SEMICONDUCTOR

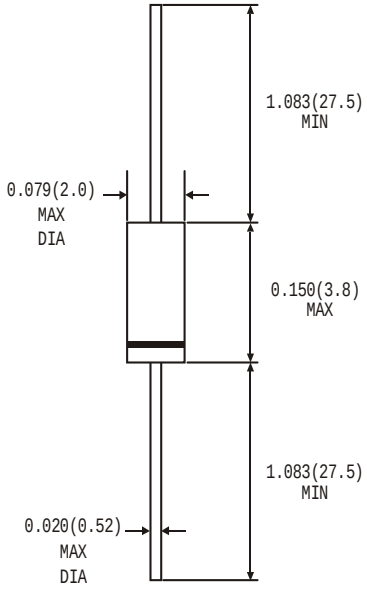
1N5221 THRU 1N5281

0.5W SILICON PLANAR ZENER DIODES

FEATURES

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

DO-35



Dimensions in inches and (millimeters)

MECHANICAL DATA

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

ABSOLUTE MAXIMUM RATINGS(LIMITING VALUES) (T_A=25 C)°

	Symbols	*Value*	*Units*
Zener current see table "Characteristics"			
Power dissipation at T_A=75℃	P_{tot}	500[1)]	mW
Junction temperature	T_J	175	℃
Storage temperature range	T_{STG}	-65 to+200	℃
1) Valid provided that a distance of 8mm from case are kept at ambient temperature			

ELECTRICAL CHARACTERISTICS (T_A=25 C°)

	Symbols	*Min*	*Typ*	*Max*	*Units*
Thermal resistance junction to ambient air	R_{THA}			0.3[1)]	K/mW
Forward voltage at I_F=200mA	V_F			1.1	V
1) Valid provided that a distance of 8mm from case are kept at ambient temperature					

1N5221 THRU 1N5249 SILICON PLANAR ZENER DIODES

Type	Zener Voltage range [1]		Maximum zener impedance [1]			Maximum Reverse Leakage Current		Temp. Coefficient of zener voltage
	V_{ZNOM} [3]	I_{ZT}	r_{zj} and r_{zjk} at I_{ZK}			I_R [2] at V_R		TK_{VZ}
	V	mA	Ω	Ω	mA	µA	V	%/K
1N5221	2.4	20	<30	<1200	0.25	<100	1.0	<-0.085
1N5222	2.5			<1250		<100		<-0.085
1N5223	2.7			<1300		<75		<-0.080
1N5224	2.8			<1400		<75		<-0.080
1N5225	3.0		<29	<1600		<50		<-0.075
1N5226	3.3		<28	<1600		<25		<-0.070
1N5227	3.6		<24	<1700		<15		<-0.065
1N5228	3.9		<23	<1900		<10		<-0.060
1N5229	4.3		<22	<2000		5		<+0.055
1N5230	4.7		<19	<1900			2.0	<+0.030
1N5231	5.1		<17	<1600			2.0	<+0.030
1N5232	5.6		<11	<1600			3.0	<+0.038
1N5233	6.0		<7	<1600			3.5	<+0.038
1N5234	6.2		<7	<1000			4.0	<+0.045
1N5235	6.8		<5	<750		3	5.0	<+0.050
1N5236	7.5		<6	<500			6.0	<+0.058
1N5237	8.2		<8	<500			6.5	<+0.062
1N5238	8.7		<8	<600			6.5	<+0.065
1N5239	9.1		<10				7.0	<+0.068
1N5240	10		<17				8.0	<+0.075
1N5241	11		<22			<2	8.4	<+0.076
1N5242	12		<30			<1	9.1	<+0.077
1N5243	13	9.5	<13			<0.5	9.9	<+0.079
1N5244	14	9.0	<15			<0.1	10	<+0.082
1N5245	15	8.5	<16				11	<+0.082
1N5246	16	7.8	<17				12	<+0.083
1N5247	17	7.4	<19				13	<+0.084
1N5248	18	7.0	<21				14	<+0.085
1N5249	19	6.6	<23				14	<+0.086

1N5250 THRU 1N5281 SILICON PLANAR ZENER DIODES

Type	Zener Voltage range [1]		Maximum zener Impedance [1]			Maximum Reverse Leakage Current		Temp Coefficient of zener voltage
	V_{ZNOM} [3]	I_{ZT}	r_{zt} and r_{zk} at I_{zk}			I_R [2] at V_R		TK_{VZ}
	V	mA	Ω	Ω	mA	μA	V	%/K
1N5250	20	6.2	<25	<600	0.25	<0.1	15	< +0.086
1N5251	22	5.6	<29				17	< +0.087
1N5252	24	5.2	<33				18	< +0.088
1N5253	25	5.0	<35				19	< +0.089
1N5254	27	4.6	<41				21	< +0.090
1N5255	28	4.5	<44				21	< +0.091
1N5256	30	4.2	<49				23	< +0.091
1N5257	33	3.8	<58	<700			25	< +0.092
1N5258	36	3.4	<70	<700			27	< +0.093
1N5259	39	3.2	<80	<800			30	< +0.094
1N5260	43	3.0	<93	<900			33	< +0.095
1N5261	47	2.7	<105	<1000			36	< +0.095
1N5262	51	2.5	<125	<1100			39	< +0.096
1N5263	56	2.2	<150	<1300			43	< +0.096
1N5264	60	2.1	<170	<1400			46	< +0.097
1N5265	62	2.0	<185	<1400			47	< +0.097
1N5266	68	1.8	<230	<1600			52	< +0.097
1N5267	75	1.7	<270	<1700			56	< +0.098
1N5268	82	1.5	<330	<2000			62	< +0.098
1N5269	87	1.4	<370	<2200			68	< +0.099
1N5270	91	1.4	<400	<2300			69	< +0.099
1N5271	100	1.3	<500	--	--		75	< +0.100
1N5272	110	1.2	<700	--	--		83	< +0.100
1N5273	120	1.0	<950	--	--		90	< +0.100
1N5274	130	0.95	<1100	--	--		98	< +0.110
1N5275	140	0.90	<1300	--	--		105	< +0.110
1N5276	150	0.85	<1500	--	--		113	< +0.110
1N5277	160	0.80	<1700	--	--		120	< +0.115
1N5278	170	0.74	<1900	--	--		127	< +0.115
1N5279	180	0.68	<2200	--	--		135	< +0.120
1N5280	190	0.66	<2400	--	--		142	< +0.120
1N5281	200	0.65	<2500	--	--		150	< +0.120

1) The zener impedance is derived from the 60Hz AC voltage which results when an AC current having an RMS value equal to 10% of the Zener current (I_{ZT} or I_{ZK}) is superimposed on I_{ZT} or I_{ZK} Zener impedance is measured at two points to insure a sharp knee on the breakdown curve and to elimunate 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.

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