

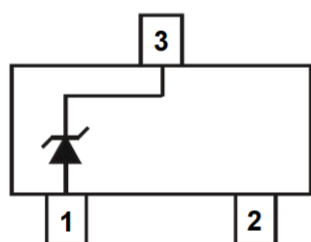
### Features

- Low Zener Impedance
- Power Dissipation of 350mW
- High Stability and High Reliability
- Halogen free and RoHS compliant
- SOT23 surface mount package

### Applications

- General voltage regulation
- Mobile & handheld systems
- Household Electric Appliances
- Industrial automation
- communication field

### Pin Configuration



SOT23



### Maximum Ratings & Thermal Characteristics

(T<sub>amb</sub>=25°C unless otherwise specified)

| Parameter                                | Symbol           | Value      | Unit |
|------------------------------------------|------------------|------------|------|
| Forward Voltage @ I <sub>F</sub> =10mA   | V <sub>F</sub>   | 0.9        | V    |
| Power Dissipation                        | P <sub>D</sub>   | 300        | mW   |
| Thermal Resistance (Junction-to-Ambient) | R <sub>θJA</sub> | 417        | °C/W |
| Junction Temperature Range               | T <sub>J</sub>   | -55 ~ +150 | °C   |
| Storage Temperature Range                | T <sub>STG</sub> | -65 ~ +150 | °C   |

# BZX84CxxxLT1G-TP Series

## 350m Watt Zener Voltage Regulators

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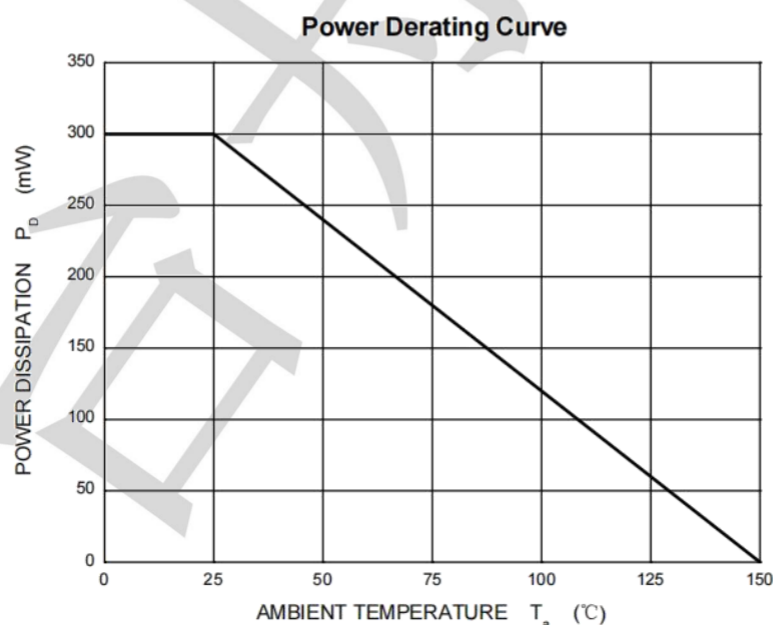
### Electrical Characteristics (TA=25°C unless otherwise specified)

| Part Number      | Zener Voltage    |        |         | Maximum Zener Impedance |                     |          |                     | Maximum Reverse Current $I_R$ @ $V_R$ |       |
|------------------|------------------|--------|---------|-------------------------|---------------------|----------|---------------------|---------------------------------------|-------|
|                  | $V_Z$ @ $I_{ZT}$ |        |         | $I_{ZT}$                | $Z_{ZT}$ @ $I_{ZT}$ | $I_{ZK}$ | $Z_{ZK}$ @ $I_{ZK}$ | $I_R$                                 | $V_R$ |
|                  | Min.(V)          | Nom(V) | Max.(V) | mA                      | $\Omega$            | mA       | $\Omega$            | $\mu A$                               | V     |
| BZX84C2V4LT1G-TP | 2.20             | 2.40   | 2.60    | 5                       | 100                 | 1        | 600                 | 50                                    | 1.0   |
| BZX84C2V7LT1G-TP | 2.50             | 2.70   | 2.90    | 5                       | 100                 | 1        | 600                 | 20                                    | 1.0   |
| BZX84C3V0LT1G-TP | 2.80             | 3.00   | 3.20    | 5                       | 95                  | 1        | 600                 | 10                                    | 1.0   |
| BZX84C3V3LT1G-TP | 3.10             | 3.30   | 3.50    | 5                       | 95                  | 1        | 600                 | 5                                     | 1.0   |
| BZX84C3V6LT1G-TP | 3.40             | 3.60   | 3.80    | 5                       | 90                  | 1        | 600                 | 5                                     | 1.0   |
| BZX84C3V9LT1G-TP | 3.70             | 3.90   | 4.10    | 5                       | 90                  | 1        | 600                 | 3                                     | 1.0   |
| BZX84C4V3LT1G-TP | 4.00             | 4.30   | 4.60    | 5                       | 90                  | 1        | 600                 | 3                                     | 1.0   |
| BZX84C4V7LT1G-TP | 4.40             | 4.70   | 5.00    | 5                       | 80                  | 1        | 500                 | 3                                     | 2.0   |
| BZX84C5V1LT1G-TP | 4.80             | 5.10   | 5.40    | 5                       | 60                  | 1        | 480                 | 2                                     | 2.0   |
| BZX84C5V6LT1G-TP | 5.20             | 5.60   | 6.00    | 5                       | 40                  | 1        | 400                 | 1                                     | 2.0   |
| BZX84C6V2LT1G-TP | 5.80             | 6.20   | 6.60    | 5                       | 10                  | 1        | 150                 | 3                                     | 4.0   |
| BZX84C6V8LT1G-TP | 6.40             | 6.80   | 7.20    | 5                       | 15                  | 1        | 80                  | 2                                     | 4.0   |
| BZX84C7V5LT1G-TP | 7.00             | 7.50   | 7.90    | 5                       | 15                  | 1        | 80                  | 1                                     | 5.0   |
| BZX84C8V2LT1G-TP | 7.70             | 8.20   | 8.70    | 5                       | 15                  | 1        | 80                  | 0.7                                   | 5.0   |
| BZX84C9V1LT1G-TP | 8.50             | 9.10   | 9.60    | 5                       | 15                  | 1        | 100                 | 0.5                                   | 6.0   |
| BZX84C10LT1G-TP  | 9.40             | 10.00  | 10.60   | 5                       | 20                  | 1        | 150                 | 0.2                                   | 7.0   |
| BZX84C11LT1G-TP  | 10.40            | 11.00  | 11.60   | 5                       | 20                  | 1        | 150                 | 0.1                                   | 8.0   |
| BZX84C12LT1G-TP  | 11.40            | 12.00  | 12.70   | 5                       | 25                  | 1        | 150                 | 0.1                                   | 8.0   |
| BZX84C13LT1G-TP  | 12.40            | 13.00  | 14.10   | 5                       | 30                  | 1        | 170                 | 0.1                                   | 8.0   |
| BZX84C15LT1G-TP  | 13.80            | 15.00  | 15.60   | 5                       | 30                  | 1        | 200                 | 0.1                                   | 10.5  |
| BZX84C16LT1G-TP  | 15.30            | 16.00  | 17.10   | 5                       | 40                  | 1        | 200                 | 0.1                                   | 11.2  |
| BZX84C18LT1G-TP  | 16.80            | 18.00  | 19.10   | 5                       | 45                  | 1        | 225                 | 0.1                                   | 12.6  |
| BZX84C20LT1G-TP  | 18.80            | 20.00  | 21.20   | 5                       | 55                  | 1        | 225                 | 0.1                                   | 14.0  |
| BZX84C22LT1G-TP  | 20.80            | 22.00  | 23.30   | 5                       | 55                  | 1        | 250                 | 0.1                                   | 15.4  |
| BZX84C24LT1G-TP  | 22.80            | 24.00  | 25.60   | 5                       | 70                  | 1        | 250                 | 0.1                                   | 16.8  |
| BZX84C27LT1G-TP  | 25.10            | 27.00  | 28.90   | 2                       | 80                  | 0.5      | 300                 | 0.1                                   | 18.9  |

### Electrical Characteristics (TA=25°C unless otherwise specified)

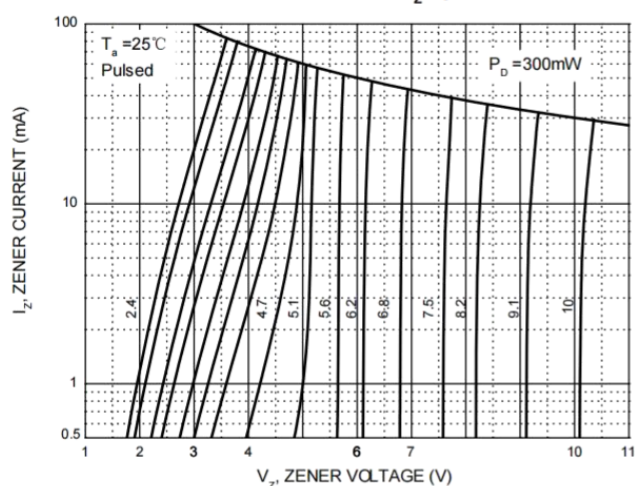
| Part Number     | Zener Voltage                    |        |         | Maximum Zener Impedance |                                   |                 |                                   | Maximum Reverse Current I <sub>R</sub> @ V <sub>R</sub> |                |
|-----------------|----------------------------------|--------|---------|-------------------------|-----------------------------------|-----------------|-----------------------------------|---------------------------------------------------------|----------------|
|                 | V <sub>Z</sub> @ I <sub>ZT</sub> |        |         | I <sub>ZT</sub>         | Z <sub>ZT</sub> @ I <sub>ZT</sub> | I <sub>ZK</sub> | Z <sub>ZK</sub> @ I <sub>ZK</sub> | I <sub>R</sub>                                          | V <sub>R</sub> |
|                 | Min.(V)                          | Nom(V) | Max.(V) | mA                      | Ω                                 | mA              | Ω                                 | μA                                                      | V              |
| BZX84C30LT1G-TP | 28.00                            | 30.00  | 32.00   | 2                       | 80                                | 0.5             | 300                               | 0.1                                                     | 21.0           |
| BZX84C33LT1G-TP | 31.00                            | 33.00  | 35.00   | 2                       | 80                                | 0.5             | 325                               | 0.1                                                     | 23.1           |
| BZX84C36LT1G-TP | 34.00                            | 36.00  | 38.00   | 2                       | 90                                | 0.5             | 350                               | 0.1                                                     | 25.2           |
| BZX84C39LT1G-TP | 37.00                            | 39.00  | 41.00   | 2                       | 130                               | 0.5             | 350                               | 0.1                                                     | 27.3           |
| BZX84C43LT1G-TP | 40.85                            | 43.00  | 45.15   | 2                       | 150                               | 0.5             | 375                               | 0.1                                                     | 30.1           |
| BZX84C47LT1G-TP | 44.65                            | 47.00  | 49.35   | 2                       | 170                               | 0.5             | 375                               | 0.1                                                     | 32.9           |
| BZX84C51LT1G-TP | 48.45                            | 51.00  | 53.55   | 2                       | 180                               | 0.5             | 400                               | 0.1                                                     | 35.7           |
| BZX84C56LT1G-TP | 53.20                            | 56.00  | 58.80   | 2                       | 200                               | 0.5             | 425                               | 0.05                                                    | 39.2           |
| BZX84C62LT1G-TP | 58.90                            | 62.00  | 65.10   | 2                       | 215                               | 0.5             | 450                               | 0.05                                                    | 43.4           |
| BZX84C68LT1G-TP | 64.60                            | 68.00  | 71.40   | 2                       | 240                               | 0.5             | 475                               | 0.05                                                    | 47.6           |
| BZX84C75LT1G-TP | 71.25                            | 75.00  | 78.75   | 2                       | 255                               | 0.5             | 500                               | 0.05                                                    | 52.5           |

### Typical Characteristics Curves

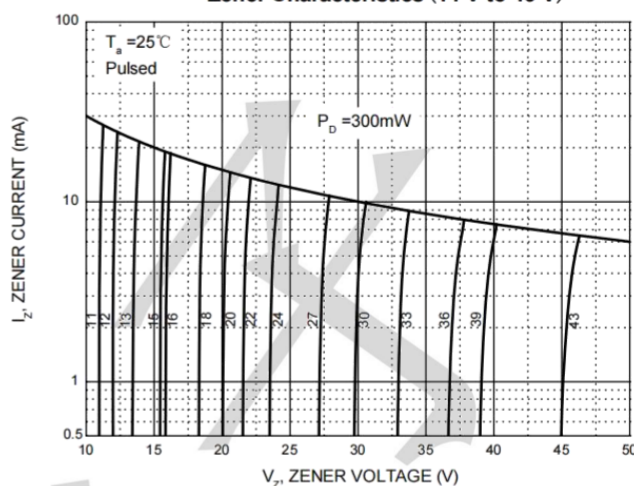


### Typical Characteristics Curves

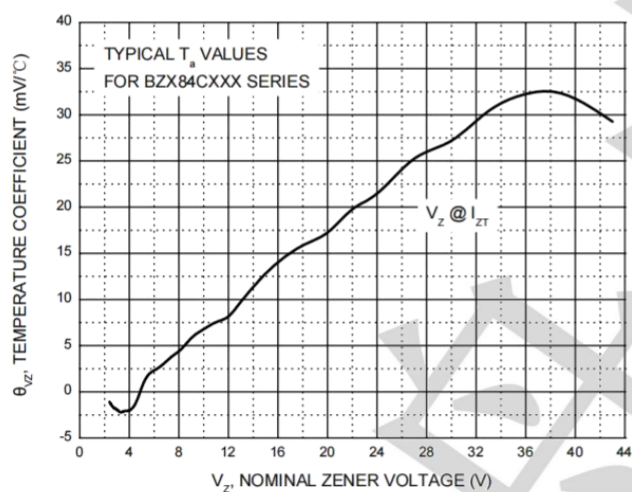
Zener Characteristics ( $V_z$  Up to 10 V)



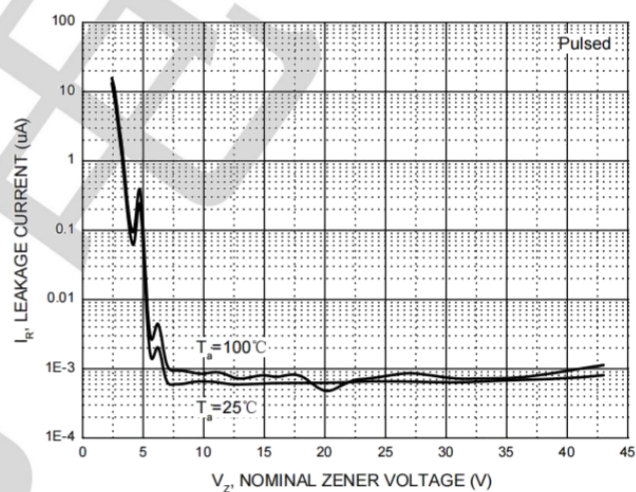
Zener Characteristics (11 V to 43 V)



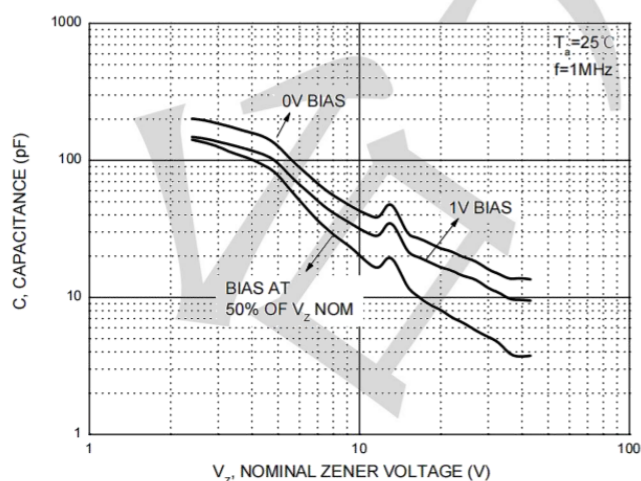
Temperature Coefficients



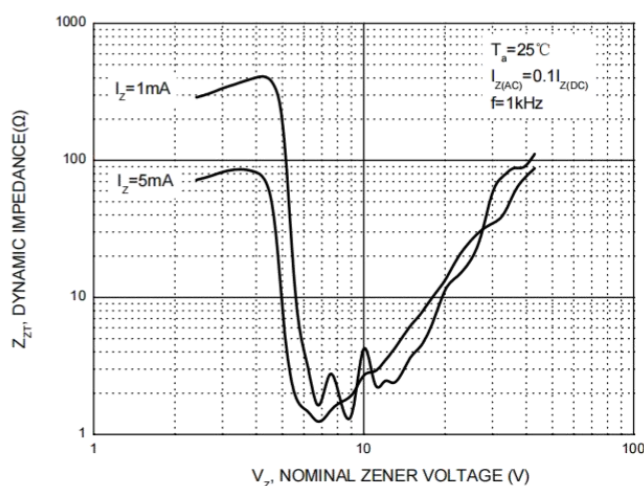
Typical Leakage Current



Typical Capacitance

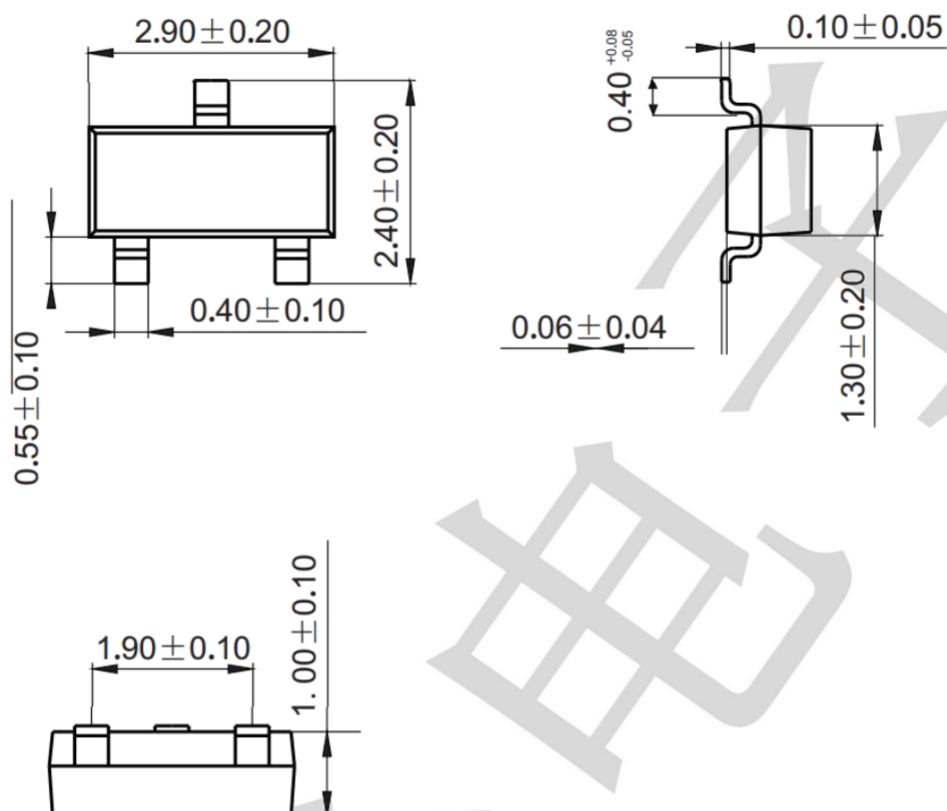


Effect of Zener Voltage on Zener Impedance



**Package Outline Dimensions (unit: mm)**

SOT23



**Mounting Pad Layout (unit: mm)**

