



Micro Commercial Components  
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**1N5221B  
 THRU  
 1N5267B**

**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

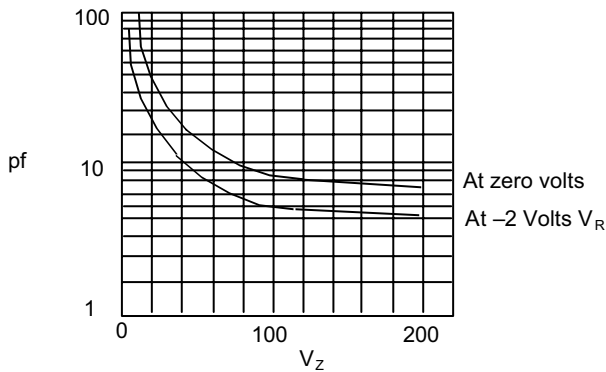
**Maximum Ratings**

- 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

**500 mW  
 Zener Diode  
 2.4 to 75 Volts**

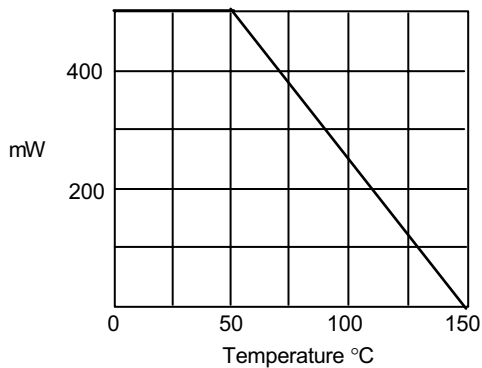
**DO-35**

Figure 1 - Typical Capacitance

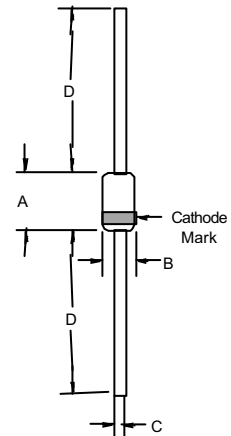


Typical Capacitance (pf) – versus – Zener voltage (V<sub>Z</sub>)

Figure 2 - Derating Curve



Power Dissipation (mW) - Versus - Temperature °C



| DIMENSIONS |        |      |       |      |      |
|------------|--------|------|-------|------|------|
| DIM        | INCHES |      | MM    |      | NOTE |
|            | MIN    | MAX  | MIN   | MAX  |      |
| A          | ---    | .166 | ---   | 4.2  |      |
| B          | ---    | .079 | ---   | 2.00 |      |
| C          | ---    | .020 | ---   | .52  |      |
| D          | 1.000  | ---  | 25.40 | ---  |      |

Note: 1. Lead in Glass Exemption Applied, see EU Directive Annex 7(C)-I.

# 1N5221B thru 1N5267B

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## ELECTRICAL CHARACTERISTICS @25°C

| MCC PART NUMBER | NOMINAL ZENER VOLTAGE $V_Z$ @ $I_{ZT}$<br>VOLTS | TEST CURRENT $I_{ZT}$<br>mA | MAXIMUM ZENER IMPEDANCE<br>'B' SUFFIX ONLY |                              | MAXIMUM REVERSE LEAKAGE CURRENT<br>$I_R$ @ $V_R$ |       | MAX. ZENER VOLTAGE TEMP COEFFICIENT 'B' SUFFIX ONLY<br>% / °C |
|-----------------|---|-----------------------------|--|------------------------------|--|-------|---|
|                 |   |                             | $Z_{ZT}$ @ $I_{ZT}$                        | $Z_{ZK}$ @ $I_{ZK} = 0.25mA$ | $\mu A$  | VOLTS |   |
|                 |   |                             | OHMS                                       | OHMS                         |  |       |   |
| 1N5221B         | 2.4   | 20                          | 30   | 1200                         | 100  | 1.0   | -0.085  |
| 1N5222B         | 2.5   | 20                          | 30   | 1250                         | 100  | 1.0   | -0.085  |
| 1N5223B         | 2.7   | 20                          | 30   | 1300                         | 75   | 1.0   | -0.080  |
| 1N5224B         | 2.8   | 20                          | 30   | 1400                         | 75   | 1.0   | -0.080  |
| 1N5225B         | 3.0   | 20                          | 29   | 1600                         | 50   | 1.0   | -0.075  |
| 1N5226B         | 3.3   | 20                          | 28   | 1600                         | 25   | 1.0   | -0.070  |
| 1N5227B         | 3.6   | 20                          | 24   | 1700                         | 15   | 1.0   | -0.065  |
| 1N5228B         | 3.9   | 20                          | 23   | 1900                         | 10   | 1.0   | -0.060  |
| 1N5229B         | 4.3   | 20                          | 22   | 2000                         | 5.0  | 1.0   | $\pm 0.055$   |
| 1N5230B         | 4.7   | 20                          | 19   | 1900                         | 5.0  | 2.0   | $\pm 0.030$   |
| 1N5231B         | 5.1   | 20                          | 17   | 1600                         | 5.0  | 2.0   | $\pm 0.030$   |
| 1N5232B         | 5.6   | 20                          | 11   | 1600                         | 5.0  | 3.0   | +0.038  |
| 1N5233B         | 6.0   | 20                          | 7.0  | 1600                         | 5.0  | 3.5   | +0.038  |
| 1N5234B         | 6.2   | 20                          | 7.0  | 1000                         | 5.0  | 4.0   | +0.045  |
| 1N5235B         | 6.8   | 20                          | 5.0  | 750                          | 3.0  | 5.0   | +0.050  |
| 1N5236B         | 7.5   | 20                          | 6.0  | 500                          | 3.0  | 6.0   | +0.058  |
| 1N5237B         | 8.2   | 20                          | 8.0  | 500                          | 3.0  | 6.5   | +0.062  |
| 1N5238B         | 8.7   | 20                          | 8.0  | 600                          | 3.0  | 6.5   | +0.065  |
| 1N5239B         | 9.1   | 20                          | 10   | 600                          | 3.0  | 7.0   | +0.068  |
| 1N5240B         | 10  | 20                          | 17   | 600                          | 3.0  | 8.0   | +0.075  |
| 1N5241B         | 11  | 20                          | 22   | 600                          | 2.0  | 8.4   | +0.076  |
| 1N5242B         | 12  | 20                          | 30   | 600                          | 1.0  | 9.1   | +0.077  |
| 1N5243B         | 13  | 9.5                         | 13   | 600                          | 0.5  | 9.9   | +0.079  |
| 1N5244B         | 14  | 9.0                         | 15   | 600                          | 0.1  | 10    | +0.082  |
| 1N5245B         | 15  | 8.5                         | 16   | 600                          | 0.1  | 11    | +0.082  |
| 1N5246B         | 16  | 7.8                         | 17   | 600                          | 0.1  | 12    | +0.083  |
| 1N5247B         | 17  | 7.4                         | 19   | 600                          | 0.1  | 13    | +0.084  |
| 1N5248B         | 18  | 7.0                         | 21   | 600                          | 0.1  | 14    | +0.085  |
| 1N5249B         | 19  | 6.6                         | 23   | 600                          | 0.1  | 14    | +0.086  |
| 1N5250B         | 20  | 6.2                         | 25   | 600                          | 0.1  | 15    | +0.086  |
| 1N5251B         | 22  | 5.6                         | 29   | 600                          | 0.1  | 17    | +0.087  |
| 1N5252B         | 24  | 5.2                         | 33   | 600                          | 0.1  | 18    | +0.088  |
| 1N5253B         | 25  | 5.0                         | 35   | 600                          | 0.1  | 19    | +0.089  |
| 1N5254B         | 27  | 4.6                         | 41   | 600                          | 0.1  | 21    | +0.090  |
| 1N5255B         | 28  | 4.5                         | 44   | 600                          | 0.1  | 21    | +0.091  |
| 1N5256B         | 30  | 4.2                         | 49   | 600                          | 0.1  | 23    | +0.091  |
| 1N5257B         | 33  | 3.8                         | 58   | 700                          | 0.1  | 25    | +0.092  |
| 1N5258B         | 36  | 3.4                         | 70   | 700                          | 0.1  | 27    | +0.093  |
| 1N5259B         | 39  | 3.2                         | 80   | 800                          | 0.1  | 30    | +0.094  |
| 1N5260B         | 43  | 3.0                         | 93   | 900                          | 0.1  | 33    | +0.095  |
| 1N5261B         | 47  | 2.7                         | 105  | 1000                         | 0.1  | 36    | +0.095  |
| 1N5262B         | 51  | 2.5                         | 125  | 1100                         | 0.1  | 39    | +0.096  |
| 1N5263B         | 56  | 2.2                         | 150  | 1300                         | 0.1  | 43    | +0.096  |
| 1N5264B         | 60  | 2.1                         | 170  | 1400                         | 0.1  | 46    | +0.097  |
| 1N5265B         | 62  | 2.0                         | 185  | 1400                         | 0.1  | 47    | +0.097  |
| 1N5266B         | 68  | 1.8                         | 230  | 1600                         | 0.1  | 52    | +0.097  |
| 1N5267B         | 75  | 1.7                         | 270  | 1700                         | 0.1  | 56    | +0.098  |

NOTE 1: suffix "B" = 5% tolerance on nominal Zener voltage, suffix "C" signifies 2%.

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

NOTE 3: Temperature coefficient ( $\alpha_{VZ}$ ). Test conditions for temperature coefficient are as follows:

a.  $I_{ZT} = 7.5mA$ ,  $T_1 = 25^\circ C$ ,  $T_2 = 125^\circ C$  (1N5221 thru 1N5242)

b.  $I_{ZT} = \text{Rated } I_{ZT}$ ,  $T_1 = 25^\circ C$ ,  $T_2 = 125^\circ C$  (1N5243 thru 1N5267)

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

**1N5221B thru 1N5267B**

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

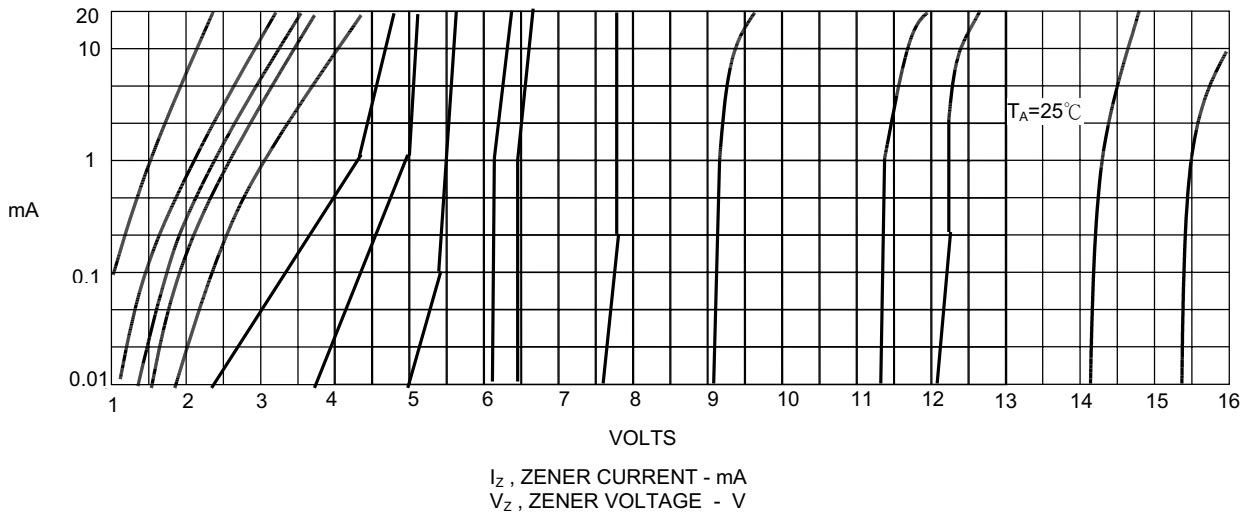
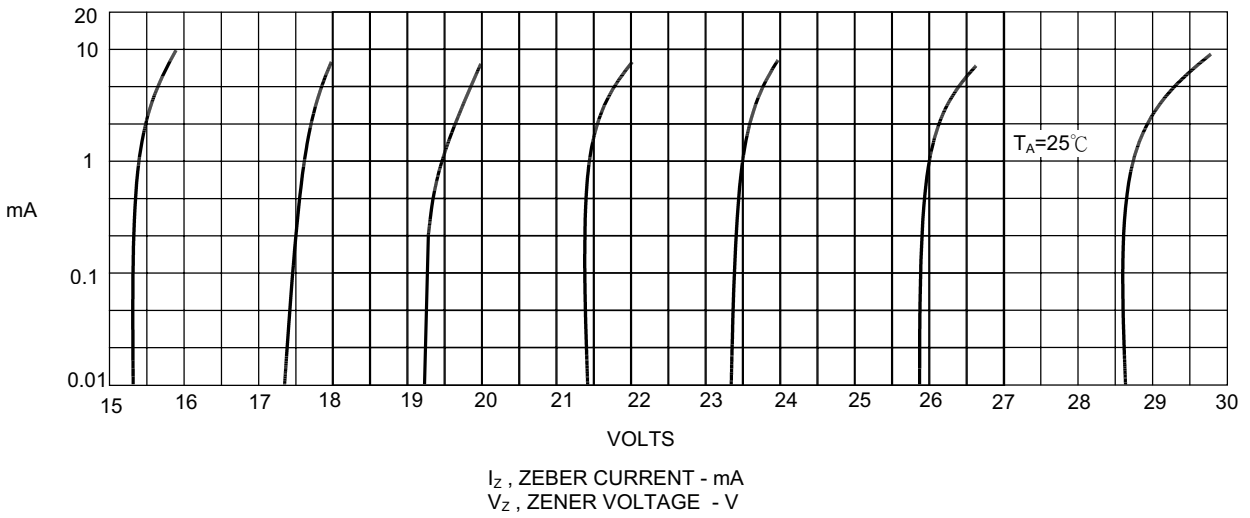


Figure 2  
Zener Voltage versus Zener Current –  $V_z = 15$  thru 30 Volts



# 1N5221B thru 1N5267B

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

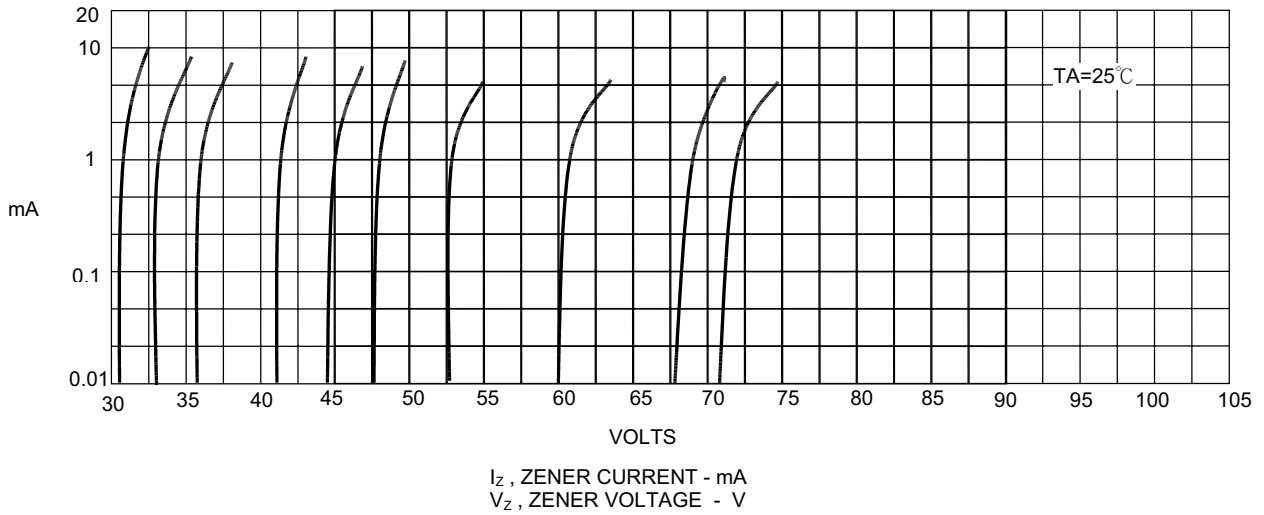
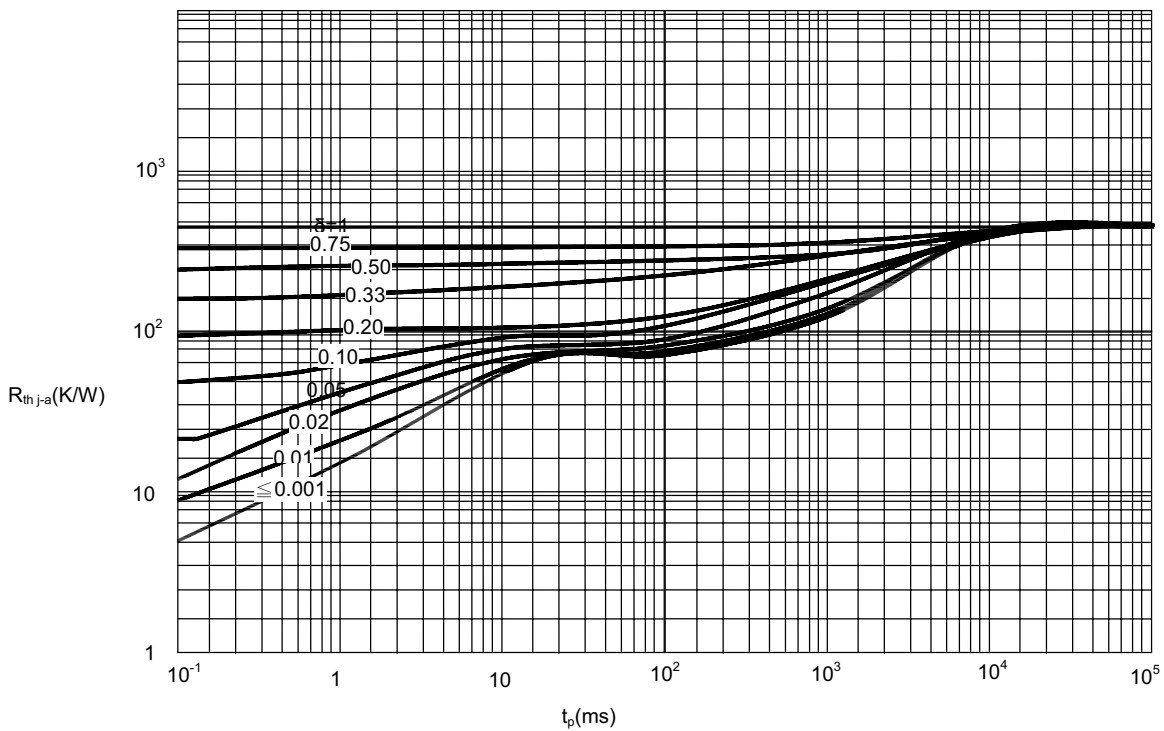


Figure 4  
Thermal resistance from junction to ambient as a function of pulse duration





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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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