

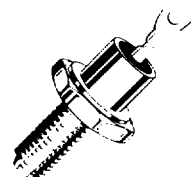


1N3993 thru 1N4000

ZENER DIODES

Low-voltage, alloy-junction zener diodes in hermetically sealed package with cathode connected to case. Supplied with mounting hardware.

10 WATTS
ZENER DIODES



MAXIMUM RATINGS

Junction and Storage Temperature: -65°C to $+175^{\circ}\text{C}$.
DC Power Dissipation: 10 Watts. (Derate 83.3 mW/ $^{\circ}\text{C}$ above 55°C)

The type numbers shown in the table have a standard tolerance on the nominal zener voltage of $\pm 10\%$. A standard tolerance of $\pm 5\%$ on individual units is also available and is indicated by suffixing "A" to the standard type number.

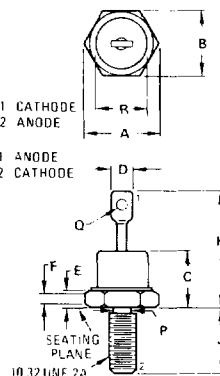
ELECTRICAL CHARACTERISTICS ($T_B = 30^{\circ}\text{C} \pm 3$,
 $V_F = 1.5$ max @ $I_F = 2$ amp for all units)

Type No.	Nominal Zener Voltage $V_Z @ I_{ZT}$ Volts	Test Current I_{ZT} mA	Max Zener Impedance		Max DC Zener Current I_{ZM} mA	Reverse Leakage Current	
			$Z_{ZT} @ I_{ZT}$ Ohms	$Z_{ZK} @ I_{ZK} = 1.0$ mA Ohms		I_R μA	V_R Volts
1N3993	3.9	640	2.0	400	2380	100	0.5
1N3994	4.3	580	1.5	400	2130	100	0.5
1N3995	4.7	530	1.2	500	1940	50	1.0
1N3996	5.1	490	1.1	550	1780	10	1.0
1N3997	5.6	445	1.0	600	1620	10	1.0
1N3998	6.2	405	1.1	750	1460	10	2.0
1N3999	6.8	370	1.2	500	1330	10	2.0
1N4000	7.5	335	1.3	250	1210	10	3.0

SPECIAL SELECTIONS AVAILABLE INCLUDE: (See Selector Guide for details)

STYLE 1
TERM 1 CATHODE
2 ANODE

STYLE 2
TERM 1 ANODE
2 CATHODE



DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	11.94	12.83	0.470	0.505
B	10.77	11.10	0.424	0.437
C	-	10.29	-	0.405
D	-	6.35	-	0.250
E	1.91	4.45	0.075	0.175
F	1.52	-	0.060	-
J	10.72	11.51	0.422	0.453
K	-	20.32	-	0.800
P	4.14	4.80	0.163	0.189
Q	1.52	-	0.060	-
R	-	0.77	-	0.424

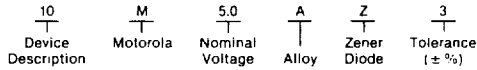
All JEDEC dimensions and notes apply.

CASE 56
DO-4

1N3993 thru 1N4000

(A) NOMINAL ZENER VOLTAGES BETWEEN THE VOLTAGES SHOWN AND TIGHTER VOLTAGE TOLERANCES:

To designate units with zener voltages other than those assigned JEDEC numbers and/or tight voltage tolerances ($\pm 3\%$, $\pm 2\%$, $\pm 1\%$), the Motorola type number should be used.

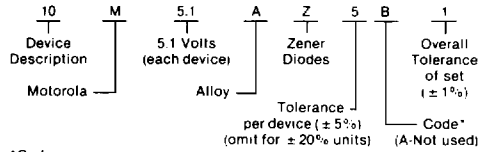


Example: 10M5.0AZ3

(B) MATCHED SETS: (Standard Tolerances are $\pm 5.0\%$, $\pm 2.0\%$, $\pm 1.0\%$).

Zener diodes can be obtained in sets consisting of two or more matched devices. The method for specifying such matched sets is similar to the one described in (A) for specifying units with a special voltage and/or tolerance except that two extra suffixes are added to the code number described.

These units are marked with code letters to identify the matched sets and, in addition, each unit in a set is marked with the same serial number, which is different for each set being ordered.

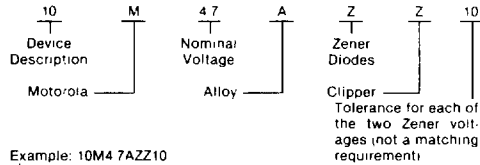


*Code:
 B — Two devices in series
 C — Three devices in series
 D — Four devices in series

Example: 10M5.1AZ5B1

(C) ZENER CLIPPERS: (Standard Tolerance $\pm 10\%$ and $\pm 5\%$).

Special clipper diodes with opposing Zener junctions built into the device are available by using the following nomenclature:



Example: 10M4.7AZZ10