



# SOLID STATE INC.

46 FARRAND STREET  
BLOOMFIELD, NEW JERSEY 07003

www.solidstateinc.com

## ZENER types

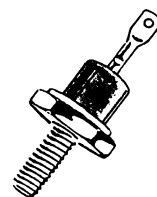
1N1351 thru 1N1375A  
1N1803 thru 1N1836A  
1N2008 thru 1N2012A  
1N2498 thru 1N2500A

## SILICON 10 WATT ZENER DIODES

### DESCRIPTION

These zener diode types represent preferred voltages in a 10 WATT series covering the voltage range of 6.8 to 200 volts. Their voltage drop is essentially independent of current over a wide current range making them uniquely effective in regulating D-C voltages, low impedance D-C level changing, biasless clamping, clipping, limiting and surge protection within the bounds of their maximum ratings.

In normal zener usage these junctions are biased in the reverse direction. "STANDARD" POLARITY units have the ANODE ("P" side of junction) CONNECTED TO STUD and are intended for NEGATIVE GROUNDED use in most vacuum tube circuits and N-P-N transistor circuits. REVERSE POLARITY, CATHODE-TO-STUD, units are available for use in P-N-P transistor circuits and other POSITIVE-GROUNDED applications. It is recommended that standard polarity (anode-to-stud) types be used in those applications where the zener diode is electrically insulated from its heat sink or where the heat sink (fin) is itself electrically isolated.



### MAXIMUM RATINGS

Junction and Storage Temperatures:  $-65$  to  $+175^{\circ}\text{C}$

D.C. Power Dissipation: 10 Watts

### MECHANICAL CHARACTERISTICS

CASE: Industry Standard DO-4, 7/16" Hex. stud with 10-32 threads, welded, hermetically sealed metal and glass.

THERMAL RESISTANCE:  $5^{\circ}\text{C/W}$  (Typical) junction to stud

WEIGHT: 7.5 grams  
MOUNTING POSITION: Any

# 10 WATT ZENER DIODES

## ELECTRICAL CHARACTERISTICS

TYPE NO.	SPECIFICATIONS @ 25°C		
	ZENER VOLTAGE $E_z @ I_z$ (VOLTS)	MAXIMUM DYNAMIC IMPEDANCE $Z_z @ I_{zT}$ (OHMS)	TEST CURRENT $I_z$ (mA <sub>dc</sub> )
1N1803	5.6	1	1000
1N1804	6.2	1	1000
1N1805	6.8	1	1000
1N1806	7.5	1	1000
1N1807	8.2	1	1000
1N1808	9.1	1	500
1N1351	10	2	500
1N1352	11	2	500
1N1353	12	2	500
1N1354	13	2	500
1N1355	15	2	500
1N1356	16	3	500
1N1357	18	3	150
1N1358	20	3	150
1N1359	22	3	150
1N1360	24	3	150
1N1361	27	3	150
1N1362	30	4	150
1N1363	33	4	150
1N1364	36	5	150
1N1365	39	5	150
1N1366	43	6	150
1N1367	47	7	150
1N1368	51	8	150
1N1369	56	9	150
1N1370	62	12	50
1N1371	68	14	50
1N1372	75	20	50
1N1373	82	22	50
1N1374	91	35	50
1N1375	100	40	50
1N1809	110	47	50
1N1810	120	56	50
1N1811	130	65	50
1N1812	150	82	50
1N1813	160	93	50
1N1814	180	115	50
1N1815	200	140	50

TYPE NO.	SPECIFICATIONS @ 25°C				
	ZENER VOLTAGE $E_z @ I_z$ (VOLTS)	MAXIMUM DYNAMIC IMPEDANCE $Z_z @ I_z$ (OHMS)	TEST CURRENT $I_z$ (mA <sub>dc</sub> )	REVERSE CURRENT $I_b$ @ $E_b$ ( $\mu$ A) (VOLTS)	
1N2498	10	2	500	40	5
1N2499	11	2	500	30	5
1N2500	12	2	500	25	5
1N1816	13	2	500	25	5
1N1817	15	2	500	15	5
1N1818	16	3	500	10	5
1N1819	18	3	500	10	5
1N1820	20	3	250	10	10
1N1821	22	3	250	10	10
1N1822	24	3	250	10	10
1N1823	27	3	250	10	10
1N1824	30	4	250	10	10
1N1825	33	4	150	10	10
1N1826	36	5	150	10	10
1N1827	39	5	150	10	10
1N1828	43	6	150	10	10
1N1829	47	7	150	10	10
1N1830	51	8	150	10	10
1N1831	56	9	150	10	10
1N1832	62	12	50	10	10
1N1833	68	14	50	10	10
1N1834	75	20	50	10	10
1N1835	82	22	50	10	10
1N1836	91	35	50	10	10
1N2008	100	40	50	10	10
1N2009	110	47	50	10	10
1N2010	120	56	50	10	10
1N2011	130	65	50	10	10
1N2012	150	82	50	10	10

### NOTES:

- (1) Power Rating: 10 Watts @ 50°C, case temperature. Derate 80 Milliwatts/°C above 50°C.
- (2) Standard types supplied to  $\pm 10\%$  of voltage value listed. For  $\pm 5\%$  tolerance, add "A" suffix to part number. In standard polarity units, the top terminal will be POSITIVE with respect to the stud. If units of reversed polarity are desired, i.e., top terminal NEGATIVE with respect to the stud, the letter "R" will be suffixed to the part number. Example: 1N1358RA would be a REVERSED polarity 20 volt unit with a  $\pm 5\%$  zener voltage tolerance.

- (3) Dynamic Impedance is measured by superimposing 10mA, 60 cycle A.C. on the D.C. test current.



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## PACKAGE MECHANICAL DATA

DO 4 Metal

