

## Silicon Z-Diodes

### Features

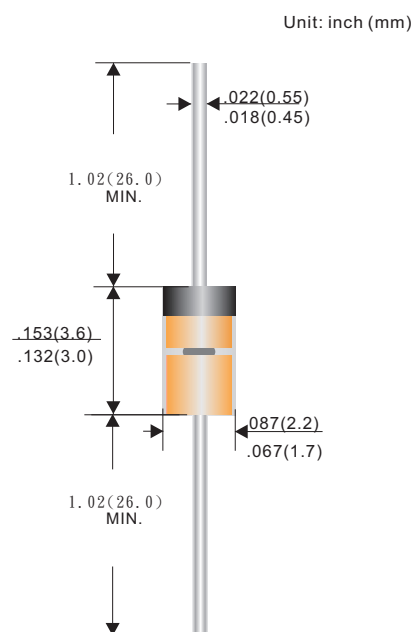
- Planar Die construction
- 500mW Power Dissipation
- Ideally Suited for Automated Assembly Processes
- $V_Z$ -tolerance  $\pm 5\%$

### Applications

Voltage stabilization

### MECHANICAL DATA

Approx. Weight: 0.136 grams



### Absolute Maximum Ratings

$T_j = 25^\circ\text{C}$

| Parameter                 | Test Conditions            | Type | Symbol    | Value        | Unit             |
|---------------------------|----------------------------|------|-----------|--------------|------------------|
| Power dissipation         | $T_{amb}=25^\circ\text{C}$ |      | $P_{TOT}$ | 500          | mW               |
| Z-current                 |                            |      | $I_Z$     | $P_V/V_Z$    | mA               |
| Junction temperature      |                            |      | $T_j$     | 175          | $^\circ\text{C}$ |
| Storage temperature range |                            |      | $T_{stg}$ | $-65...+175$ | $^\circ\text{C}$ |

### Maximum Thermal Resistance

$T_j = 25^\circ\text{C}$

| Parameter        | Test Conditions                                 | Symbol     | Value | Unit |
|------------------|-------------------------------------------------|------------|-------|------|
| Junction ambient | $l=9.5\text{mm (3/8")}$ , $T_l=\text{constant}$ | $R_{thJA}$ | 300   | K/W  |

### Electrical Characteristics

$T_j = 25^\circ\text{C}$

| Parameter       | Test Conditions    | Type | Symbol | Min | Typ | Max | Unit |
|-----------------|--------------------|------|--------|-----|-----|-----|------|
| Forward voltage | $I_F=200\text{mA}$ |      | $V_F$  |     |     | 1.1 | V    |

## 500 mWatts Zener Diodes

| Part No. | Nominal Zener Voltage |        |        | Max. Zener Impedance |      |                   |      | Max Reverse Leakage Current |      | TK       | Marking Code |
|----------|-----------------------|--------|--------|----------------------|------|-------------------|------|-----------------------------|------|----------|--------------|
|          | $V_Z @ I_{ZT}$        |        |        | $Z_{ZT} @ I_{ZT}$    |      | $Z_{ZK} @ I_{ZK}$ |      | $I_R @ V_R$                 |      | $V_Z$    |              |
|          | Nom. V                | Min. V | Max. V | $\Omega$             | mA   | $\Omega$          | mA   | $\mu A$                     | V    | %/K      |              |
| 1N5221B  | 2.4                   | 2.28   | 2.52   | 30                   | 20.0 | 1200              | 0.25 | 100                         | 1.0  | < -0.085 | 1N5221B      |
| 1N5222B  | 2.5                   | 2.38   | 2.63   | 30                   | 20.0 | 1250              | 0.25 | 100                         | 1.0  | < -0.085 | 1N5222B      |
| 1N5223B  | 2.7                   | 2.57   | 2.84   | 30                   | 20.0 | 1300              | 0.25 | 75                          | 1.0  | < -0.080 | 1N5223B      |
| 1N5224B  | 2.8                   | 2.66   | 2.94   | 30                   | 20.0 | 1400              | 0.25 | 75                          | 1.0  | < -0.080 | 1N5224B      |
| 1N5225B  | 3.0                   | 2.85   | 3.15   | 29                   | 20.0 | 1600              | 0.25 | 50                          | 1.0  | < -0.075 | 1N5225B      |
| 1N5226B  | 3.3                   | 3.14   | 3.47   | 28                   | 20.0 | 1600              | 0.25 | 25                          | 1.0  | < -0.070 | 1N5226B      |
| 1N5227B  | 3.6                   | 3.42   | 3.78   | 24                   | 20.0 | 1700              | 0.25 | 15                          | 1.0  | < -0.065 | 1N5227B      |
| 1N5228B  | 3.9                   | 3.71   | 4.10   | 23                   | 20.0 | 1900              | 0.25 | 10                          | 1.0  | < -0.060 | 1N5228B      |
| 1N5229B  | 4.3                   | 4.09   | 4.52   | 22                   | 20.0 | 2000              | 0.25 | 5.0                         | 1.0  | < +0.050 | 1N5229B      |
| 1N5230B  | 4.7                   | 4.47   | 4.94   | 19                   | 20.0 | 1900              | 0.25 | 5.0                         | 2.0  | < +0.030 | 1N5230B      |
| 1N5231B  | 5.1                   | 4.85   | 5.36   | 17                   | 20.0 | 1600              | 0.25 | 5.0                         | 2.0  | < +0.030 | 1N5231B      |
| 1N5232B  | 5.6                   | 5.32   | 5.88   | 11                   | 20.0 | 1600              | 0.25 | 5.0                         | 3.0  | < +0.038 | 1N5232B      |
| 1N5233B  | 6.0                   | 5.70   | 6.30   | 7                    | 20.0 | 1600              | 0.25 | 5.0                         | 3.5  | < +0.038 | 1N5233B      |
| 1N5234B  | 6.2                   | 5.89   | 6.51   | 7                    | 20.0 | 1000              | 0.25 | 5.0                         | 4.0  | < +0.045 | 1N5234B      |
| 1N5235B  | 6.8                   | 6.46   | 7.14   | 5                    | 20.0 | 750               | 0.25 | 3.0                         | 5.0  | < +0.050 | 1N5235B      |
| 1N5236B  | 7.5                   | 7.13   | 7.88   | 6                    | 20.0 | 500               | 0.25 | 3.0                         | 6.0  | < +0.058 | 1N5236B      |
| 1N5237B  | 8.2                   | 7.79   | 8.61   | 8                    | 20.0 | 500               | 0.25 | 3.0                         | 6.5  | < +0.062 | 1N5237B      |
| 1N5238B  | 8.7                   | 8.27   | 9.14   | 8                    | 20.0 | 600               | 0.25 | 3.0                         | 6.5  | < +0.065 | 1N5238B      |
| 1N5239B  | 9.1                   | 8.65   | 9.56   | 10                   | 20.0 | 600               | 0.25 | 3.0                         | 7.0  | < +0.068 | 1N5239B      |
| 1N5240B  | 10.0                  | 9.50   | 10.50  | 17                   | 20.0 | 600               | 0.25 | 3.0                         | 8.0  | < +0.075 | 1N5240B      |
| 1N5241B  | 11.0                  | 10.45  | 11.55  | 22                   | 20.0 | 600               | 0.25 | 2.0                         | 8.4  | < +0.076 | 1N5241B      |
| 1N5242B  | 12.0                  | 11.40  | 12.60  | 30                   | 20.0 | 600               | 0.25 | 1.0                         | 9.1  | < +0.077 | 1N5242B      |
| 1N5243B  | 13.0                  | 12.35  | 13.65  | 13                   | 9.5  | 600               | 0.25 | 0.5                         | 9.9  | < +0.079 | 1N5243B      |
| 1N5244B  | 14.0                  | 13.30  | 14.70  | 15                   | 9.0  | 600               | 0.25 | 0.1                         | 10.0 | < +0.082 | 1N5244B      |
| 1N5245B  | 15.0                  | 14.25  | 15.75  | 16                   | 8.5  | 600               | 0.25 | 0.1                         | 11.0 | < +0.082 | 1N5245B      |
| 1N5246B  | 16.0                  | 15.20  | 16.80  | 17                   | 7.8  | 600               | 0.25 | 0.1                         | 12.0 | < +0.083 | 1N5246B      |
| 1N5247B  | 17.0                  | 16.15  | 17.85  | 19                   | 7.4  | 600               | 0.25 | 0.1                         | 13.0 | < +0.084 | 1N5247B      |
| 1N5248B  | 18.0                  | 17.10  | 18.90  | 21                   | 7.0  | 600               | 0.25 | 0.1                         | 14.0 | < +0.085 | 1N5248B      |
| 1N5249B  | 19.0                  | 18.05  | 19.95  | 23                   | 6.6  | 600               | 0.25 | 0.1                         | 14.0 | < +0.086 | 1N5249B      |
| 1N5250B  | 20.0                  | 19.00  | 21.00  | 25                   | 6.2  | 600               | 0.25 | 0.1                         | 15.0 | < +0.086 | 1N5250B      |
| 1N5251B  | 22.0                  | 20.90  | 23.10  | 29                   | 5.6  | 600               | 0.25 | 0.1                         | 17.0 | < +0.087 | 1N5251B      |
| 1N5252B  | 24.0                  | 22.80  | 25.20  | 33                   | 5.2  | 600               | 0.25 | 0.1                         | 18.0 | < +0.088 | 1N5252B      |
| 1N5253B  | 25.0                  | 23.75  | 26.25  | 35                   | 5.0  | 600               | 0.25 | 0.1                         | 19.0 | < +0.089 | 1N5253B      |
| 1N5254B  | 27.0                  | 25.65  | 28.35  | 41                   | 4.6  | 600               | 0.25 | 0.1                         | 21.0 | < +0.090 | 1N5254B      |
| 1N5255B  | 28.0                  | 26.60  | 29.40  | 44                   | 4.5  | 600               | 0.25 | 0.1                         | 21.0 | < +0.091 | 1N5255B      |
| 1N5256B  | 30.0                  | 28.50  | 31.50  | 49                   | 4.2  | 600               | 0.25 | 0.1                         | 23.0 | < +0.091 | 1N5256B      |
| 1N5257B  | 33.0                  | 31.35  | 34.65  | 58                   | 3.8  | 700               | 0.25 | 0.1                         | 25.0 | < +0.092 | 1N5257B      |
| 1N5258B  | 36.0                  | 34.20  | 37.80  | 70                   | 3.4  | 700               | 0.25 | 0.1                         | 27.0 | < +0.093 | 1N5258B      |
| 1N5259B  | 39.0                  | 37.05  | 40.95  | 80                   | 3.2  | 800               | 0.25 | 0.1                         | 30.0 | < +0.094 | 1N5259B      |
| 1N5260B  | 43.0                  | 40.85  | 45.15  | 93                   | 3.0  | 900               | 0.25 | 0.1                         | 33.0 | < +0.095 | 1N5260B      |

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| Part No. | Nominal Zener Voltage |        |        | Max. Zener Impedance |     |                   |      | Max Reverse Leakage Current |      | TK      | Marking Code |
|----------|-----------------------|--------|--------|----------------------|-----|-------------------|------|-----------------------------|------|---------|--------------|
|          | $V_Z @ I_{ZT}$        |        |        | $Z_{ZT} @ I_{ZT}$    |     | $Z_{ZK} @ I_{ZK}$ |      | $I_R @ V_R$                 |      | $V_Z$   |              |
|          | Nom. V                | Min. V | Max. V | $\Omega$             | mA  | $\Omega$          | mA   | $\mu A$                     | V    | %/K     |              |
| 1N5261B  | 47.0                  | 44.65  | 49.35  | 150                  | 2.7 | 1000              | 0.25 | 0.1                         | 36.0 | <+0.095 | 1N5261B      |
| 1N5262B  | 51.0                  | 48.45  | 53.55  | 125                  | 2.5 | 1100              | 0.25 | 0.1                         | 39.0 | <+0.096 | 1N5262B      |
| 1N5263B  | 56.0                  | 53.20  | 58.80  | 150                  | 2.2 | 1300              | 0.25 | 0.1                         | 43.0 | <+0.096 | 1N5263B      |
| 1N5264B  | 60.0                  | 57.00  | 63.00  | 170                  | 2.1 | 1400              | 0.25 | 0.1                         | 46.0 | <+0.097 | 1N5264B      |
| 1N5265B  | 62.0                  | 58.90  | 65.10  | 185                  | 2.0 | 1400              | 0.25 | 0.1                         | 47.0 | <+0.097 | 1N5265B      |
| 1N5266B  | 68.0                  | 64.60  | 71.40  | 230                  | 1.8 | 1600              | 0.25 | 0.1                         | 52.0 | <+0.097 | 1N5266B      |
| 1N5267B  | 75.0                  | 71.25  | 78.75  | 270                  | 1.7 | 1700              | 0.25 | 0.1                         | 56.0 | <+0.098 | 1N5267B      |

1) Based on dc-measurement at thermal equilibrium; lead length = 9.5mm (3/8"); thermal resistance of heat sink = 30K/W

## RATING AND CHARACTERISTIC CURVES

