

**Maximum Ratings** (@T<sub>A</sub> = +25°C, unless otherwise specified.)

| Characteristic                          | Symbol         | Value | Unit |
|-----------------------------------------|----------------|-------|------|
| Forward Voltage @ I <sub>F</sub> = 10mA | V <sub>F</sub> | 0.9   | V    |

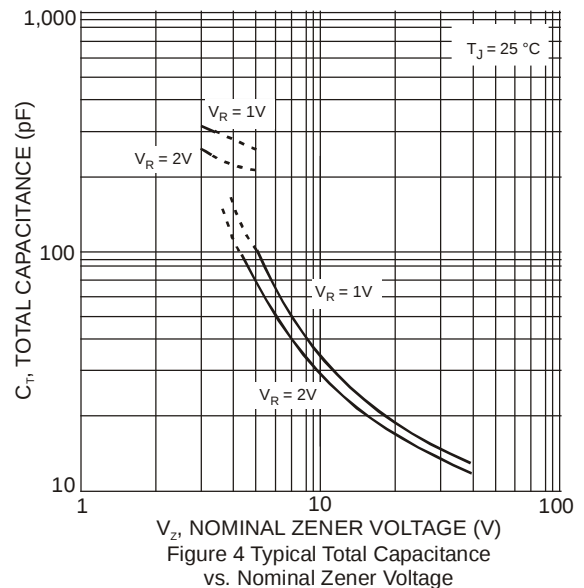
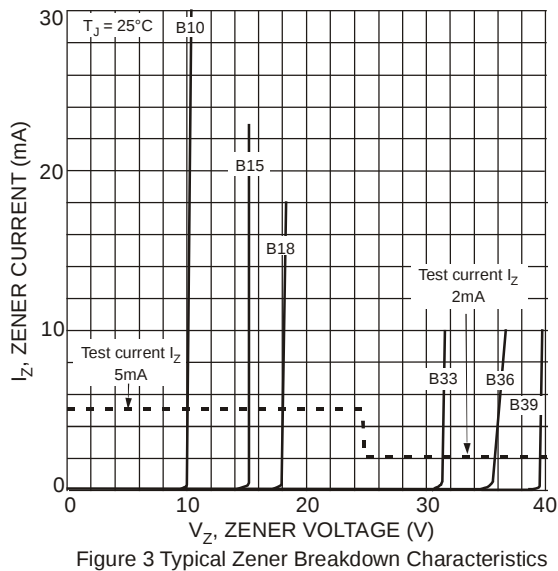
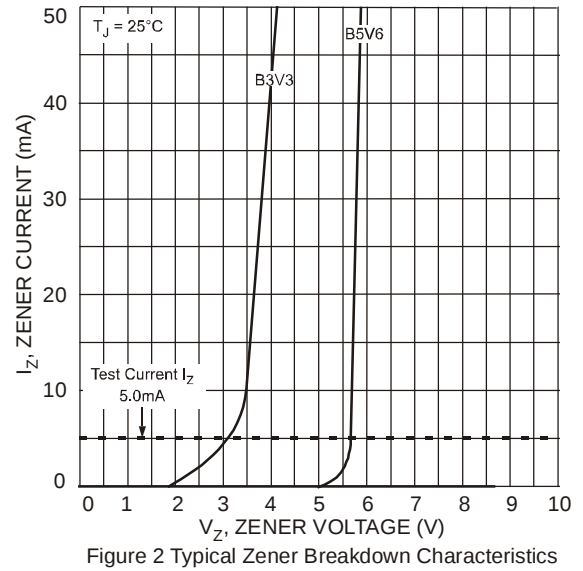
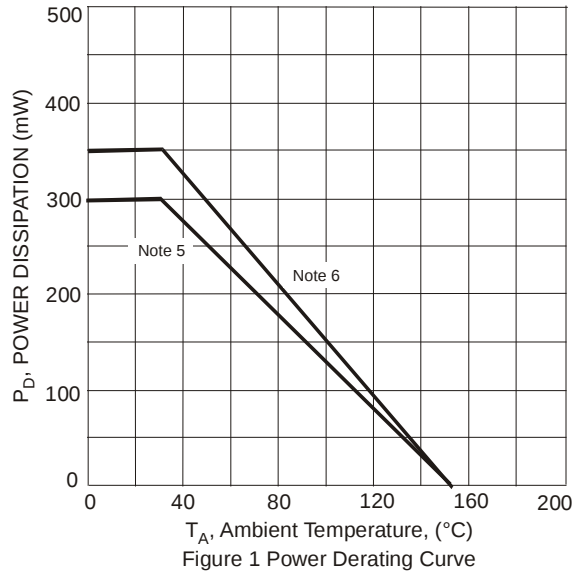
**Thermal Characteristics**

| Characteristic                                       | Symbol                            | Value       | Unit |
|------------------------------------------------------|-----------------------------------|-------------|------|
| Power Dissipation (Note 5)                           | P <sub>D</sub>                    | 300         | mW   |
| Power Dissipation (Note 6)                           | P <sub>D</sub>                    | 350         | mW   |
| Thermal Resistance, Junction to Ambient Air (Note 5) | R <sub>ΘJA</sub>                  | 417         | °C/W |
| Thermal Resistance, Junction to Ambient Air (Note 6) | R <sub>ΘJA</sub>                  | 357         | °C/W |
| Operating and Storage Temperature Range              | T <sub>J</sub> , T <sub>STG</sub> | -65 to +150 | °C   |

**Electrical Characteristics** (@T<sub>A</sub> = +25°C, unless otherwise specified.)

| Type<br>Number | Marking<br>Code | Zener Voltage Range<br>(Note 7)  |         |         |                 | Maximum Zener<br>Impedance<br>f = 1KHz |                                   |                | Maximum Reverse<br>Current<br>(Note 7) |      | Temperature<br>Coefficient<br>@ I <sub>ZT</sub> |       |
|----------------|-----------------|----------------------------------|---------|---------|-----------------|----------------------------------------|-----------------------------------|----------------|----------------------------------------|------|-------------------------------------------------|-------|
|                |                 | V <sub>Z</sub> @ I <sub>ZT</sub> |         |         | I <sub>ZT</sub> | Z <sub>ZT</sub> @ I <sub>ZT</sub>      | Z <sub>ZK</sub> @ I <sub>ZK</sub> | I <sub>R</sub> | V <sub>R</sub>                         | Min  | Max                                             |       |
|                |                 | Nom (V)                          | Min (V) | Max (V) | (mA)            | (Ω)                                    | (Ω)                               | (mA)           | (μA)                                   | (V)  | mV/°C                                           | mV/°C |
| BZX84B2V7      | <u>K</u> ZC     | 2.7                              | 2.65    | 2.75    | 5.0             | 100                                    | 600                               | 1.0            | 20                                     | 1.0  | -3.5                                            | 0     |
| BZX84B3V0      | <u>K</u> ZD     | 3.0                              | 2.94    | 3.06    | 5.0             | 95                                     | 600                               | 1.0            | 10                                     | 1.0  | -3.5                                            | 0     |
| BZX84B3V3      | <u>K</u> ZE     | 3.3                              | 3.23    | 3.37    | 5.0             | 95                                     | 600                               | 1.0            | 5.0                                    | 1.0  | -3.5                                            | 0     |
| BZX84B3V6      | <u>K</u> ZF     | 3.6                              | 3.53    | 3.67    | 5.0             | 90                                     | 600                               | 1.0            | 5.0                                    | 1.0  | -3.5                                            | 0     |
| BZX84B3V9      | <u>K</u> ZG     | 3.9                              | 3.82    | 3.98    | 5.0             | 90                                     | 600                               | 1.0            | 3.0                                    | 1.0  | -3.5                                            | 0     |
| BZX84B4V3      | <u>K</u> ZH     | 4.3                              | 4.21    | 4.39    | 5.0             | 90                                     | 600                               | 1.0            | 3.0                                    | 1.0  | -3.5                                            | 0     |
| BZX84B4V7      | <u>K</u> Z1     | 4.7                              | 4.61    | 4.79    | 5.0             | 80                                     | 500                               | 1.0            | 3.0                                    | 2.0  | -3.5                                            | 0.2   |
| BZX84B5V1      | <u>K</u> Z2     | 5.1                              | 5       | 5.2     | 5.0             | 60                                     | 480                               | 1.0            | 2.0                                    | 2.0  | -2.7                                            | 1.2   |
| BZX84B5V6      | <u>K</u> Z3     | 5.6                              | 5.49    | 5.71    | 5.0             | 40                                     | 400                               | 1.0            | 1.0                                    | 2.0  | -2.0                                            | 2.5   |
| BZX84B6V2      | <u>K</u> Z4     | 6.2                              | 6.08    | 6.32    | 5.0             | 10                                     | 150                               | 1.0            | 3.0                                    | 4.0  | 0.4                                             | 3.7   |
| BZX84B6V8      | <u>K</u> Z5     | 6.8                              | 6.66    | 6.94    | 5.0             | 15                                     | 80                                | 1.0            | 2.0                                    | 4.0  | 1.2                                             | 4.5   |
| BZX84B7V5      | <u>K</u> Z6     | 7.5                              | 7.35    | 7.65    | 5.0             | 15                                     | 80                                | 1.0            | 1.0                                    | 5.0  | 2.5                                             | 5.3   |
| BZX84B8V2      | <u>K</u> Z7     | 8.2                              | 8.04    | 8.36    | 5.0             | 15                                     | 80                                | 1.0            | 0.7                                    | 5.0  | 3.2                                             | 6.2   |
| BZX84B9V1      | <u>K</u> Z8     | 9.1                              | 8.92    | 9.28    | 5.0             | 15                                     | 100                               | 1.0            | 0.5                                    | 6.0  | 3.8                                             | 7.0   |
| BZX84B10       | <u>K</u> Z9     | 10                               | 9.8     | 10.2    | 5.0             | 20                                     | 150                               | 1.0            | 0.2                                    | 7.0  | 4.5                                             | 8.0   |
| BZX84B11       | <u>K</u> Y1     | 11                               | 10.8    | 11.2    | 5.0             | 20                                     | 150                               | 1.0            | 0.1                                    | 8.0  | 5.4                                             | 9.0   |
| BZX84B12       | <u>K</u> Y2     | 12                               | 11.8    | 12.2    | 5.0             | 25                                     | 150                               | 1.0            | 0.1                                    | 8.0  | 6.0                                             | 10.0  |
| BZX84B13       | <u>K</u> Y3     | 13                               | 12.7    | 13.3    | 5.0             | 30                                     | 170                               | 1.0            | 0.1                                    | 8.0  | 7.0                                             | 11.0  |
| BZX84B15       | <u>K</u> Y4     | 15                               | 14.7    | 15.3    | 5.0             | 30                                     | 200                               | 1.0            | 0.1                                    | 10.5 | 9.2                                             | 13.0  |
| BZX84B16       | <u>K</u> Y5     | 16                               | 15.7    | 16.3    | 5.0             | 40                                     | 200                               | 1.0            | 0.1                                    | 11.2 | 10.4                                            | 14.0  |
| BZX84B18       | <u>K</u> Y6     | 18                               | 17.6    | 18.4    | 5.0             | 45                                     | 225                               | 1.0            | 0.1                                    | 12.6 | 12.4                                            | 16.0  |
| BZX84B20       | <u>K</u> Y7     | 20                               | 19.6    | 20.4    | 5.0             | 55                                     | 225                               | 1.0            | 0.1                                    | 14.0 | 14.4                                            | 18.0  |
| BZX84B22       | <u>K</u> Y8     | 22                               | 21.6    | 22.4    | 5.0             | 55                                     | 250                               | 1.0            | 0.1                                    | 15.4 | 16.4                                            | 20.0  |
| BZX84B24       | <u>K</u> Y9     | 24                               | 23.5    | 24.5    | 5.0             | 70                                     | 250                               | 1.0            | 0.1                                    | 16.8 | 18.4                                            | 22.0  |
| BZX84B27       | <u>K</u> YA     | 27                               | 26.5    | 27.5    | 2.0             | 80                                     | 300                               | 0.5            | 0.1                                    | 18.9 | 21.4                                            | 25.3  |
| BZX84B30       | <u>K</u> YB     | 30                               | 29.4    | 30.6    | 2.0             | 80                                     | 300                               | 0.5            | 0.1                                    | 21.0 | 24.4                                            | 29.4  |
| BZX84B33       | <u>K</u> YC     | 33                               | 32.3    | 33.7    | 2.0             | 80                                     | 325                               | 0.5            | 0.1                                    | 23.1 | 27.4                                            | 33.4  |
| BZX84B36       | <u>K</u> YD     | 36                               | 35.3    | 36.7    | 2.0             | 90                                     | 350                               | 0.5            | 0.1                                    | 25.2 | 30.4                                            | 37.4  |
| BZX84B39       | <u>K</u> YE     | 39                               | 38.2    | 39.8    | 2.0             | 130                                    | 350                               | 0.5            | 0.1                                    | 27.3 | 33.4                                            | 41.2  |

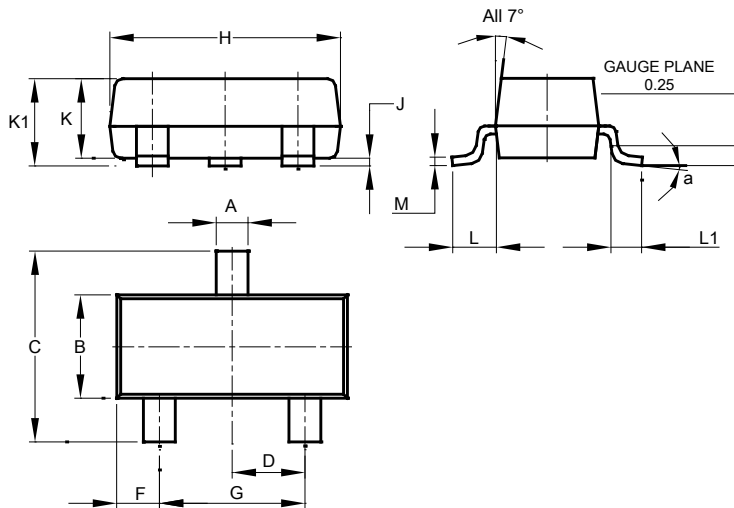
Notes: 5. Device mounted on FR-4 PCB with recommended pad layout, which can be found at <http://www.diodes.com>.  
6. Valid provided the terminals are kept at ambient temperature.  
7. Short duration pulse test used to minimize self-heating effect.



## Package Outline Dimensions

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

**SOT23**

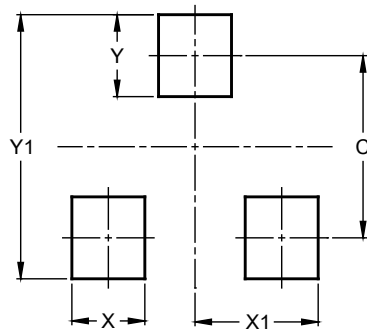


| SOT23                |       |       |       |
|----------------------|-------|-------|-------|
| Dim                  | Min   | Max   | Typ   |
| A                    | 0.37  | 0.51  | 0.40  |
| B                    | 1.20  | 1.40  | 1.30  |
| C                    | 2.30  | 2.50  | 2.40  |
| D                    | 0.89  | 1.03  | 0.915 |
| F                    | 0.45  | 0.60  | 0.535 |
| G                    | 1.78  | 2.05  | 1.83  |
| H                    | 2.80  | 3.00  | 2.90  |
| J                    | 0.013 | 0.10  | 0.05  |
| K                    | 0.890 | 1.00  | 0.975 |
| K1                   | 0.903 | 1.10  | 1.025 |
| L                    | 0.45  | 0.61  | 0.55  |
| L1                   | 0.25  | 0.55  | 0.40  |
| M                    | 0.085 | 0.150 | 0.110 |
| a                    | 0°    | 8°    | --    |
| All Dimensions in mm |       |       |       |

## Suggested Pad Layout

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

**SOT23**



| Dimensions | Value (in mm) |
|------------|---------------|
| C          | 2.0           |
| X          | 0.8           |
| X1         | 1.35          |
| Y          | 0.9           |
| Y1         | 2.9           |

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