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## 1N746A thru 1N759A Zener Diode, 1/2 Watt ±5% Tolerance

**Features:**

- Zener Voltage 3.3 to 12V
- DO35 Package

**Absolute Maximum Ratings:** ( $T_A = +25^\circ\text{C}$  unless otherwise specified)

DC Power Dissipation,  $P_D$  ..... 500mW  
 Operating Junction Temperature,  $T_J$  .....  $+175^\circ\text{C}$   
 Storage Temperature Range,  $T_{stg}$  .....  $-65^\circ$  to  $+200^\circ\text{C}$   
 Lead Temperature (During Soldering, 1/16" from case, 10 seconds max),  $T_L$  .....  $+230^\circ\text{C}$

**Electrical Characteristics:** ( $T_A = +25^\circ\text{C}$ , unless otherwise specified)

Device Number	Nominal Zener Voltage $V_Z @ I_{ZT}$ (Note 1) Volts	Zener Test Current ( $I_{ZT}$ ) mA	Maximum Dynamic Impedance $Z_{zt} @ I_{ZT}$ (Note 2) Ohms	Maximum Regulator Current $I_{ZM}$ (Note 3) mA	Typical Temperature Coefficient $\alpha_{VZ}$ %/°C	Maximum Reverse Leakage Current $I_R @ V_R = 1V$	
						$T_A = +25^\circ\text{C}$ $\mu\text{A}$	$T_A = +150^\circ\text{C}$ $\mu\text{A}$
1N746A	3.3	20	28	110	-0.070	10	30
1N747A	3.6	20	24	100	-0.065	10	30
1N748A	3.9	20	23	95	-0.060	10	30
1N749A	4.3	20	22	85	$\pm 0.055$	2	30
1N750A	4.7	20	19	75	$\pm 0.030$	2	30
1N751A	5.1	20	17	70	$\pm 0.030$	1	20
1N752A	5.6	20	11	65	+0.038	1	20
1N753A	6.2	20	7	60	0.045	0.1	20

Note 1. Measured with device junction in thermal equilibrium.

Note 2. The Zener impedance is derived from the 1kHz AC voltage which results when an AC current having an RMS value equal to 10% of the Zener current ( $I_{ZT}$ ) is superimposed on  $I_{ZT}$ . Zener impedance is measured at two points to insure a sharp knee on the breakdown curve and to eliminate unstable units.

Note 3. valid provided that leads at a distance of 3/8" from case are kept at ambient temperature.

**Electrical Characteristics (Cont'd):** ( $T_A = +25^\circ\text{C}$ , unless otherwise specified)

Device Number	Nominal Zener Voltage $V_Z @ I_{ZT}$ (Note 1)	Zener Test Current ( $I_{ZT}$ )	Maximum Dynamic Impedance $Z_{ZT} @ I_{ZT}$ (Note 2)	Maximum Regulator Current $I_{ZM}$ (Note 3)	Typical Temperature Coefficient $\alpha_{VZ}$	Maximum Reverse Leakage Current $I_R @ V_R = 1V$	
	Volts	mA	Ohms	mA		$T_A = +25^\circ\text{C}$	$T_A = +150^\circ\text{C}$
						$\mu\text{A}$	$\mu\text{A}$
1N754A	6.8	20	5	55	0.050	0.1	20
1N755A	7.5	20	6	50	0.058	0.1	20
1N756A	8.2	20	8	45	0.062	0.1	20
1N757A	9.1	20	10	40	0.068	0.1	20
1N758A	10	20	17	35	0.075	0.1	20
1N759A	12	20	30	30	0.077	0.1	20

Note 1. Measured with device junction in thermal equilibrium.

Note 2. The Zener impedance is derived from the 1kHz AC voltage which results when an AC current having an RMS value equal to 10% of the Zener current ( $I_{ZT}$ ) is superimposed on  $I_{ZT}$ . Zener impedance is measured at two points to insure a sharp knee on the breakdown curve and to eliminate unstable units.

Note 3. valid provided that leads at a distance of 3/8" from case are kept at ambient temperature.

