

## 1N5221A/B THRU 1N5281A/B

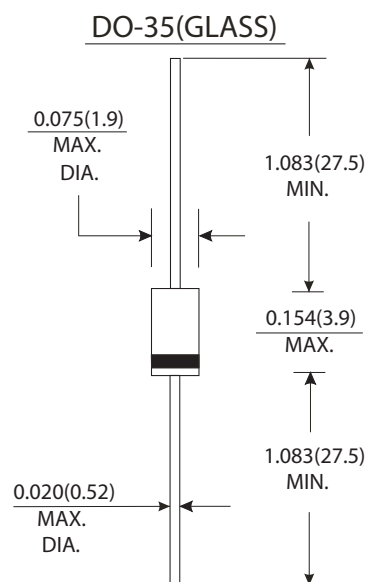
0.5W SILICON PLANAR  
ZENER DIODES

### Features

- Standards zener voltage tolerance is  $\pm 20\%$ . Add suffix "A" for  $\pm 10\%$  tolerance and suffix "B" for  $\pm 5\%$  tolerance other tolerance, non standards and higher zener voltage upon request

### Mechanical Data

- Case : DO-35 glass case
- Polarity : Color band denotes cathode end
- Weight : Approx. 0.13 gram



Dimensions in inches and (millimeters)

### Absolute Maximum Ratings (Limiting Values) (TA=25°C)

	Symbols	Value	Units
Zener current see table "Characteristics"			
Power dissipation at TA=75°C	P <sub>tot</sub>	500 <sup>1)</sup>	mW
Junction Temperature	T <sub>J</sub>	175	°C
Storage Temperature range	T <sub>STG</sub>	-65 to +200	°C
1) Valid provided that a distance of 8mm from case are kept at ambient temperature			

### Electrical Characteristics (TA=25°C)

	Symbols	Min.	Typ.	Max.	Units
Thermal resistance junction to ambient	R <sub>θ JA</sub>			300 <sup>1)</sup>	°C/W
Forward voltage at I <sub>F</sub> =200mA	V <sub>F</sub>			1.1	V
1) Valid provided that a distance of 8mm from case are kept at ambient temperature					



## 1N5221A/B THRU 1N5249A/B SILICON PLANAR ZENER DIODES

Type	Zener Voltage range <sup>1)</sup>		Maximum zener impedance <sup>1)</sup>			Maximum Reverse Leakage Current		Temp Coefficient of zener voltage
	V <sub>ZNOM</sub> <sup>3)</sup>	I <sub>ZT</sub>	r <sub>Zjt</sub> and r <sub>Zjk</sub> at I <sub>ZK</sub>			I <sub>R</sub> <sup>2)</sup> at V <sub>R</sub>		TK <sub>VZ</sub>
	V	mA	Ω	Ω	mA	μ A	V	%/K
1N5221A/B	2.4	20	<30	<1200	0.25	<100	1.0	<-0.085
1N5222A/B	2.5			<1250		<100		<-0.085
1N5223A/B	2.7			<1300		<75		<-0.080
1N5224A/B	2.8			<1400		<75		<-0.080
1N5225A/B	3.0		<29	<1600		<50		<-0.075
1N5226A/B	3.3		<28	<1600		<25		<-0.070
1N5227A/B	3.6		<24	<1700		<15		<-0.065
1N5228A/B	3.9		<23	<1900		<10		<-0.060
1N5229A/B	4.3		<22	<2000		5	<+0.055	
1N5230A/B	4.7		<19	<1900			2.0	<+0.030
1N5231A/B	5.1		<17	<1600			2.0	<+0.030
1N5232A/B	5.6		<11	<1600			3.0	<+0.038
1N5233A/B	6.0		<7	<1600			3.5	<+0.038
1N5234A/B	6.2		<7	<1000			4.0	<+0.045
1N5235A/B	6.8		<5	<750		3	5.0	<+0.050
1N5236A/B	7.5		<6	<500			6.0	<+0.058
1N5237A/B	8.2		<8	<500			6.5	<+0.062
1N5238A/B	8.7		<8	<600			6.5	<+0.065
1N5239A/B	9.1		<10				7.0	<+0.068
1N5240A/B	10		<17				8.0	<+0.075
1N5241A/B	11		<22			<2	8.4	<+0.076
1N5242A/B	12		<30			<1	9.1	<+0.077
1N5243A/B	13	9.5	<13			<0.5	9.9	<+0.079
1N5244A/B	14	9.0	<15	<0.1		10	<+0.082	
1N5245A/B	15	8.5	<16			11	<+0.082	
1N5246A/B	16	7.8	<17			12	<+0.083	
1N5247A/B	17	7.4	<19			13	<+0.084	
1N5248A/B	18	7.0	<21			14	<+0.085	
1N5249A/B	19	6.6	<23			14	<+0.086	



## 1N5250A/B THRU 1N5281A/B SILICON PLANAR ZENER DIODES

Type	Zener Voltage range <sup>1)</sup>		Maximum zener impedance <sup>1)</sup>			Maximum Reverse Leakage Current		Temp Coefficient of zener voltage
	V <sub>ZNOM</sub> <sup>3)</sup>	I <sub>ZT</sub>	r <sub>Zjt</sub> and r <sub>Zjk</sub> at I <sub>ZK</sub>			I <sub>R</sub> <sup>2)</sup> at V <sub>R</sub>		TK <sub>VZ</sub>
	V	mA	$\Omega$	$\Omega$	mA	$\mu$ A	V	%/K
1N5250A/B	20	6.2	<25	<600	0.25	<0.1	15	<-0.086
1N5251A/B	22	5.6	<29				17	<-0.087
1N5252A/B	24	5.2	<33				18	<-0.088
1N5253A/B	25	5.0	<35				19	<-0.089
1N5254A/B	27	4.6	<41				21	<-0.090
1N5255A/B	28	4.5	<44				21	<-0.091
1N5256A/B	30	4.2	<49				23	<-0.091
1N5257A/B	33	3.8	<58	<700			25	<-0.092
1N5258A/B	36	3.4	<70	<700			27	<+0.093
1N5259A/B	39	3.2	<80	<800			30	<+0.094
1N5260A/B	43	3.0	<93	<900			33	<+0.095
1N5261A/B	47	2.7	<105	<1000			36	<+0.095
1N5262A/B	51	2.5	<125	<1100			39	<+0.096
1N5263A/B	56	2.2	<150	<1300			43	<+0.096
1N5264A/B	60	2.1	<170	<1400			46	<+0.097
1N5265A/B	62	2.0	<185	<1400			47	<+0.097
1N5266A/B	68	1.8	<230	<1600			52	<+0.097
1N5267A/B	75	1.7	<270	<1700			56	<+0.098
1N5268A/B	82	1.5	<330	<2000			62	<+0.098
1N5269A/B	87	1.4	<370	<2200			68	<+0.099
1N5270A/B	91	1.4	<400	<2300			69	<+0.099
1N5271A/B	100	1.3	<500	--	--		75	<+0.100
1N5272A/B	110	1.2	<700	--	--		83	<+0.100
1N5273A/B	120	1.0	<950	--	--		90	<+0.100
1N5274A/B	130	0.95	<1100	--	--		98	<+0.110
1N5275A/B	140	0.90	<1300	--	--		105	<+0.110
1N5276A/B	150	0.85	<1500	--	--		113	<+0.110
1N5277A/B	160	0.80	<1700	--	--		120	<+0.115
1N5278A/B	170	0.74	<1900	--	--		127	<+0.115
1N5279A/B	180	0.68	<2200	--	--		135	<+0.120
1N5280A/B	190	0.66	<2400	--	--		142	<+0.120
1N5281A/B	200	0.65	<2500	--	--		150	<+0.120

1) The zener impedance is derived from the 60Hz AC voltage which results when on AC current having an RMS value equal to 10% of the Zener current (I<sub>ZT</sub> or I<sub>ZK</sub>) is superimposed on I<sub>ZT</sub> or I<sub>ZK</sub>. Zener impedance is measured at two points to insure a sharp knee on the breakdown curve and to eliminate unstable units.

2) Valid provided that leads at a distance of 8mm from case are kept at ambient temperature.

3) Measured under thermal equilibrium and DC test conditions.

## 1N5221A/B THRU 1N5281A/B SILICON PLANAR ZENER DIODES

Admissible power dissipation versus ambient temperature  
(Valid provided that leads at a distance of 10mm from case  
are kept at ambient temperature)

