



# NAINA SEMICONDUCTOR LTD.

(An ISO 9001:2000 Certified Company)

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D-95, SECTOR 63 NOIDA (INDIA)

## 10 WATT ZENER DIODES

JEDEC TYPE NO. (Note 1)	NOMINAL ZENER VOLTAGE $V_Z @ I_{ZT}$ (Note 2)	ZENER TEST CURRENT $(I_{ZT})$	MAX. DYNAMIC IMPEDANCE (Note 3)		MAX. DC ZENER CURRENT $(I_{ZM}) @ 75^{\circ}\text{C}$ Stud Temp. (Note 4)	TYPICAL TEMP. COEFF. $\alpha_{VZ}$	MAX. REVERSE CURRENT		POLARITY
			$Z_{1\%} @ I_{Z1}$ OHMS	$Z_{10\%} @ 1\text{mA } (I_{Z10})$ OHMS			$I_R @ V_R$	Volts	
*1N2970B	6.8	370	1.2	500	1320	.040	150	5.2	STD. POLARITY ANODE TO STUD
*1N2971B	7.5	335	1.3	250	1180	.045	100	5.7	
*1N2972B	8.2	305	1.5	250	1040	.048	50	6.2	
*1N2973B	9.1	275	2.0	250	960	.051	25	6.9	
*1N2974B	10	250	3	250	860	.055	25	7.6	
*1N2975B	11	230	3	250	780	.060	10	8.4	
*1N2976B	12	210	3	250	720	.065	10	9.1	
*1N2977B	13	190	3	250	660	.065	10	9.9	
1N2978B	14	180	3	250	600	.070	10	10.5	
*1N2979B	15	170	3	250	560	.070	10	11.4	
*1N2980B	16	155	4	250	530	.070	10	12.2	
1N2981B	17	145	4	250	500	.075	10	13.0	
*1N2982B	18	140	4	250	460	.075	10	13.7	
1N2983B	19	130	4	250	440	.075	10	14.0	
*1N2984B	20	125	4	250	420	.075	10	15.2	
*1N2985B	22	115	5	250	380	.080	10	16.7	
*1N2986B	24	105	5	250	350	.080	10	18.2	
1N2987B	25	100	6	250	310	.080	10	18.2	
*1N2988B	27	95	7	250	300	.085	10	20.6	
*1N2989B	30	85	8	300	280	.085	10	22.8	
*1N2990B	33	75	9	300	260	.085	10	25.1	
*1N2991B	36	70	10	300	230	.085	10	27.4	
*1N2992B	39	65	11	300	210	.090	10	29.7	
*1N2993B	43	60	12	400	185	.090	10	32.7	
1N2994B	45	55	13	400	185	.090	10	33.0	
*1N2995B	47	55	14	400	175	.090	10	35.8	
1N2996B	50	50	15	500	165	.090	10	36.0	
*1N2997B	51	50	15	500	160	.090	10	38.8	
1N2998B	52	50	15	500	160	.090	10	39.0	
*1N3009B	56	45	16	500	150	.090	10	42.6	
*1N3000B	62	40	17	600	130	.090	10	47.1	
*1N3001B	68	37	18	600	120	.090	10	51.7	
*1N3002B	75	33	22	600	110	.090	10	56.0	
*1N3003B	82	30	25	700	100	.090	10	62.2	
*1N3004B	91	28	35	800	85	.090	10	69.2	
*1N3005B	100	25	40	900	80	.090	10	76.0	
1N3006B	105	25	45	1000	75	.095	10	76.0	
*1N3007B	110	23	55	1100	72	.095	10	83.6	
*1N3008B	120	20	75	1200	67	.095	10	91.2	
*1N3009B	130	19	100	1300	62	.095	10	98.8	
1N3010B	140	18	125	1400	58	.095	10	100.0	
*1N3011B	150	17	175	1500	54	.095	10	114.0	
*1N3012B	160	16	200	1600	50	.095	10	121.6	
1N3013B	175	14	250	1750	46	.095	10	135.0	
*1N3014B	180	14	260	1850	45	.095	10	136.8	
*1N3015B	200	12	300	2000	40	.100	10	152.0	



- NOTE 1 • ELECTRICAL CHARACTERISTICS MEASURED AT 25°C UNLESS OTHERWISE STATED.  
 • TABLE DEMONSTRATES DEVICE CHARACTERISTICS FOR A 10W DEVICE (S216 CHIP).
- NOTE 2 •  $V_Z$  MEASURED AT JUNCTION AND CASE TEMPERATURE BOTH AT 25°C.  
 •  $I_{Z1}$  IS SELECTED SO THAT A CONSTANT 12.5W POWER DISSIPATION IS OBTAINED (JUNCTION TEMPERATURE RISE 12.75°C).
- NOTE 3 • ZENER IMPEDANCE IS DERIVED FROM 60HZ AC VOLTAGE WHICH RESULTS WHEN AC CURRENT RMS VALUE EQUAL TO 10% OF D.C ZENER CURRENT IS SUPERIMPOSED ON  $I_Z$ .  
 • ZENER IMPEDANCE IS MEASURED AT 2 POINTS ON THE REVERSE BREAKDOWN CURVE.
- NOTE 4 •  $I_{ZW}$  VALUES DERIVED FOR A  $\pm 5\%$   $V_Z$  TOL.  
 •  $I_{ZW}$  IS THE VALUE OF ZENER CURRENT AT WHICH POINT 10W POWER DISSIPATION RESULTS.