



CHENMKO ENTERPRISE CO.,LTD

AXIAL LEAD

SILICON PLANAR POWER ZENER DIODES
VOLTAGE RANGE 2.4V TO 200V

1N5221PT
THRU
1N5281PT

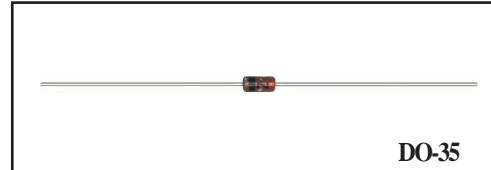
Lead free devices

FEATURE

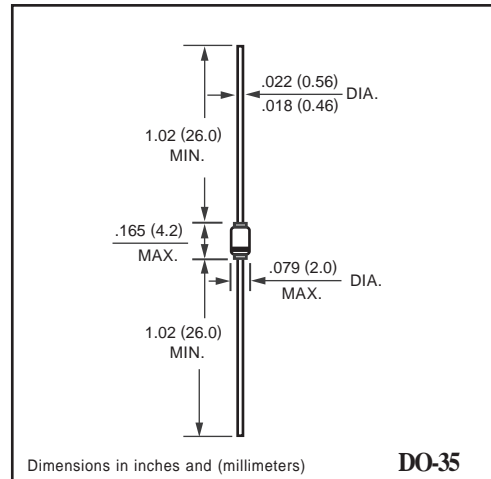
- * High temperature soldering type.
- * ESD rating of class 3(>16 kV) per human body model.
- * Silicon planar zener diodes.
- * Silicon-oxide passivated junction.
- * Low temperature coefficient voltage

MECHANICAL

- * Axial-lead hermetically sealed package.
- * DO-35 Packaging.
- * Cathode indicated by polarity band.
- * Mounting position: Any.
- * Weight: Approx. 0.13g.



DO-35



DO-35

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

MAXIMUM RATINGS (At TA = 25°C unless otherwise noted)

RATINGS	SYMBOL	VALUE	UNITS
Zener Current (see Table "Characteristics")	-	-	-
Max. Steady State Power Dissipation @ TL=75°C, Lead Length=3/8"	P _D	500	mW
Max. Operating Temperature Range	T _J	+200	°C
Storage Temperature Range	T _{STG}	-65 to +200	°C

ELECTRICAL CHARACTERISTICS (At TA = 25°C unless otherwise noted)

CHARACTERISTICS	SYMBOL	MIN.	TYP.	MAX.	UNITS
Thermal Resistance Junction to Ambient	R θJA	-	-	300	°C/W
Max. Instantaneous Forward Voltage at IF= 100mA	VF	-	-	1.10	Volts

- NOTES :
1. The JEDEC type numbers listed have a standard tolerance on the normal zener voltage of ±10%, Suffix A=±5%.
 2. The zener impedance is derived from 1KHz AC voltage, which results when an AC current having an RMS value equal to 10% of DC 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 to eliminate unstable units.
 3. Valid provided that electrodes at distance of 10mm from case are kept ambient temperature.
 4. Measured under thermal equilibrium and DC test conditions.
 5. The rating listed in the electrical characteristics table is maximum peak, non-repetitive, reverse surge current of 1/2 square wave or equivalent sine wave pulse of 1/120 second duration superimposed on the test current, I_{ZT}, per JEDEC registration.

2001-6

ELECTRICAL CHARACTERISTICS (1N5221PT THRU 1N5281PT)

TYPE	Nominal Zener voltage at I_{zT} V_z (V)	Test current I_{zT} (mA)	Maximum Zener impedance			Maximum reverse leakage current		Type temperature coefficient at $T_A = 25^\circ\text{C}$ θ_{VZ} (%/°C)	Maximum regulator current at $T_A = 50^\circ\text{C}$ I_{zM} (mA)
			Z_{zT} at I_{zT} (Ω)	Z_{zK} (Ω)	at I_{zK} (mA)	I_r (μA)	at V_R (V)		
1N5221PT	2.4	20	30	1200	0.25	100	1	-0.085	190
1N5222PT	2.5	20	30	1250	0.25	100	1	-0.085	182
1N5223PT	2.7	20	30	1300	0.25	75	1	-0.080	168
1N5224PT	2.8	20	30	1400	0.25	75	1	-0.080	162
1N5225PT	3.0	20	29	1600	0.25	50	1	-0.075	152
1N5226PT	3.3	20	28	1600	0.25	25	1	-0.070	138
1N5227PT	3.6	20	24	1700	0.25	15	1	-0.065	126
1N5228PT	3.9	20	23	1900	0.25	10	1	-0.060	115
1N5229PT	4.3	20	22	2000	0.25	5	1	-0.055	106
1N5230PT	4.7	20	19	1900	0.25	5	2	+0.030	97
1N5231PT	5.1	20	17	1600	0.25	5	2	+0.030	89
1N5232PT	5.6	20	11	1600	0.25	5	3	+0.038	81
1N5233PT	6.0	20	7	1600	0.25	5	3.5	+0.038	76
1N5234PT	6.2	20	7	1000	0.25	5	4	+0.045	73
1N5235PT	6.8	20	5	750	0.25	3	5	+0.050	67
1N5236PT	7.5	20	6	500	0.25	3	6	+0.058	61
1N5237PT	8.2	20	8	500	0.25	3	6.5	+0.062	55
1N5238PT	8.7	20	8	600	0.25	3	6.5	+0.065	52
1N5239PT	9.1	20	10	600	0.25	3	7	+0.068	50
1N5240PT	10	20	17	600	0.25	3	8	+0.075	45
1N5241PT	11	20	22	600	0.25	2	8.4	+0.076	41
1N5242PT	12	20	30	600	0.25	1	9.1	+0.077	38
1N5243PT	13	9.5	13	600	0.25	0.5	9.9	+0.079	35
1N5244PT	14	9.0	15	600	0.25	0.1	10	+0.082	32
1N5245PT	15	8.5	16	600	0.25	0.1	11	+0.082	30
1N5246PT	16	7.8	17	600	0.25	0.1	12	+0.083	28
1N5247PT	17	7.4	19	600	0.25	0.1	13	+0.084	27
1N5248PT	18	7.0	21	600	0.25	0.1	14	+0.085	25
1N5249PT	19	6.6	23	600	0.25	0.1	14	+0.086	24
1N5250PT	20	6.2	25	600	0.25	0.1	16	+0.086	23
1N5251PT	21	5.6	29	600	0.25	0.1	17	+0.087	21
1N5252PT	22	5.2	33	600	0.25	0.1	18	+0.088	19.1
1N5253PT	23	5.0	35	600	0.25	0.1	19	+0.089	18.2
1N5254PT	24	4.6	41	600	0.25	0.1	21	+0.090	16.8
1N5255PT	25	4.5	44	600	0.25	0.1	21	+0.091	16.2
1N5256PT	26	4.2	49	600	0.25	0.1	23	+0.091	15.1
1N5257PT	27	3.8	58	700	0.25	0.1	25	+0.092	13.8

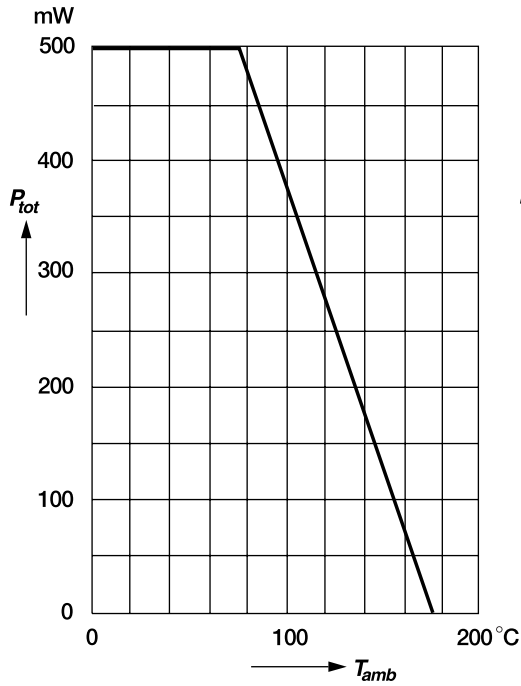
ELECTRICAL CHARACTERISTICS (1N5221 THRU 1N5281)

TYPE	Nominal Zener voltage at I_{zT} V_z (V)	Test current I_{zT} (mA)	Maximum Zener impedance			Maximum reverse leakage current		Type temperature coefficient at $T_A = 25^\circ\text{C}$ θ_{vz} (%/ $^\circ\text{C}$)	Maximum regulator current at $T_A = 50^\circ\text{C}$ I_{zM} (mA)
			Z_{zT} at I_{zT} (Ω)	Z_{zK} (Ω)	at I_{zK} (mA)	I_r (μA)	at V_R (V)		
1N5258PT	36	3.4	70	700	0.25	0.1	27	+0.093	13.8
1N5259PT	39	3.2	80	800	0.25	0.1	30	+0.094	12.6
1N5260PT	43	3.0	93	900	0.25	0.1	33	+0.095	11.6
1N5261PT	47	2.7	105	1000	0.25	0.1	36	+0.095	10.6
1N5262PT	51	2.5	125	1100	0.25	0.1	39	+0.096	9.7
1N5263PT	56	2.2	150	1300	0.25	0.1	43	+0.096	8.9
1N5264PT	60	2.1	170	1400	0.25	0.1	46	+0.097	-
1N5265PT	62	2.0	185	1400	0.25	0.1	47	+0.097	-
1N5266PT	68	1.8	230	1600	0.25	0.1	52	+0.097	-
1N5267PT	75	1.7	270	1700	0.25	0.1	56	+0.098	-
1N5268PT	82	1.5	330	2000	0.25	0.1	62	+0.098	-
1N5269PT	87	1.4	370	2200	0.25	0.1	68	+0.099	-
1N5270PT	91	1.4	400	2300	0.25	0.1	69	+0.099	-
1N5271PT	100	1.3	500	-	-	0.1	75	+0.100	-
1N5272PT	110	1.2	700	-	-	0.1	83	+0.100	-
1N5273PT	120	1.0	950	-	-	0.1	90	+0.100	-
1N5274PT	130	0.95	1100	-	-	0.1	98	+0.110	-
1N5275PT	140	0.90	1300	-	-	0.1	105	+0.110	-
1N5276PT	150	0.85	1500	-	-	0.1	113	+0.110	-
1N5277PT	160	0.80	1700	-	-	0.1	120	+0.115	-
1N5278PT	170	0.74	1900	-	-	0.1	127	+0.115	-
1N5279PT	180	0.68	2200	-	-	0.1	135	+0.120	-
1N5280PT	190	0.66	2400	-	-	0.1	142	+0.120	-
1N5281PT	200	0.65	2500	-	-	0.1	150	+0.120	-

RATING CHARACTERISTIC CURVE (1N5221PT THRU 1N5281PT)

Admissible power dissipation versus ambient temperature

Valid provided that leads at a distance of 10 mm from case are kept at ambient temperature



Pulse thermal resistance versus pulse duration

Valid provided that leads at a distance of 4 mm from case are kept at ambient temperature

