2.8	5	56.0	54.0
1/4M82Z10	82	0.76	550	2.5	5	62.2	59.0
1/4M91Z10	91	0.69	700	2.3	5	69.2	65.5
1/4M100Z10	100	0.63	900	2.0	5	76.0	72.0
1/4M105Z10	105	0.60	1000	1.9	5	79.8	75.8

*V_{R1} — Test Voltage for 5% Tolerance Device

V_{R2} — Test Voltage for 10% Tolerance Device

SPECIAL SELECTIONS AVAILABLE INCLUDE:

- 1 — Nominal zener voltages between those shown.
- 2 — Matches sets: (Standard Tolerances are ±5.0%, ±3.0%, ±2.0%, ±1.0%) depending on voltage per device.
 - a. Two or more units for series connection with specified tolerance on total voltage. Series matched sets make possible higher zener voltages and provide lower temperature coefficients, lower dynamic impedance and greater power handling ability.
 - b. Two or more units matched to one another with any specified tolerance.
- 3 — Tight voltage tolerances: 1.0%, 2.0%, 3.0%.

