

T-11-17

IN3900/IN2900/Z3 SERIES

Hermetically Sealed ■ Voltage Regulator Diode
Released to BS9305-F079 ■ Voltage Range 3.0 to 400 Volts
10.0 Watt Steady State ■ 400 Watt Peak Power

APPLICATIONS

- A range of high power zener and avalanche diodes available to BS 9305-F-079 in a hermetically sealed DO4 glass package in both unipolar and bipolar configurations.

FEATURES

- Hermetically sealed DO4 package
- 400 Watt surge capability at 1 mS
- Typical I_R less than 5 μ A above 10V
- T operating -55°C to $+175^\circ\text{C}$

MECHANICAL DATA

- Case: Hermetically sealed and welded DO4 outline
- Finish: All external surfaces are corrosion resistant and terminal solderable
- Identification: Body marked with Type No., logo and zener symbol
- Weight: 4.2 grammes approximately excluding mounting kit

ELECTRICAL CHARACTERISTICS

- Forward Voltage V_f 1.5V max. @ $I_f \leq 5A$
- V_z measured with pulse $\leq 100\mu\text{s}$
- R_z determined with DC plus 10% superimposed AC @ 1KHz

OTHER TYPES AVAILABLE

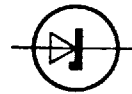
- | | |
|--------------------|--------------------------------|
| IN1351 Thru IN1375 | IN2041 Thru IN2049 |
| IN1416 Thru IN1433 | IN2498 Thru IN2500 |
| IN1482 Thru IN1485 | IN2937 Thru IN3015 |
| IN1588 Thru IN1609 | IN3949 Thru IN4000 |
| IN1803 Thru IN1836 | BS 9300-C199 Thru BS 9300-C276 |
| IN1891 Thru IN1904 | BZX98C3V9 Thru BZX98C200 |
| IN2008 Thru IN2012 | |

All electrical characteristics 25°C unless otherwise stated.

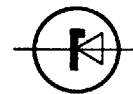
AVAILABLE IN THE FOLLOWING CONFIGURATIONS



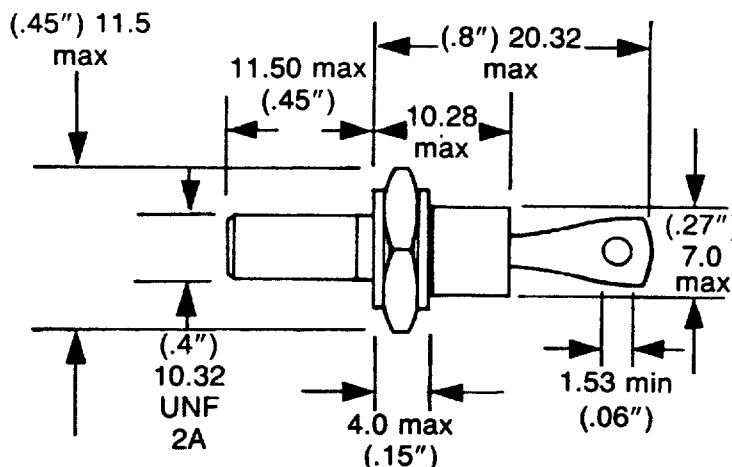
Double Anode



Stud Anode Reverse



Stud Cathode Normal



Case Outline SO10A (DO. 4) diam in mm (inch)

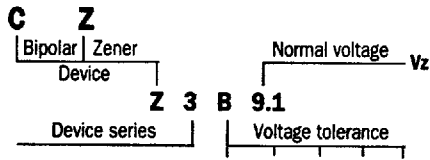


Electrical Characteristics @ TA = 25°C

Operating and Storage Temperature Range -55°C to 175°C

Industry Part No.	Semitron Part No.	Vz ± 5% Voltage Tolerance	Iz mA	Rz ohms		Max Ir at Vr	
				Typ.	Max	µA	Volts
1N3993A	Z383.0	2.8-3.2	50	7	14	300	1.0
	Z383.3	3.1-3.5	50	7	14	300	1.0
	Z383.6	3.4-3.8	50	7	14	250	1.0
	Z383.9	3.7-4.1	50	7	13	150	1.5
1N3994A	Z384.3	4.0-4.6	50	7	12	100	1.5
1N3995A	Z384.7	4.4-5.0	50	7	12	100	1.5
1N3996A	Z385.1	4.8-5.4	50	7	12	50	1.5
1N3997A	Z385.6	5.2-6.0	50	5	12	50	1.5
1N3998A	Z386.2	5.8-6.6	50	5	7	150	4.3
1N2970B/1N3999A	Z386.6	6.4-7.2	50	5	5	150	4.7
1N2971B/1N4000A	Z387.5	7.0-7.9	50	.05	4	30	5.1
1N2972B	Z388.2	7.7-8.7	50	.05	4	10	5.6
1N2973B	Z389.1	8.5-9.6	50	.05	4	10	6.2
1N2974B	Z3810	9.4-10.6	50	.1	5	10	6.8
1N2975B	Z3811	10.4-11.6	50	.1	10	10	7.5
1N2976B	Z3812	11.4-12.7	50	.1	10	10	8.2
1N2977B	Z3813	12.4-14.1	50	.1	10	10	9.1
1N2979B	Z3815	13.8-15.6	50	.1	12	10	10.0
1N2980B	Z3816	15.3-17.1	50	.2	20	10	11.0
1N2982B	Z3818	16.8-19.1	50	.2	20	10	12.0
1N2984B	Z3820	18.8-21.2	50	.2	20	10	13.0
1N2985B	Z3822	20.8-23.3	50	.2	20	10	15.0
1N2986B	Z3824	22.7-25.9	50	.3	20	10	16.0
1N2988B	Z3827	25.1-28.9	50	.3	20	10	18.0
1N2989B	Z3830	24.0-32.0	50	.3	20	10	20.0
1N2990B	Z3833	31.0-35.0	50	.4	20	10	22.0
1N2991B	Z3836	34.0-38.0	50	.8	20	10	24.0
1N2992B	Z3839	37.0-41.0	50	.9	20	10	27.0
1N2993B	Z3843	40.0-46.0	50	.9	20	10	30.0
1N2995B	Z3847	44.0-50.0	50	1.0	20	10	33.0
1N2997B	Z3851	48.0-54.0	50	1.2	20	10	36.0
1N2999B	Z3856	52.0-60.0	50	1.3	20	10	39.0
1N3000B	Z3862	58.0-66.0	50	1.5	20	10	43.0
1N3001B	Z3868	64.0-72.0	50	1.8	20	10	47.0
1N3002B	Z3875	70.0-79.0	50	2.0	30	10	51.0
1N3003B	Z3882	77.0-87.0	50	3.0	30	10	56.0
1N3004B	Z3891	85.0-96.0	50	4.0	40	10	62.0
1N3005B	Z38100	94.0-106	25	4.0	50	10	68.0
1N3007B	Z38110	104-116	25	5.0	65	10	75.0
1N3008B	Z38120	114-127	25	5.0	75	10	82.0
1N3009B	Z38130	124-141	25	6.0	85	10	91.0
1N3011B	Z38150	138-156	25	8.0	100	10	100.0
1N3012B	Z38160	153-171	25	10.0	125	10	110.0
1N3014B	Z38190	168-191	15	12.0	150	10	120.0
1N3015B	Z38200	188-212	15	15.0	200	10	130.0
	Z38400	380-420	10	60.0	250	10	300.0

Code Interpretation



A = ±1% H = ±2% B = ±5% C = ±10% D = ±15%

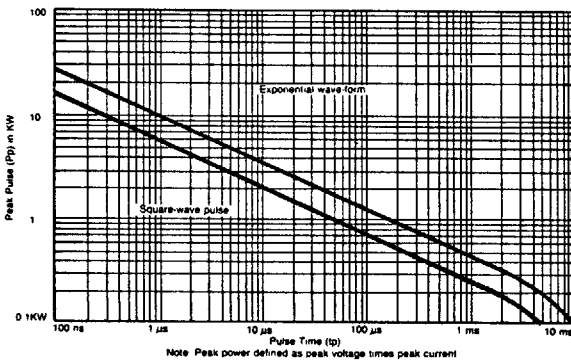
Add 'R' suffix for reverse (anode to stud).

For BS device specify conforming to BS 9300 or

BS 9305-F-082 issue 1.

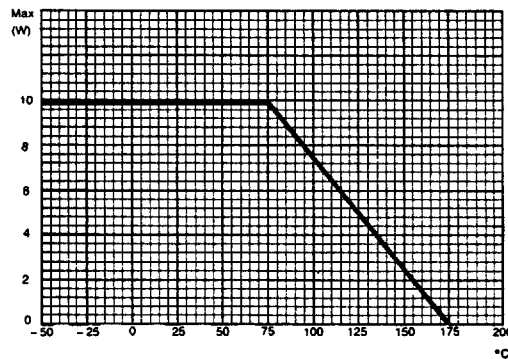
Full specification available on request.

NON-REPETITIVE PEAK PULSE POWER RATING CURVE



Thermal Resistance
in free air 0.08°C/mW with heat sink 12°C/W with heat sink insulated by mica washer 18°C/W
Mounting kit available by request for insulating stud from heatsink

MAXIMUM STEADY STATE DISSIPATION VERSUS CASE TEMPERATURE



ZENERS, REFERENCE
AND LIMITERS

