

**SILICON PLANAR VOLTAGE REGULATOR DIODE**

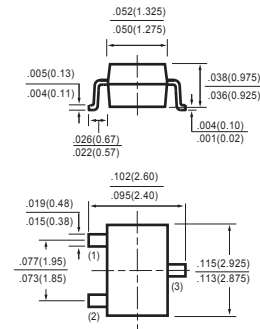
**FEATURES**

- \* Zener Voltage Range 4.7 to 36 Volts
- \* SOT-23 Package
- \* Low Voltage General Purpose Voltage Regulator Diode

**MECHANICAL DATA**

- \* Case: Molded plastic
- \* Epoxy: UL 94V-O rate flame retardant
- \* Lead: MIL-STD-202E method 208C guaranteed
- \* Mounting position: Any
- \* Weight: 0.008 gram

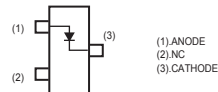
**SOT-23**



Dimensions in inches and (millimeters)

**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

Ratings at 25 °C ambient temperature unless otherwise specified.



**ABSOLUTE MAXIMUM RATINGS ( @ TA = 25°C unless otherwise noted )**

| RATINGS                             | SYMBOL | VALUE       | UNITS |
|-------------------------------------|--------|-------------|-------|
| Working Voltage Tolerance           |        | ± 5         | %     |
| Repetitive Peak Forward Current     | IFRM   | 250         | mA    |
| Repetitive Peak Working Current     | IZRM   | 250         | mA    |
| Power Dissipation @TA=25°C (Note 1) | PD     | 300         | mW    |
| Power Dissipation @Tc=25°C (Note 2) | PD     | 250         | mW    |
| Max. Operating Temperature Range    | TJ     | 150         | °C    |
| Storage Temperature Range           | TSTG   | -65 to +150 | °C    |

**THERMAL RESISTANCE ( @ TA = 25°C unless otherwise noted )**

| DESCRIPTION                                     | SYMBOL | TYP. | UNITS |
|---|--------|------|-------|
| Thermal Resistance Junction to Ambient (Note 1) | R θJA  | 420  | °C/W  |

**ELECTRICAL CHARACTERISTICS ( @ TA = 25°C unless otherwise noted )**

| CHARACTERISTICS              | SYMBOL | TYP. | UNITS |
|------------------------------|--------|------|-------|
| Forward Voltage at IF= 100mA | VF     | 1.0  | Volts |

- Note 1. Device mounted on a ceramic alumina.  
 2. Device mounted on a FR5 printed circuit board.  
 3. "Fully RoHS Compliant", "100% Sn plating (Pb-free)".

## ELECTRICAL CHARACTERISTICS (@TA=25°C unless otherwise specified)

| TYPE          | V <sub>ZT</sub> @I <sub>ZT</sub><br>(V) |       | R <sub>ZT</sub> @I <sub>ZT</sub><br>(Ω)<br>MAX | I <sub>ZT</sub><br>(mA) | I <sub>R</sub> @T <sub>A</sub> =25°C<br>(μA)<br>MAX | V <sub>R</sub><br>(V) | MARKING |
|---------------|---|-------|--|-------------------------|---|-----------------------|---------|
|               | MIN                                     | MAX   |  |                         |   |                       |         |
| BZX84C 4.7BS  | 4.47                                    | 4.91  | 100  | 5.0                     | 5.0   | 1.0                   | 4V7     |
| BZX84C 4.7BSA | 4.47                                    | 4.65  |  |                         |   |                       | 4A7     |
| BZX84C 4.7BSB | 4.59                                    | 4.77  |  |                         |   |                       | 4B7     |
| BZX84C 4.7BSC | 4.71                                    | 4.91  |  |                         |   |                       | 4C7     |
| BZX84C 5.1BS  | 4.85                                    | 5.35  | 70   | 5.0                     | 5.0   | 1.5                   | 5V1     |
| BZX84C 5.1BSA | 4.85                                    | 5.03  |  |                         |   |                       | 5A1     |
| BZX84C 5.1BSB | 4.97                                    | 5.18  |  |                         |   |                       | 5B1     |
| BZX84C 5.1BSC | 5.12                                    | 5.35  |  |                         |   |                       | 5C1     |
| BZX84C 5.6BS  | 5.29                                    | 5.88  | 40   | 5.0                     | 5.0   | 2.5                   | 5V6     |
| BZX84C 5.6BSA | 5.29                                    | 5.52  |  |                         |   |                       | 5A6     |
| BZX84C 5.6BSB | 5.46                                    | 5.70  |  |                         |   |                       | 5B6     |
| BZX84C 5.6BSC | 5.64                                    | 5.88  |  |                         |   |                       | 5C6     |
| BZX84C 6.2BS  | 5.81                                    | 6.40  | 30   | 5.0                     | 5.0   | 3.0                   | 6V2     |
| BZX84C 6.2BSA | 5.81                                    | 6.06  |  |                         |   |                       | 6A2     |
| BZX84C 6.2BSB | 5.99                                    | 6.24  |  |                         |   |                       | 6B2     |
| BZX84C 6.2BSC | 6.16                                    | 6.40  |  |                         |   |                       | 6C2     |
| BZX84C 6.8BS  | 6.32                                    | 6.97  | 25   | 5.0                     | 2.0   | 3.5                   | 6V8     |
| BZX84C 6.8BSA | 6.32                                    | 6.59  |  |                         |   |                       | 6A8     |
| BZX84C 6.8BSB | 6.52                                    | 6.79  |  |                         |   |                       | 6B8     |
| BZX84C 6.8BSC | 6.70                                    | 6.97  |  |                         |   |                       | 6C8     |
| BZX84C 7.5BS  | 6.88                                    | 7.64  | 25   | 5.0                     | 0.5   | 4.0                   | 7V5     |
| BZX84C 7.5BSA | 6.88                                    | 7.19  |  |                         |   |                       | 7A5     |
| BZX84C 7.5BSB | 7.11                                    | 7.41  |  |                         |   |                       | 7B5     |
| BZX84C 7.5BSC | 7.33                                    | 7.64  |  |                         |   |                       | 7C5     |
| BZX84C 8.2BS  | 7.56                                    | 8.41  | 20   | 5.0                     | 0.5   | 5.0                   | 8V2     |
| BZX84C 8.2BSA | 7.56                                    | 7.90  |  |                         |   |                       | 8A2     |
| BZX84C 8.2BSB | 7.82                                    | 8.15  |  |                         |   |                       | 8B2     |
| BZX84C 8.2BSC | 8.07                                    | 8.41  |  |                         |   |                       | 8C2     |
| BZX84C 9.1BS  | 8.33                                    | 9.29  | 20   | 5.0                     | 0.5   | 6.0                   | 9V1     |
| BZX84C 9.1BSA | 8.33                                    | 8.70  |  |                         |   |                       | 9A1     |
| BZX84C 9.1BSB | 8.61                                    | 8.99  |  |                         |   |                       | 9B1     |
| BZX84C 9.1BSC | 8.89                                    | 9.29  |  |                         |   |                       | 9C1     |
| BZX84C 10BS   | 9.19                                    | 10.30 | 20   | 5.0                     | 0.2   | 7.0                   | 10V     |
| BZX84C 10BSA  | 9.19                                    | 9.59  |  |                         |   |                       | 10A     |
| BZX84C 10BSB  | 9.48                                    | 9.90  |  |                         |   |                       | 10B     |
| BZX84C 10BSC  | 9.82                                    | 10.30 |  |                         |   |                       | 10C     |
| BZX84C 11BS   | 10.18                                   | 11.26 | 20   | 5.0                     | 0.2   | 8.0                   | 11V     |
| BZX84C 11BSA  | 10.18                                   | 10.36 |  |                         |   |                       | 11A     |
| BZX84C 11BSB  | 10.50                                   | 10.95 |  |                         |   |                       | 11B     |
| BZX84C 11BSC  | 10.82                                   | 11.26 |  |                         |   |                       | 11C     |

## ELECTRICAL CHARACTERISTICS (@TA=25°C unless otherwise specified)

| TYPE         | V <sub>ZT</sub> @I <sub>ZT</sub><br>(V) |       | R <sub>ZT</sub> @I <sub>ZT</sub><br>(Ω)<br>MAX | I <sub>ZT</sub><br>(mA) | I <sub>R</sub> @T <sub>A</sub> =25°C<br>(μA)<br>MAX | V <sub>R</sub><br>(V) | MARKING |
|--------------|---|-------|--|-------------------------|---|-----------------------|---------|
|              | MIN                                     | MAX   |  |                         |   |                       |         |
| BZX84C 12BS  | 11.13                                   | 12.30 | 25   | 5.0                     | 0.2   | 9.0                   | 12V     |
| BZX84C 12BSA | 11.13                                   | 11.63 |  |                         |   |                       | 12A     |
| BZX84C 12BSB | 11.50                                   | 11.92 |  |                         |   |                       | 12B     |
| BZX84C 12BSC | 11.80                                   | 12.30 |  |                         |   |                       | 12C     |
| BZX84C 13BS  | 12.18                                   | 13.62 | 26   | 5.0                     | 0.2   | 10                    | 13V     |
| BZX84C 13BSA | 12.18                                   | 12.71 |  |                         |   |                       | 13A     |
| BZX84C 13BSB | 12.59                                   | 13.16 |  |                         |   |                       | 13B     |
| BZX84C 13BSC | 13.03                                   | 13.62 |  |                         |   |                       | 13C     |
| BZX84C 15BS  | 13.48                                   | 15.02 | 30   | 5.0                     | 0.2   | 11                    | 15V     |
| BZX84C 15BSA | 13.48                                   | 14.09 |  |                         |   |                       | 15A     |
| BZX84C 15BSB | 13.95                                   | 14.56 |  |                         |   |                       | 15B     |
| BZX84C 15BSC | 14.42                                   | 15.02 |  |                         |   |                       | 15C     |
| BZX84C 16BS  | 14.87                                   | 16.50 | 40   | 5.0                     | 0.2   | 12                    | 16V     |
| BZX84C 16BSA | 14.87                                   | 15.50 |  |                         |   |                       | 16A     |
| BZX84C 16BSB | 15.33                                   | 15.96 |  |                         |   |                       | 16B     |
| BZX84C 16BSC | 15.79                                   | 16.50 |  |                         |   |                       | 16C     |
| BZX84C 18BS  | 16.34                                   | 18.30 | 50   | 5.0                     | 0.2   | 13                    | 18V     |
| BZX84C 18BSA | 16.34                                   | 17.06 |  |                         |   |                       | 18A     |
| BZX84C 18BSB | 16.90                                   | 17.67 |  |                         |   |                       | 18B     |
| BZX84C 18BSC | 17.51                                   | 18.30 |  |                         |   |                       | 18C     |
| BZX84C 20BS  | 18.14                                   | 20.45 | 55   | 5.0                     | 0.2   | 15                    | 20V     |
| BZX84C 20BSA | 18.14                                   | 18.96 |  |                         |   |                       | 20A     |
| BZX84C 20BSB | 18.80                                   | 19.68 |  |                         |   |                       | 20B     |
| BZX84C 20BSC | 19.52                                   | 20.45 |  |                         |   |                       | 20B     |
| BZX84C 22BS  | 20.23                                   | 22.61 | 55   | 5.0                     | 0.2   | 17                    | 22V     |
| BZX84C 22BSA | 20.23                                   | 21.08 |  |                         |   |                       | 22A     |
| BZX84C 22BSB | 20.76                                   | 21.65 |  |                         |   |                       | 22B     |
| BZX84C 22BSC | 21.22                                   | 22.09 |  |                         |   |                       | 22C     |
| BZX84C 22BSD | 21.68                                   | 22.61 |  |                         |   |                       | 22D     |
| BZX84C 24BS  | 22.26                                   | 24.81 | 80   | 5.0                     | 0.2   | 19                    | 24V     |
| BZX84C 24BSA | 22.26                                   | 23.12 |  |                         |   |                       | 24A     |
| BZX84C 24BSB | 22.75                                   | 23.73 |  |                         |   |                       | 24B     |
| BZX84C 24BSC | 23.29                                   | 24.72 |  |                         |   |                       | 24C     |
| BZX84C 24BSD | 23.81                                   | 24.81 |  |                         |   |                       | 24D     |
| BZX84C 27BS  | 24.26                                   | 27.64 | 80   | 5.0                     | 0.2   | 21                    | 27V     |
| BZX84C 27BSA | 24.26                                   | 25.52 |  |                         |   |                       | 27A     |
| BZX84C 27BSB | 24.97                                   | 26.26 |  |                         |   |                       | 27B     |
| BZX84C 27BSC | 25.63                                   | 26.95 |  |                         |   |                       | 27C     |
| BZX84C 27BSD | 26.29                                   | 27.64 |  |                         |   |                       | 27D     |

## ELECTRICAL CHARACTERISTICS (@TA=25°C unless otherwise specified)

| TYPE         | V <sub>ZT</sub> @I <sub>ZT</sub><br>(V) |       | R <sub>ZT</sub> @I <sub>ZT</sub><br>(Ω)<br>MAX | I <sub>ZT</sub><br>(mA) | I <sub>R</sub> @T <sub>A</sub> =25°C<br>(μA)<br>MAX | V <sub>R</sub><br>(V) | MARKING |
|--------------|---|-------|--|-------------------------|---|-----------------------|---------|
|              | MIN                                     | MAX   |  |                         |   |                       |         |
| BZX84C 30BS  | 26.99                                   | 30.51 | 80   | 5.0                     | 0.2   | 23                    | 30V     |
| BZX84C 30BSA | 26.99                                   | 28.39 |  |                         |   |                       | 30A     |
| BZX84C 30BSB | 27.70                                   | 29.13 |  |                         |   |                       | 30B     |
| BZX84C 30BSC | 28.36                                   | 29.82 |  |                         |   |                       | 30C     |
| BZX84C 30BSD | 29.02                                   | 30.51 |  |                         |   |                       | 30D     |
| BZX84C 33BS  | 29.68                                   | 33.11 | 80   | 5.0                     | 0.2   | 25                    | 33V     |
| BZX84C 33BSA | 29.68                                   | 31.22 |  |                         |   |                       | 33A     |
| BZX84C 33BSB | 30.32                                   | 31.88 |  |                         |   |                       | 33B     |
| BZX84C 33BSC | 30.90                                   | 32.50 |  |                         |   |                       | 33C     |
| BZX84C 33BSD | 31.49                                   | 33.11 |  |                         |   |                       | 33D     |
| BZX84C 36BS  | 32.14                                   | 35.77 | 80   | 5.0                     | 0.2   | 27                    | 36V     |
| BZX84C 36BSA | 32.14                                   | 33.79 |  |                         |   |                       | 36A     |
| BZX84C 36BSB | 32.79                                   | 34.49 |  |                         |   |                       | 36B     |
| BZX84C 36BSC | 33.40                                   | 35.13 |  |                         |   |                       | 36C     |
| BZX84C 36BSD | 34.01                                   | 35.77 |  |                         |   |                       | 36D     |

NOTES: 1. Pulse Condition : 20mS < t<sub>p</sub> < 50mS, Duty Cycle < 2%.  
 2. "Fully RoHS Compliant", "100% Sn Plating (Pb-free)".