



Micro Commercial Components



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1N5221
THRU
1N5267

500 mW
Zener Diode
2.4 to 75 Volts

DO-35

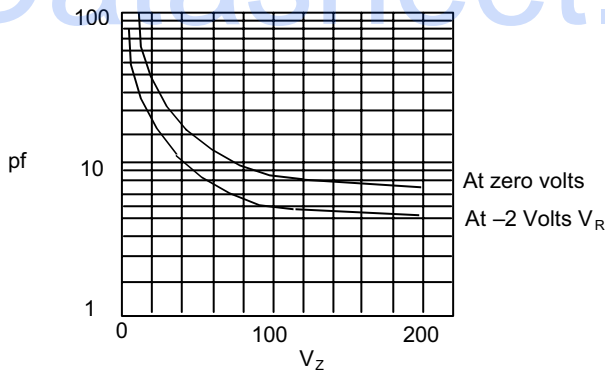
Features

- Wide Voltage Range Available
Glass Package
High Temp Soldering: 260°C for 10 Seconds At Terminals
Marking : Cathode band and type number
Lead Free Finish/Rohs Compliant (Note1) ("P"Suffix designates Compliant. See ordering information)
Moisture Sensitivity: Level 1

Maximum Ratings

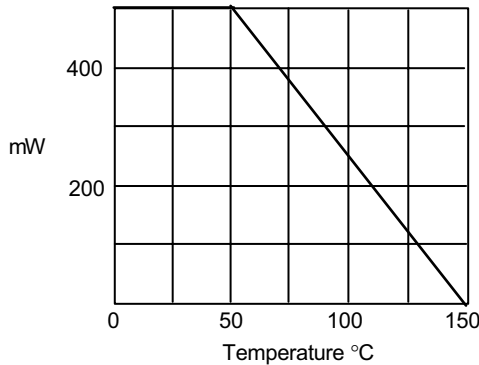
- Operating Temperature: -55°C to +150°C
Storage Temperature: -55°C to +150°C
500 mWatt DC Power Dissipation
Power Derating: 4.0mW/°C above 50°C
Forward Voltage @ 200mA: 1.1 Volts

Figure 1 - Typical Capacitance



Typical Capacitance (pf) - versus - Zener voltage (Vz)

Figure 2 - Derating Curve



Power Dissipation (mW) - Versus - Temperature °C

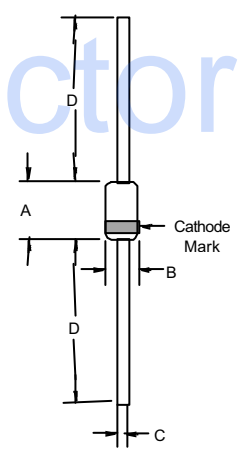


Table with 6 columns: DIM, INCHES (MIN, MAX), MM (MIN, MAX), NOTE. Rows A, B, C, D.

Note: 1. Lead in Glass Exemption Applied, see EU Directive Annex 5.

1N5221 thru 1N5267

ELECTRICAL CHARACTERISTICS @25°C

| MCC PART NUMBER | NOMINAL ZENER VOLTAGE V_Z @ I_{ZT} VOLTS | TEST CURRENT I_{ZT} mA | MAXIMUM ZENER IMPEDANCE 'B' SUFFIX ONLY | | MAXIMUM REVERSE LEAKAGE CURRENT I_R @ V_R | | MAX. ZENER VOLTAGE TEMP COEFFICIENT 'B' SUFFIX ONLY %/°C |
|-----------------|---|-----------------------------|--|------------------------------|--|-------|---|
| | | | Z_{ZT} @ I_{ZT} | Z_{ZK} @ $I_{ZK} = 0.25mA$ | μA | VOLTS | |
| | | | OHMS | OHMS | | | |
| 1N5221 | 2.4 | 20 | 30 | 1200 | 100 | 1.0 | -0.085 |
| 1N5222 | 2.5 | 20 | 30 | 1250 | 100 | 1.0 | -0.085 |
| 1N5223 | 2.7 | 20 | 30 | 1300 | 75 | 1.0 | -0.080 |
| 1N5224 | 2.8 | 20 | 30 | 1400 | 75 | 1.0 | -0.080 |
| 1N5225 | 3.0 | 20 | 29 | 1600 | 50 | 1.0 | -0.075 |
| 1N5226 | 3.3 | 20 | 28 | 1600 | 25 | 1.0 | -0.070 |
| 1N5227 | 3.6 | 20 | 24 | 1700 | 15 | 1.0 | -0.065 |
| 1N5228 | 3.9 | 20 | 23 | 1900 | 10 | 1.0 | -0.060 |
| 1N5229 | 4.3 | 20 | 22 | 2000 | 5.0 | 1.0 | ± 0.055 |
| 1N5230 | 4.7 | 20 | 19 | 1900 | 5.0 | 2.0 | ± 0.030 |
| 1N5231 | 5.1 | 20 | 17 | 1600 | 5.0 | 2.0 | ± 0.030 |
| 1N5232 | 5.6 | 20 | 11 | 1600 | 5.0 | 3.0 | +0.038 |
| 1N5233 | 6.0 | 20 | 7.0 | 1600 | 5.0 | 3.5 | +0.038 |
| 1N5234 | 6.2 | 20 | 7.0 | 1000 | 5.0 | 4.0 | +0.045 |
| 1N5235 | 6.8 | 20 | 5.0 | 750 | 3.0 | 5.0 | +0.050 |
| 1N5236 | 7.5 | 20 | 6.0 | 500 | 3.0 | 6.0 | +0.058 |
| 1N5237 | 8.2 | 20 | 8.0 | 500 | 3.0 | 6.5 | +0.062 |
| 1N5238 | 8.7 | 20 | 8.0 | 600 | 3.0 | 6.5 | +0.065 |
| 1N5239 | 9.1 | 20 | 10 | 600 | 3.0 | 7.0 | +0.068 |
| 1N5240 | 10 | 20 | 17 | 600 | 3.0 | 8.0 | +0.075 |
| 1N5241 | 11 | 20 | 22 | 600 | 2.0 | 8.4 | +0.076 |
| 1N5242 | 12 | 20 | 30 | 600 | 1.0 | 9.1 | +0.077 |
| 1N5243 | 13 | 9.5 | 13 | 600 | 0.5 | 9.9 | +0.079 |
| 1N5244 | 14 | 9.0 | 15 | 600 | 0.1 | 10 | +0.082 |
| 1N5245 | 15 | 8.5 | 16 | 600 | 0.1 | 11 | +0.082 |
| 1N5246 | 16 | 7.8 | 17 | 600 | 0.1 | 12 | +0.083 |
| 1N5247 | 17 | 7.4 | 19 | 600 | 0.1 | 13 | +0.084 |
| 1N5248 | 18 | 7.0 | 21 | 600 | 0.1 | 14 | +0.085 |
| 1N5249 | 19 | 6.6 | 23 | 600 | 0.1 | 14 | +0.086 |
| 1N5250 | 20 | 6.2 | 25 | 600 | 0.1 | 15 | +0.086 |
| 1N5251 | 22 | 5.6 | 29 | 600 | 0.1 | 17 | +0.087 |
| 1N5252 | 24 | 5.2 | 33 | 600 | 0.1 | 18 | +0.088 |
| 1N5253 | 25 | 5.0 | 35 | 600 | 0.1 | 19 | +0.089 |
| 1N5254 | 27 | 4.6 | 41 | 600 | 0.1 | 21 | +0.090 |
| 1N5255 | 28 | 4.5 | 44 | 600 | 0.1 | 21 | +0.091 |
| 1N5256 | 30 | 4.2 | 49 | 600 | 0.1 | 23 | +0.091 |
| 1N5257 | 33 | 3.8 | 58 | 700 | 0.1 | 25 | +0.092 |
| 1N5258 | 36 | 3.4 | 70 | 700 | 0.1 | 27 | +0.093 |
| 1N5259 | 39 | 3.2 | 80 | 800 | 0.1 | 30 | +0.094 |
| 1N5260 | 43 | 3.0 | 93 | 900 | 0.1 | 33 | +0.095 |
| 1N5261 | 47 | 2.7 | 105 | 1000 | 0.1 | 36 | +0.095 |
| 1N5262 | 51 | 2.5 | 125 | 1100 | 0.1 | 39 | +0.096 |
| 1N5263 | 56 | 2.2 | 150 | 1300 | 0.1 | 43 | +0.096 |
| 1N5264 | 60 | 2.1 | 170 | 1400 | 0.1 | 46 | +0.097 |
| 1N5265 | 62 | 2.0 | 185 | 1400 | 0.1 | 47 | +0.097 |
| 1N5266 | 68 | 1.8 | 230 | 1600 | 0.1 | 52 | +0.097 |
| 1N5267 | 75 | 1.7 | 270 | 1700 | 0.1 | 56 | +0.098 |

NOTE 1: Table as shown lists type numbers, which indicate a tolerance of $\pm 20\%$ with guaranteed limits on only V_Z , I_R , and V_F . Devices with guaranteed limits on all six parameters are indicated by suffix "A" for $\pm 10\%$, "B" for $\pm 5\%$, "C" for $\pm 2\%$ tolerance

NOTE 2: The electrical characteristics are measured after allowing the device to stabilize for 20 seconds.

NOTE 3: Temperature coefficient (ΔV_Z). Test conditions for temperature coefficient are as follows:

- $I_{ZT} = 7.5mA$, $T_1 = 25^\circ C$, $T_2 = 125^\circ C$ (1N5221 thru 1N5242)
- $I_{ZT} = \text{Rated } I_{ZT}$, $T_1 = 25^\circ C$, $T_2 = 125^\circ C$ (1N5243 thru 1N5267)

Device to be temperature stabilized with current applied prior to reading breakdown voltage at the specified ambient temperature.

1N5221 thru 1N5267

Figure 1
Zener Voltage versus Zener Current – $V_z = 1$ thru 16 Volts

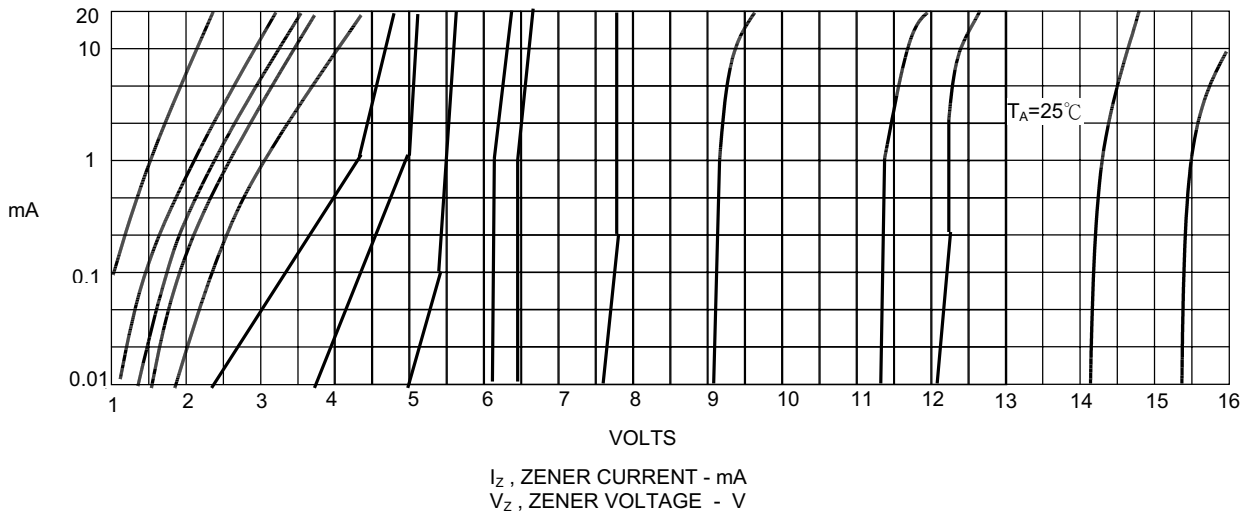
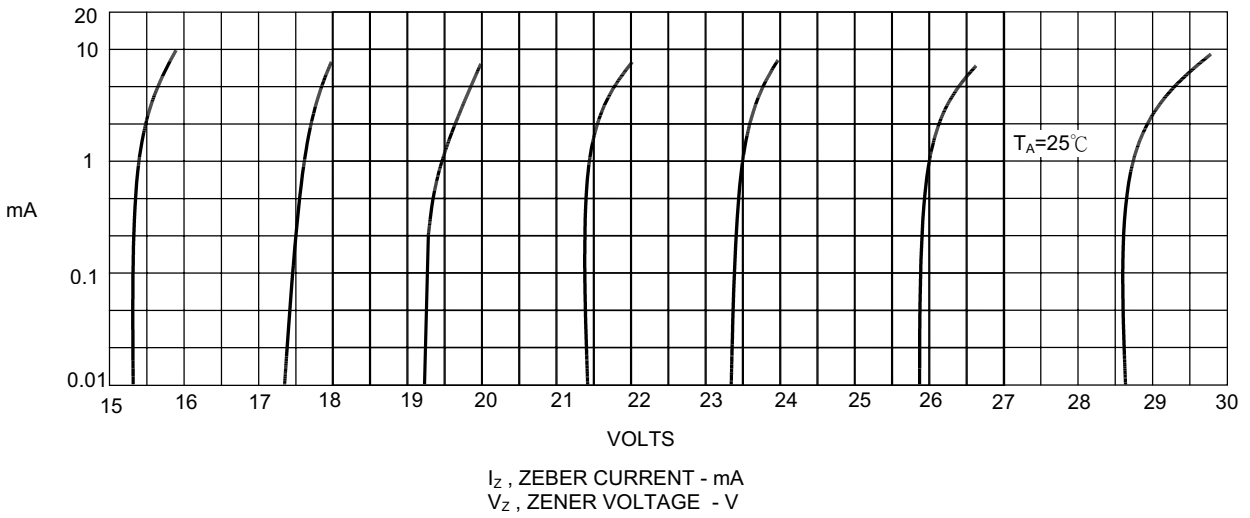


Figure 2
Zener Voltage versus Zener Current – $V_z = 15$ thru 30 Volts



1N5221 thru 1N5267

Figure 3
Zener Voltage versus Zener Current – $V_z = 30$ thru 75 Volts

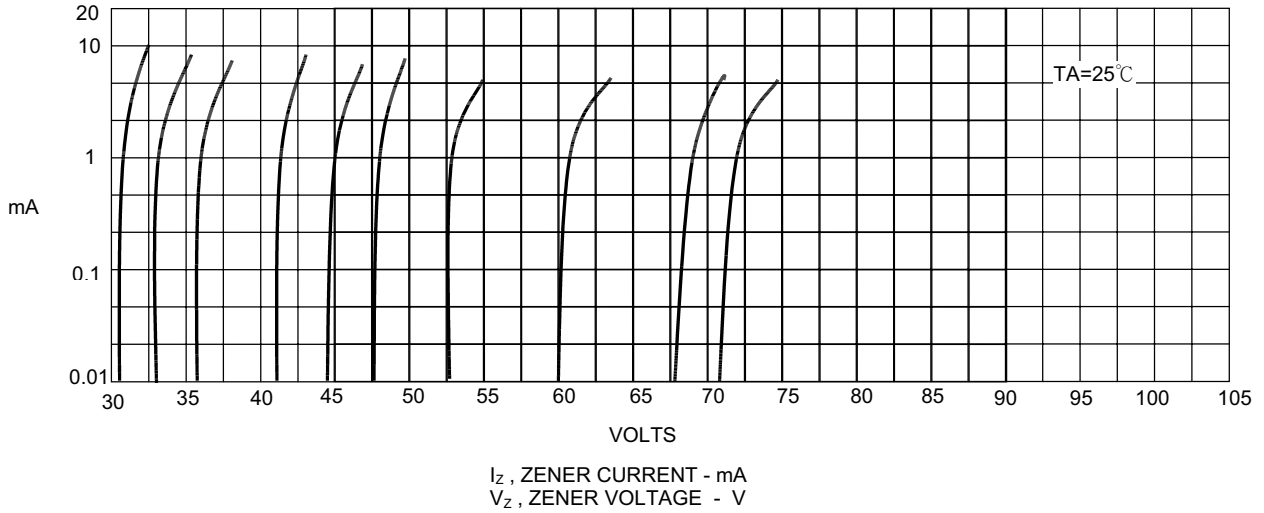
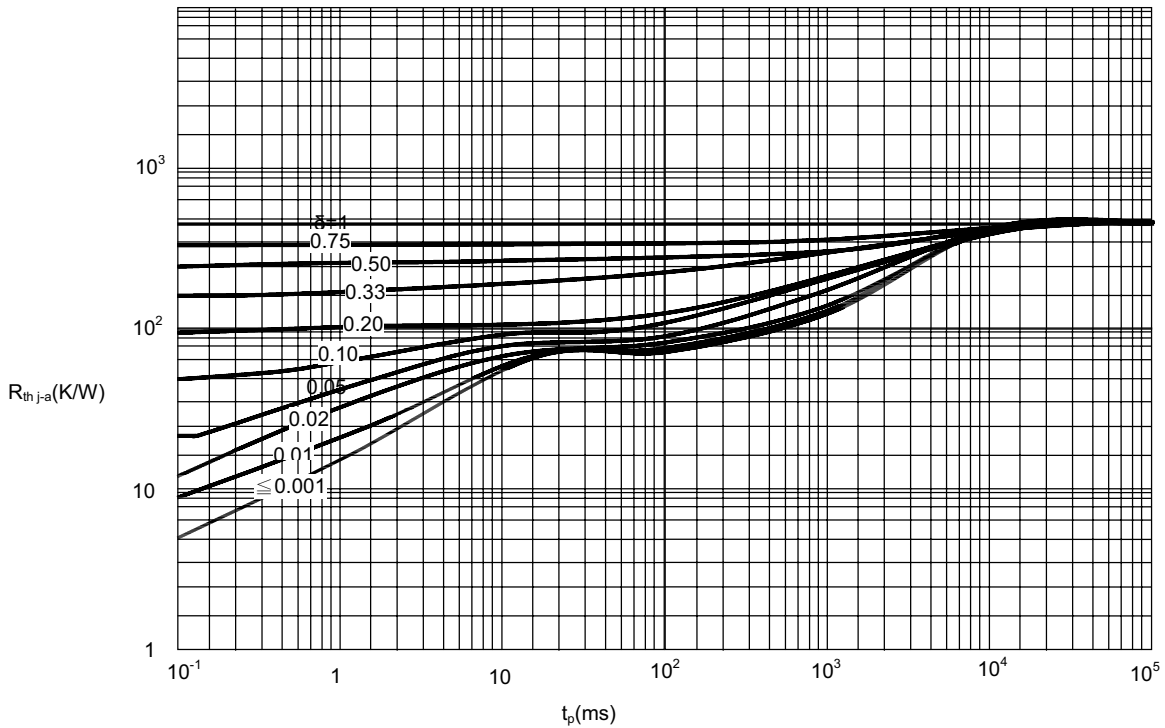


Figure 4
Thermal resistance from junction to ambient as a function of pulse duration





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Ordering Information :

| Device | Packing |
|----------------|------------------------------|
| Part Number-TP | Tape&Reel: 10Kpcs/Reel |
| Part Number-AP | Ammo Packing: 5Kpcs/Ammo Box |
| Part Number-BP | Bulk: 100Kpcs/Carton |

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