

SILICON PLANAR VOLTAGE REGULATOR DIODE

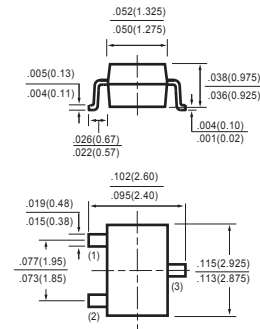
FEATURES

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

MECHANICAL DATA

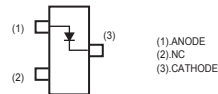
- * Case: Molded plastic
- * Epoxy: UL 94V-O rate flame retardant
- * Lead: MIL-STD-202E method 208C guaranteed
- * Mounting position: Any
- * Weight: 0.008 gram

SOT-23



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified.



Dimensions in inches and (millimeters)

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 _{ZT} @I _{ZT} (V) | | R _{ZT} @I _{ZT} (Ω) MAX | I _{ZT} (mA) | I _R @T _A =25°C (μA) MAX | V _R (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 _{ZT} @I _{ZT} (V) | | R _{ZT} @I _{ZT} (Ω) MAX | I _{ZT} (mA) | I _R @T _A =25°C (μA) MAX | V _R (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 _{ZT} @I _{ZT} (V) | | R _{ZT} @I _{ZT} (Ω) MAX | I _{ZT} (mA) | I _R @T _A =25°C (μA) MAX | V _R (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_p < 50mS, Duty Cycle < 2%.
 2. "Fully RoHS Compliant", "100% Sn Plating (Pb-free)".