

## BZX85C Series

$V_Z$  : 2.7 to 47V

$P_D$  : 1.3W

### FEATURES :

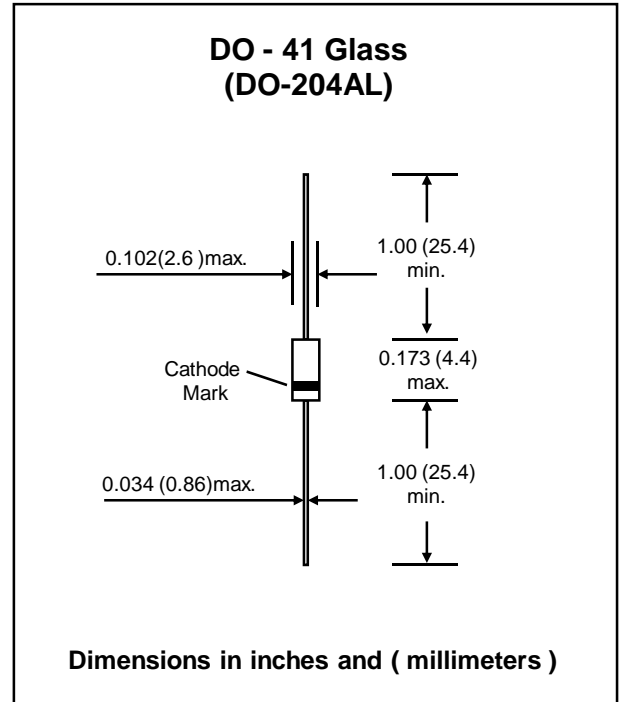
- Silicon planar power zener diodes.
- For use in stabilizing and clipping circuits with high power rating.
- Standard zener voltage tolerance is  $\pm 5\%$
- Other tolerances are available upon request.
- Pb / RoHS Free

### MECHANICAL DATA :

Case: DO-41 Glass Case

Weight: approx. 0.25g

## ZENER DIODES



### Maximum Ratings and Thermal Characteristics

Rating at 25 °C ambient temperature unless otherwise specified.

| Parameter                                     | Symbol          | Value              | Unit               |
|---|-----------------|--------------------|--------------------|
| Zener Current see Table "Characteristics"     |                 |                    |                    |
| Maximum Forward Voltage at $I_F = 200$ mA.    | $V_F$           | 1.2                | V                  |
| Power Dissipation at $T_a = 25^\circ\text{C}$ | $P_D$           | 1.3 <sup>(1)</sup> | W                  |
| Thermal Resistance Junction to Ambient Air    | $R_{\theta JA}$ | 130 <sup>(1)</sup> | $^\circ\text{C/W}$ |
| Junction temperature                          | $T_J$           | 175                | $^\circ\text{C}$   |
| Storage temperature range                     | $T_S$           | -65 to + 200       | $^\circ\text{C}$   |

#### Note:

(1) Valid provided that leads at a distance of 3/8" from case are kept at ambient temperature.

## ELECTRICAL CHARACTERISTICS

Rating at 25 °C ambient temperature unless otherwise specified

| Type Number | Nominal Zener Voltage <sup>(1)</sup> |      | Maximum Zener Impedance, f = 1kHz |              |      | Maximum Reverse Leakage Current |                    | Maximum DC Zener Current | Temp. coefficient of Zener Voltage $\alpha_{mvz}(\%/^{\circ}\text{C})$ |       |
|-------------|--------------------------------------|------|-----------------------------------|--------------|------|---------------------------------|--------------------|--------------------------|--|-------|
|             | Vz @ IZT                             | IZT  | ZzT @ IZT                         | Zzk @ Izk    | Izk  | IR @ VR                         | IZM <sup>(2)</sup> | min.                     | max.   |       |
|             | (V)                                  | (mA) | ( $\Omega$ )                      | ( $\Omega$ ) | (mA) | ( $\mu\text{A}$ )               | (V)                |                          |  | (mA)  |
| BZX85C2V7G  | 2.7                                  | 80   | 20                                | 400          | 1.0  | 150                             | 1.0                | 370                      | -0.08  | -0.05 |
| BZX85C3V0G  | 3.0                                  | 80   | 20                                | 400          | 1.0  | 100                             | 1.0                | 340                      | -0.08  | -0.05 |
| BZX85C3V3G  | 3.3                                  | 80   | 20                                | 400          | 1.0  | 40                              | 1.0                | 320                      | -0.08  | -0.05 |
| BZX85C3V6G  | 3.6                                  | 60   | 15                                | 500          | 1.0  | 20                              | 1.0                | 290                      | -0.08  | -0.05 |
| BZX85C3V9G  | 3.9                                  | 60   | 15                                | 500          | 1.0  | 10                              | 1.0                | 280                      | -0.07  | -0.02 |
| BZX85C4V3G  | 4.3                                  | 50   | 13                                | 500          | 1.0  | 3.0                             | 1.0                | 250                      | -0.05  | 0.010 |
| BZX85C4V7G  | 4.7                                  | 45   | 13                                | 500          | 1.0  | 3.0                             | 1.0                | 215                      | -0.03  | 0.040 |
| BZX85C5V1G  | 5.1                                  | 45   | 10                                | 500          | 1.0  | 1.0                             | 1.5                | 200                      | -0.01  | 0.040 |
| BZX85C5V6G  | 5.6                                  | 45   | 7.0                               | 400          | 1.0  | 1.0                             | 2.0                | 190                      | 0  | 0.045 |
| BZX85C6V2G  | 6.2                                  | 35   | 4.0                               | 300          | 1.0  | 1.0                             | 3.0                | 170                      | 0.010  | 0.055 |
| BZX85C6V8G  | 6.8                                  | 35   | 3.5                               | 300          | 1.0  | 1.0                             | 4.0                | 155                      | 0.015  | 0.060 |
| BZX85C7V5G  | 7.5                                  | 35   | 3.0                               | 200          | 0.5  | 1.0                             | 4.5                | 140                      | 0.020  | 0.065 |
| BZX85C8V2G  | 8.2                                  | 25   | 5.0                               | 200          | 0.5  | 1.0                             | 6.2                | 130                      | 0.030  | 0.070 |
| BZX85C9V1G  | 9.1                                  | 25   | 5.0                               | 200          | 0.5  | 1.0                             | 6.8                | 120                      | 0.040  | 0.075 |
| BZX85C10G   | 10                                   | 25   | 7.0                               | 200          | 0.5  | 0.5                             | 7.5                | 105                      | 0.450  | 0.080 |
| BZX85C11G   | 11                                   | 20   | 8.0                               | 300          | 0.5  | 0.5                             | 8.2                | 97                       | 0.045  | 0.080 |
| BZX85C12G   | 12                                   | 20   | 9.0                               | 350          | 0.5  | 0.5                             | 9.1                | 88                       | 0.045  | 0.085 |
| BZX85C13G   | 13                                   | 20   | 10                                | 400          | 0.5  | 0.5                             | 10                 | 79                       | 0.050  | 0.085 |
| BZX85C15G   | 15                                   | 15   | 10                                | 500          | 0.5  | 0.5                             | 11                 | 71                       | 0.055  | 0.090 |
| BZX85C16G   | 16                                   | 15   | 15                                | 500          | 0.5  | 0.5                             | 12                 | 66                       | 0.055  | 0.090 |
| BZX85C18G   | 18                                   | 15   | 20                                | 500          | 0.5  | 0.5                             | 13                 | 62                       | 0.060  | 0.090 |
| BZX85C20G   | 20                                   | 10   | 24                                | 600          | 0.5  | 0.5                             | 15                 | 56                       | 0.060  | 0.090 |
| BZX85C22G   | 22                                   | 10   | 25                                | 600          | 0.5  | 0.5                             | 16                 | 52                       | 0.060  | 0.095 |
| BZX85C24G   | 24                                   | 10   | 25                                | 600          | 0.5  | 0.5                             | 18                 | 47                       | 0.060  | 0.095 |
| BZX85C27G   | 27                                   | 8.0  | 30                                | 750          | 0.25 | 0.5                             | 20                 | 41                       | 0.060  | 0.095 |
| BZX85C30G   | 30                                   | 8.0  | 30                                | 1000         | 0.25 | 0.5                             | 22                 | 36                       | 0.060  | 0.095 |
| BZX85C33G   | 33                                   | 8.0  | 35                                | 1000         | 0.25 | 0.5                             | 24                 | 33                       | 0.060  | 0.095 |
| BZX85C36G   | 36                                   | 8.0  | 40                                | 1000         | 0.25 | 0.5                             | 27                 | 30                       | 0.060  | 0.095 |
| BZX85C39G   | 39                                   | 6.0  | 50                                | 1000         | 0.25 | 0.5                             | 30                 | 28                       | 0.060  | 0.095 |
| BZX85C43G   | 43                                   | 6.0  | 50                                | 1000         | 0.25 | 0.5                             | 33                 | 26                       | 0.060  | 0.095 |
| BZX85C47G   | 47                                   | 4.0  | 90                                | 1500         | 0.25 | 0.5                             | 36                 | 23                       | 0.060  | 0.095 |

**Notes:**

- (1) Measured with pulses  $t_p = 5 \text{ ms}$
- (2) Valid provided that leads are kept at ambient temperature at a distance of 10 mm from case
- (3) The type number listed have a standard tolerance on the nominal zener voltage of  $\pm 5\%$ .