

*New Jersey Semi-Conductor Products, Inc.*

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**ABSOLUTE MAXIMUM RATINGS:**  
 Power Dissipation (@ $T_C=75^\circ\text{C}$ )  
 Operating and Storage Temperature

**SYMBOL**  
 $P_D$   
 $T_J, T_{stg}$

50  
 -65 to +175

**UNITS**  
 W  
 $^\circ\text{C}$

**ELECTRICAL CHARACTERISTICS:** ( $T_C=30^\circ\text{C}$ ),  $V_F=1.5\text{V MAX @ } I_F=10\text{A}$  FOR ALL TYPES.

Type No.	Zener Voltage $V_Z @ I_{ZT}$			Test Current $I_{ZT}$	Maximum Zener Impedance			Maximum Reverse Current		Maximum DC Zener Current @ $T_C=75^\circ\text{C}$ $I_{ZM}$	Typical Zener Voltage Temperature Coefficient
	MIN	NOM	MAX		$Z_{ZT} @ I_{ZT}$	$Z_{ZK} @ I_{ZK}$	$I_R @ V_R$	$I_R @ V_R$			
	Volts	Volts	Volts	mA	$\Omega$	$\Omega$	mA	$\mu\text{A}$	Volts	mA	%/ $^\circ\text{C}$
1N3305B	6.460	6.8	7.140	1850	0.2	70	5.0	150	4.5	6600	.040
1N3306B	7.125	7.5	7.875	1700	0.3	70	5.0	75	5.0	5900	.045
1N3307B	7.790	8.2	8.610	1500	0.4	70	5.0	50	5.4	5200	.048
1N3308B	8.645	9.1	9.555	1370	0.5	70	5.0	25	6.1	4800	.051
1N3309B	9.500	10	10.50	1200	0.6	80	5.0	10	6.7	4300	.055
1N3310B	10.45	11	11.55	1100	0.8	80	5.0	5.0	8.4	3900	.060
1N3311B	11.40	12	12.60	1000	1.0	80	5.0	5.0	9.1	3600	.065
1N3312B	12.35	13	13.65	960	1.1	80	5.0	5.0	9.9	3300	.065
1N3313B	13.30	14	14.70	890	1.2	80	5.0	5.0	10.6	3000	.070
1N3314B	14.25	15	15.75	830	1.4	80	5.0	5.0	11.4	2800	.070
1N3315B	15.20	16	16.80	780	1.6	80	5.0	5.0	12.2	2650	.070
1N3316B	16.15	17	17.85	740	1.8	80	5.0	5.0	13.0	2500	.075
1N3317B	17.10	18	18.90	700	2.0	80	5.0	5.0	13.7	2300	.075
1N3318B	18.05	19	19.95	660	2.2	80	5.0	5.0	14.4	2200	.075
1N3319B	19.00	20	21.00	630	2.4	80	5.0	5.0	15.2	2100	.075
1N3320B	20.90	22	23.10	570	2.5	80	5.0	5.0	16.7	1900	.080
1N3321B	22.80	24	25.20	520	2.6	80	5.0	5.0	18.2	1750	.080
1N3322B	23.75	25	26.25	500	2.7	90	5.0	5.0	19.0	1550	.080
1N3323B	25.65	27	28.35	460	2.8	90	5.0	5.0	20.6	1500	.085
1N3324B	28.50	30	31.50	420	3.0	90	5.0	5.0	22.8	1400	.085
1N3325B	31.35	33	34.65	380	3.2	90	5.0	5.0	25.1	1300	.085
1N3326B	34.20	36	37.80	350	3.5	90	5.0	5.0	27.4	1150	.085
1N3327B	37.05	39	40.95	320	4.0	90	5.0	5.0	29.7	1050	.090
1N3328B	40.85	43	45.15	290	4.5	90	5.0	5.0	32.7	975	.090
1N3329B	42.75	45	47.25	280	4.5	100	5.0	5.0	34.2	930	.090
1N3330B	44.65	47	49.35	270	5.0	100	5.0	5.0	35.8	880	.090

**NO SUFFIX = 20% TOLERANCE**

**A SUFFIX = 10% TOLERANCE**

**B SUFFIX = 5% TOLERANCE**

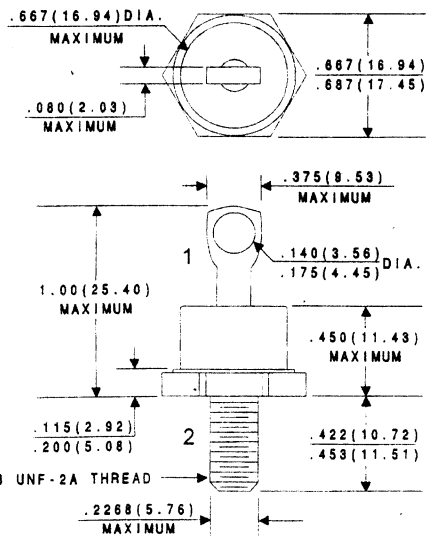
**1N3305B THRU 1N3350B**

**ZENER DIODE**

ELECTRICAL CHARACTERISTICS: ( $T_C=30^\circ\text{C}$ ),  $V_F=1.5\text{V MAX @ } I_F=10\text{A}$  FOR ALL TYPES.

Type No.	Zener Voltage $V_Z @ I_{ZT}$			Test Current	Maximum Zener Impedance			Maximum Reverse Current		Maximum DC Zener Current $@ T_C=75^\circ\text{C}$	Typical Zener Voltage Temperature Coefficient
	MIN	NOM	MAX		$I_{ZT}$	$Z_{ZT} @ I_{ZT}$	$Z_{ZK} @ I_{ZK}$	$I_R @ V_R$	$I_{ZM}$		
	Volts	Volts	Volts	mA	$\Omega$	$\Omega$	mA	$\mu\text{A}$	Volts	mA	%/ $^\circ\text{C}$
1N3331B	47.50	50	52.50	250	5.0	100	5.0	5.0	38.0	830	.090
1N3332B	48.45	51	53.55	245	5.2	100	5.0	5.0	38.8	810	.090
1N3333B	49.40	52	54.60	240	5.5	100	5.0	5.0	39.5	790	.090
1N3334B	53.20	56	58.80	220	6.0	110	5.0	5.0	42.6	740	.090
1N3335B	58.90	62	65.10	200	7.0	120	5.0	5.0	47.1	660	.090
1N3336B	64.60	68	71.40	180	8.0	140	5.0	5.0	51.7	600	.090
1N3337B	71.25	75	78.75	170	9.0	150	5.0	5.0	56.0	540	.090
1N3338B	77.90	82	86.10	150	11	160	5.0	5.0	62.2	490	.090
1N3339B	86.45	91	95.55	140	15	180	5.0	5.0	69.2	420	.090
1N3340B	95.00	100	105.00	120	20	200	5.0	5.0	76.0	400	.090
1N3341B	99.75	105	110.25	120	25	210	5.0	5.0	79.8	380	.095
1N3342B	104.50	110	115.50	110	30	220	5.0	5.0	83.6	365	.095
1N3343B	114.00	120	126.00	100	40	240	5.0	5.0	91.2	335	.095
1N3344B	123.50	130	136.50	95	50	275	5.0	5.0	98.8	310	.095
1N3345B	133.00	140	147.00	90	60	325	5.0	5.0	106.4	290	.095
1N3346B	142.50	150	157.50	85	75	400	5.0	5.0	114.0	270	.095
1N3347B	152.00	160	168.00	80	80	450	5.0	5.0	121.6	250	.095
1N3348B	166.25	175	183.75	70	85	500	5.0	5.0	133.0	230	.095
1N3349B	171.00	180	189.00	68	90	525	5.0	5.0	136.8	220	.095
1N3350B	190.00	200	210.00	65	100	600	5.0	5.0	152.0	200	.100

**DO-5 MECHANICAL OUTLINE**



All Dimensions in Inches (mm).

**Standard Polarity**

- 1) Cathode
- 2) Anode

**Reverse Polarity**

- 1) Anode
- 2) Cathode

**MAXIMUM RATINGS**

- Junction & Storage Temperatures:  $-65^\circ\text{C}$  to  $+175^\circ\text{C}$
- DC Power Dissipation: 50 watts at  $T_C \leq 75^\circ\text{C}$
- Power Derating:  $0.5 \text{ W}/^\circ\text{C}$  above  $75^\circ\text{C}$
- Forward Voltage @ 10 A: 1.5 Volts
- THERMAL RESISTANCE:  $2.0^\circ\text{C}/\text{W}$  maximum junction to hexagonal base ( $1.5^\circ\text{C}/\text{W}$  typical)
- Solder temperatures:  $260^\circ\text{C}$  for 10 s (max)