

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-F079 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. @ $I_f \leq 5\text{A}$
- 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

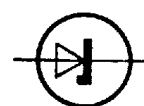
IN2008 Thru IN2012

All electrical characteristics 25°C unless otherwise stated.

AVAILABLE IN THE FOLLOWING CONFIGURATIONS



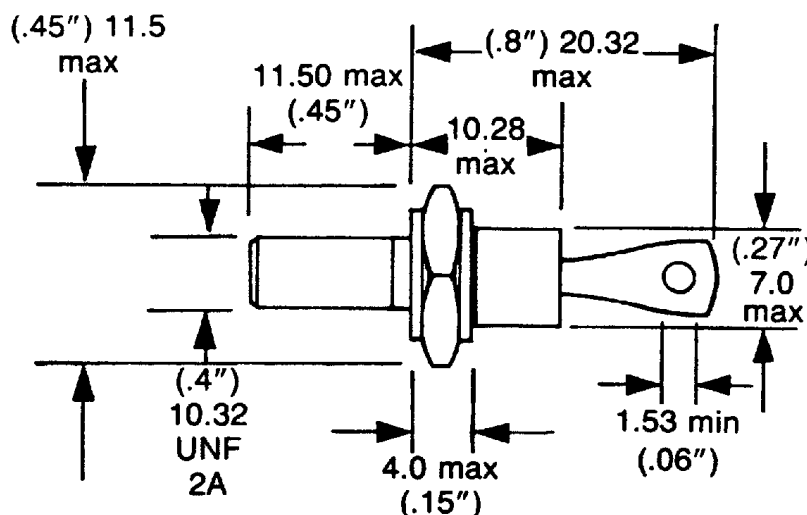
Double
Anode



Stud
Anode
Reverse



Stud
Cathode
Normal



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

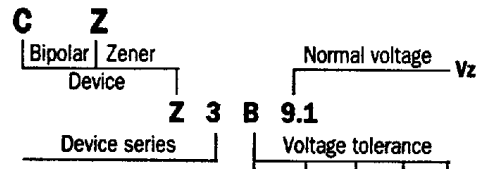


Electrical Characteristics @ TA = 25°C

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	Z386.8	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	Z38180	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



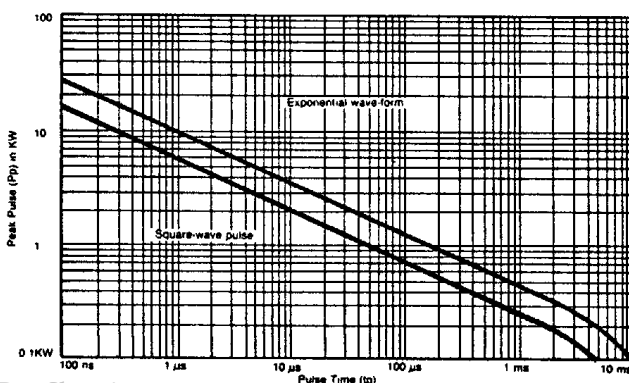
A = ±1% H = ±2% B = ±5% C = ±10% D = ±15%

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

For BS device specify conforming to BS 9300 or BS 9305-F082 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

