



CHENMKO ENTERPRISE CO.,LTD

AXIAL LEAD

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

1N5221GP

THRU

1N5281GP

Halogens free devices

FEATURE

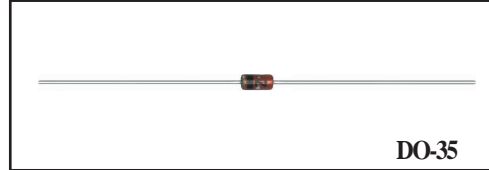
- * High temperature soldering type.
- * ESD rating of class 3(>16 kV) per human body model.
- * Silicon planar zener diodes.
- * Silicon-oxide passivated junction.
- * Low temperature coefficient voltage

MECHANICAL

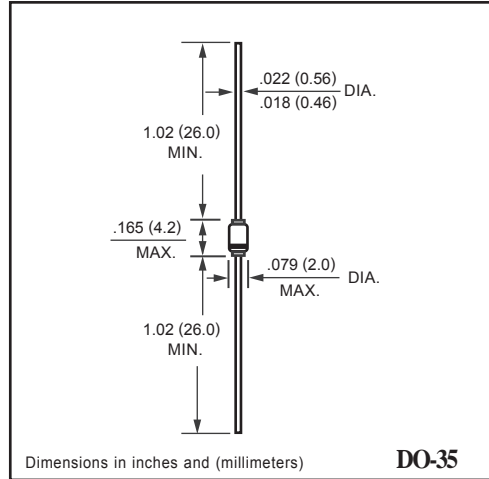
- * Axial-lead hermetically sealed package.
- * DO-35 Packaging.
- * Cathode indicated by polarity band.
- * Mounting position: Any.
- * Weight: Approx. 0.13g.

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.



DO-35



DO-35

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 I _F = 100mA	V _F	-	-	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.

2008-6

ELECTRICAL CHARACTERISTICS (1N5221GP THRU 1N5281GP)

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)		
1N5221GP	2.4	20	30	1200	0.25	100	1	-0.085	190
1N5222GP	2.5	20	30	1250	0.25	100	1	-0.085	182
1N5223GP	2.7	20	30	1300	0.25	75	1	-0.080	168
1N5224GP	2.8	20	30	1400	0.25	75	1	-0.080	162
1N5225GP	3.0	20	29	1600	0.25	50	1	-0.075	152
1N5226GP	3.3	20	28	1600	0.25	25	1	-0.070	138
1N5227GP	3.6	20	24	1700	0.25	15	1	-0.065	126
1N5228GP	3.9	20	23	1900	0.25	10	1	-0.060	115
1N5229GP	4.3	20	22	2000	0.25	5	1	-0.055	106
1N5230GP	4.7	20	19	1900	0.25	5	2	+0.030	97
1N5231GP	5.1	20	17	1600	0.25	5	2	+0.030	89
1N5232GP	5.6	20	11	1600	0.25	5	3	+0.038	81
1N5233GP	6.0	20	7	1600	0.25	5	3.5	+0.038	76
1N5234GP	6.2	20	7	1000	0.25	5	4	+0.045	73
1N5235GP	6.8	20	5	750	0.25	3	5	+0.050	67
1N5236GP	7.5	20	6	500	0.25	3	6	+0.058	61
1N5237GP	8.2	20	8	500	0.25	3	6.5	+0.062	55
1N5238GP	8.7	20	8	600	0.25	3	6.5	+0.065	52
1N5239GP	9.1	20	10	600	0.25	3	7	+0.068	50
1N5240GP	10	20	17	600	0.25	3	8	+0.075	45
1N5241GP	11	20	22	600	0.25	2	8.4	+0.076	41
1N5242GP	12	20	30	600	0.25	1	9.1	+0.077	38
1N5243GP	13	9.5	13	600	0.25	0.5	9.9	+0.079	35
1N5244GP	14	9.0	15	600	0.25	0.1	10	+0.082	32
1N5245GP	15	8.5	16	600	0.25	0.1	11	+0.082	30
1N5246GP	16	7.8	17	600	0.25	0.1	12	+0.083	28
1N5247GP	17	7.4	19	600	0.25	0.1	13	+0.084	27
1N5248GP	18	7.0	21	600	0.25	0.1	14	+0.085	25
1N5249GP	19	6.6	23	600	0.25	0.1	14	+0.086	24
1N5250GP	20	6.2	25	600	0.25	0.1	16	+0.086	23
1N5251GP	21	5.6	29	600	0.25	0.1	17	+0.087	21
1N5252GP	22	5.2	33	600	0.25	0.1	18	+0.088	19.1
1N5253GP	23	5.0	35	600	0.25	0.1	19	+0.089	18.2
1N5254GP	24	4.6	41	600	0.25	0.1	21	+0.090	16.8
1N5255GP	25	4.5	44	600	0.25	0.1	21	+0.091	16.2
1N5256GP	26	4.2	49	600	0.25	0.1	23	+0.091	15.1
1N5257GP	27	3.8	58	700	0.25	0.1	25	+0.092	13.8

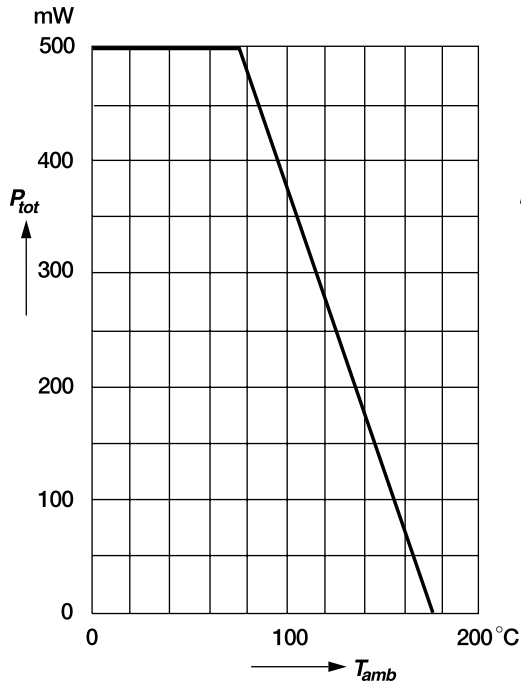
ELECTRICAL CHARACTERISTICS (1N5221GP THRU 1N5281GP)

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)		
1N5258GP	36	3.4	70	700	0.25	0.1	27	+0.093	13.8
1N5259GP	39	3.2	80	800	0.25	0.1	30	+0.094	12.6
1N5260GP	43	3.0	93	900	0.25	0.1	33	+0.095	11.6
1N5261GP	47	2.7	105	1000	0.25	0.1	36	+0.095	10.6
1N5262GP	51	2.5	125	1100	0.25	0.1	39	+0.096	9.7
1N5263GP	56	2.2	150	1300	0.25	0.1	43	+0.096	8.9
1N5264GP	60	2.1	170	1400	0.25	0.1	46	+0.097	-
1N5265GP	62	2.0	185	1400	0.25	0.1	47	+0.097	-
1N5266GP	68	1.8	230	1600	0.25	0.1	52	+0.097	-
1N5267GP	75	1.7	270	1700	0.25	0.1	56	+0.098	-
1N5268GP	82	1.5	330	2000	0.25	0.1	62	+0.098	-
1N5269GP	87	1.4	370	2200	0.25	0.1	68	+0.099	-
1N5270GP	91	1.4	400	2300	0.25	0.1	69	+0.099	-
1N5271GP	100	1.3	500	-	-	0.1	75	+0.100	-
1N5272GP	110	1.2	700	-	-	0.1	83	+0.100	-
1N5273GP	120	1.0	950	-	-	0.1	90	+0.100	-
1N5274GP	130	0.95	1100	-	-	0.1	98	+0.110	-
1N5275GP	140	0.90	1300	-	-	0.1	105	+0.110	-
1N5276GP	150	0.85	1500	-	-	0.1	113	+0.110	-
1N5277GP	160	0.80	1700	-	-	0.1	120	+0.115	-
1N5278GP	170	0.74	1900	-	-	0.1	127	+0.115	-
1N5279GP	180	0.68	2200	-	-	0.1	135	+0.120	-
1N5280GP	190	0.66	2400	-	-	0.1	142	+0.120	-
1N5281GP	200	0.65	2500	-	-	0.1	150	+0.120	-

RATING CHARACTERISTIC CURVE (1N5221GP THRU 1N5281GP)

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

