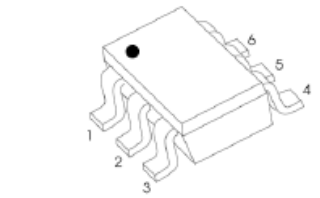
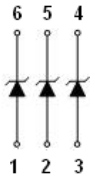
JIANGSU CHANGJIANG ELECTRONICS TECHNOLOGY CO., LTD

# SOT-363 Plastic-Encapsulate Diodes

## BZX84C2V4TS-BZX84C39TS ZENER DIODE

**SOT-363**




### FEATURES

- Planar Die Construction
- 200mW Power Dissipation
- Zener Voltages from 2.4V - 39V
- Three isolated diode elements in single Ultra-Small Surface Mount Package

**Maximum Ratings($T_a$=25℃ unless otherwise specified)**

| Characteristic | Symbol | Value | Unit |
|---|---|---|---|
| Forward Voltage @ $I_F$ = 10mA | $V_F$ | 0.9 | V |
| Power Dissipation(Note 1) | $P_D$ | 200 | mW |
| Thermal Resistance from Junction to Ambient (Note 1) | $R_{\theta JA}$ | 625 | ℃/W |
| Junction Temperature | $T_j$ | 150 | ℃ |
| Storage Temperature Range | $T_{stg}$ | -55 ~ +150 | ℃ |

# ELECTRICAL CHARACTERISTICS

**$T_a$=25℃ unless otherwise specified**

| Type Number | Type Code | Zener Voltage Range (Note 2) | | | | Maximum Zener Impedance (Note 3) | | | Maximum Reverse Current (Note 2) | | Typical Temperature Coefficent @$I_{ZTC}$ | | Test Current $I_{ZTC}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $V_Z$@$I_{ZT}$ | | | $I_{ZT}$ | $Z_{ZT}$@$I_{ZT}$ | $Z_{ZK}$@$I_{ZK}$ | $I_{ZK}$ | $I_R$ | $V_R$ | mV/°C | | |
| | | Nom(V) | Min(V) | Max(V) | mA | Ω | | mA | μA | V | Min | Max | mA |
| BZX84C2V4TS | KRB | 2.4 | 2.2 | 2.6 | 5 | 100 | 600 | 0.5 | 50 | 1.0 | -3.5 | 0 | 5 |
| BZX84C2V7TS | KRC | 2.7 | 2.5 | 2.9 | 5 | 100 | 600 | 1.0 | 20 | 1.0 | -3.5 | 0 | 5 |
| BZX84C3V0TS | KRD | 3.0 | 2.8 | 3.2 | 5 | 95 | 600 | 1.0 | 10 | 1.0 | -3.5 | 0 | 5 |
| BZX84C3V3TS | KRE | 3.3 | 3.1 | 3.5 | 5 | 95 | 600 | 1.0 | 5 | 1.0 | -3.5 | 0 | 5 |
| BZX84C3V6TS | KRF | 3.6 | 3.4 | 3.8 | 5 | 90 | 600 | 1.0 | 5 | 1.0 | -3.5 | 0 | 5 |
| BZX84C3V9TS | KRG | 3.9 | 3.7 | 4.1 | 5 | 90 | 600 | 1.0 | 3 | 1.0 | -3.5 | 0 | 5 |
| BZX84C4V3TS | KRH | 4.3 | 4.0 | 4.6 | 5 | 90 | 600 | 1.0 | 3 | 1.0 | -3.5 | 0 | 5 |
| BZX84C4V7TS | KR1 | 4.7 | 4.4 | 5.0 | 5 | 80 | 500 | 1.0 | 3 | 2.0 | -3.5 | 0.2 | 5 |
| BZX84C5V1TS | KR2 | 5.1 | 4.8 | 5.4 | 5 | 60 | 480 | 1.0 | 2 | 2.0 | -2.7 | 1.2 | 5 |
| BZX84C5V6TS | KR3 | 5.6 | 5.2 | 6.0 | 5 | 40 | 400 | 1.0 | 1 | 2.0 | -2.0 | 2.5 | 5 |
| BZX84C6V2TS | KR4 | 6.2 | 5.8 | 6.6 | 5 | 10 | 150 | 1.0 | 3 | 4.0 | 0.4 | 3.7 | 5 |
| BZX84C6V8TS | KR5 | 6.8 | 6.4 | 7.2 | 5 | 15 | 80 | 1.0 | 2 | 4.0 | 1.2 | 4.5 | 5 |
| BZX84C7V5TS | KR6 | 7.5 | 7.0 | 7.9 | 5 | 15 | 80 | 1.0 | 1 | 5.0 | 2.5 | 5.3 | 5 |
| BZX84C8V2TS | KR7 | 8.2 | 7.7 | 8.7 | 5 | 15 | 80 | 1.0 | 0.7 | 5.0 | 3.2 | 6.2 | 5 |
| BZX84C9V1TS | KR8 | 9.1 | 8.5 | 9.6 | 5 | 15 | 100 | 1.0 | 0.5 | 6.0 | 3.8 | 7.0 | 5 |
| BZX84C10TS | KR9 | 10 | 9.4 | 10.6 | 5 | 20 | 150 | 1.0 | 0.2 | 7.0 | 4.5 | 8.0 | 5 |
| BZX84C11TS | KP1 | 11 | 10.4 | 11.6 | 5 | 20 | 150 | 1.0 | 0.1 | 8.0 | 5.4 | 9.0 | 5 |
| BZX84C12TS | KP2 | 12 | 11.4 | 12.7 | 5 | 25 | 150 | 1.0 | 0.1 | 8.0 | 6.0 | 10.0 | 5 |
| BZX84C13TS | KP3 | 13 | 12.4 | 14.1 | 5 | 30 | 170 | 1.0 | 0.1 | 8.0 | 7.0 | 11.0 | 5 |
| BZX84C15TS | KP4 | 15 | 13.8 | 15.6 | 5 | 30 | 200 | 1.0 | 0.1 | 10.5 | 9.2 | 13.0 | 5 |
| BZX84C16TS | KP5 | 16 | 15.3 | 17.1 | 5 | 40 | 200 | 1.0 | 0.1 | 11.2 | 10.4 | 14.0 | 5 |
| BZX84C18TS | KP6 | 18 | 16.8 | 19.1 | 5 | 45 | 225 | 1.0 | 0.1 | 12.6 | 12.4 | 16.0 | 5 |
| BZX84C20TS | KP7 | 20 | 18.8 | 21.2 | 5 | 55 | 225 | 1.0 | 0.1 | 14.0 | 14.4 | 18.0 | 5 |
| BZX84C22TS | KP8 | 22 | 20.8 | 23.3 | 5 | 55 | 250 | 1.0 | 0.1 | 15.4 | 16.4 | 20.0 | 5 |
| BZX84C24TS | KP9 | 24 | 22.8 | 25.6 | 5 | 70 | 250 | 1.0 | 0.1 | 16.8 | 18.4 | 22.0 | 5 |
| BZX84C27TS | KPA | 27 | 25.1 | 28.9 | 2 | 80 | 300 | 0.5 | 0.1 | 18.9 | 21.4 | 25.3 | 5 |
| BZX84C30TS | KPB | 30 | 28.0 | 32.0 | 2 | 80 | 300 | 0.5 | 0.1 | 21.0 | 24.4 | 29.4 | 5 |
| BZX84C33TS | KPC | 33 | 31.0 | 35.0 | 2 | 80 | 325 | 0.5 | 0.1 | 23.1 | 27.4 | 33.4 | 5 |
| BZX84C36TS | KPD | 36 | 34.0 | 38.0 | 2 | 90 | 350 | 0.5 | 0.1 | 25.2 | 30.4 | 37.4 | 5 |
| BZX84C39TS | KPE | 39 | 37.0 | 41.0 | 2 | 130 | 350 | 0.5 | 0.1 | 27.3 | 33.4 | 41.2 | 5 |

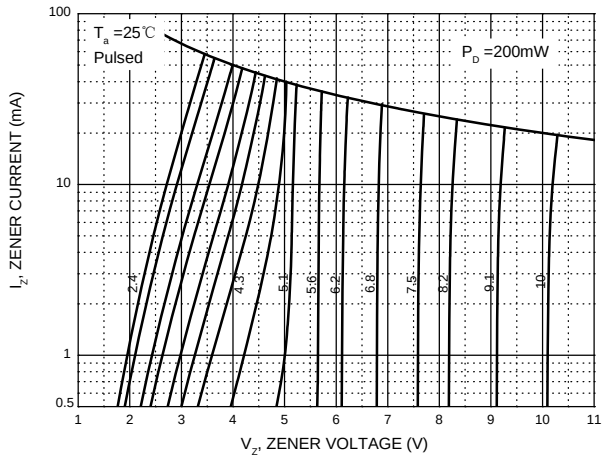
Notes: 1. Valid provided that device terminals are kept at ambient temperature.

2. Short duration pulse test used to minimize self-heating effect.

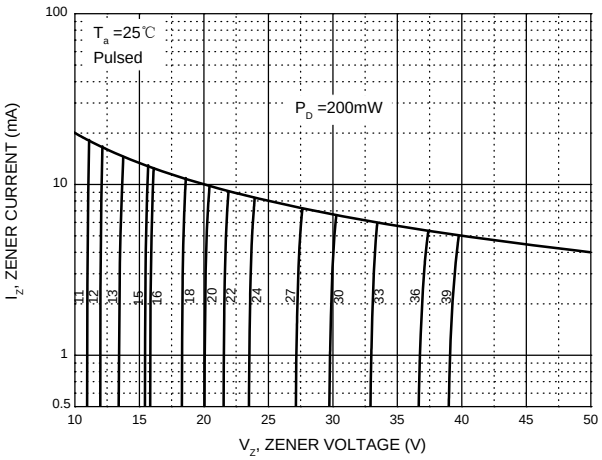
3. f = 1kHz.

## Typical Characteristics

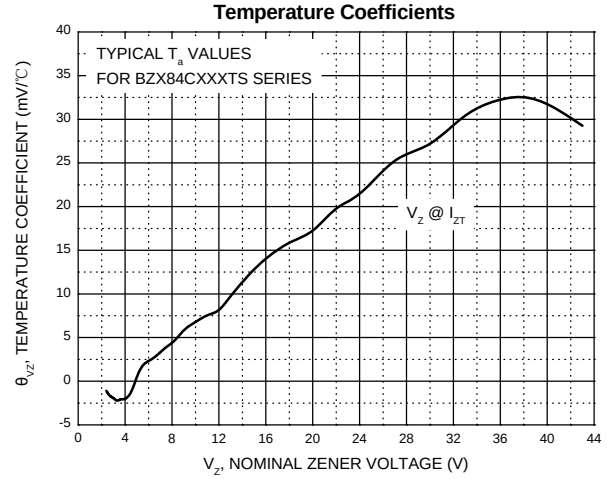
**Zener Characteristics ($V_Z$ Up to 10 V)**



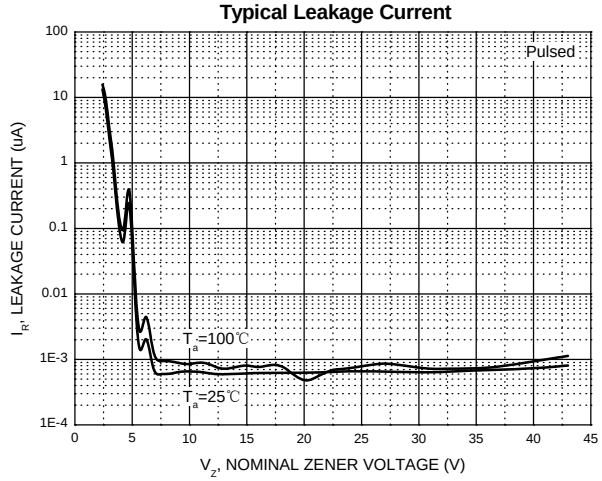

**Zener Characteristics (11 V to 39 V)**



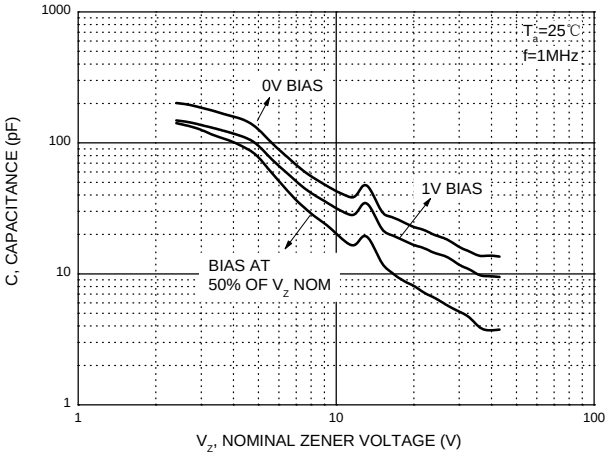

**Temperature Coefficients**



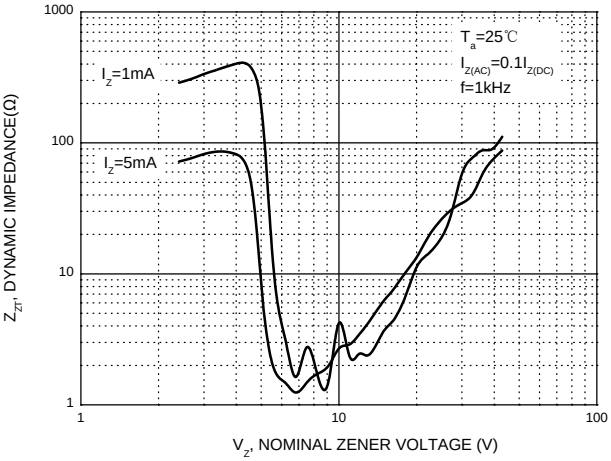

**Typical Leakage Current**



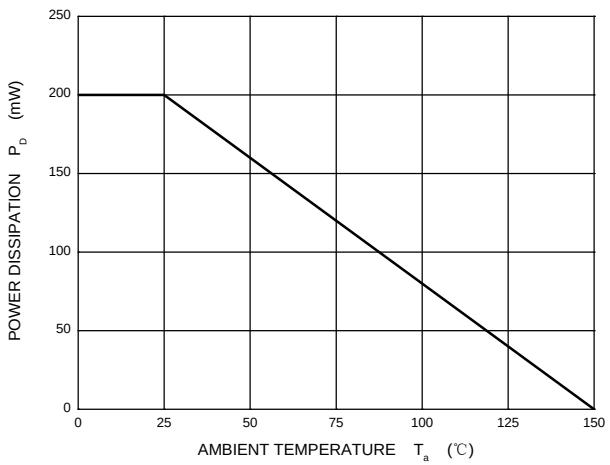

**Typical Capacitance**



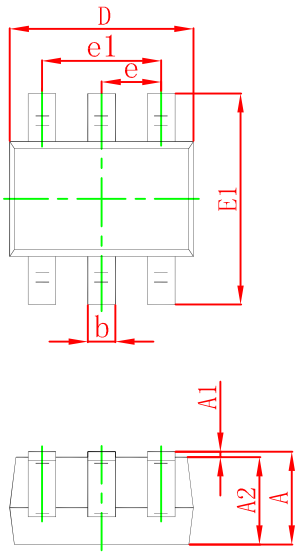

**Effect of Zener Voltage on Zener Impedance**




**Power Derating Curve**

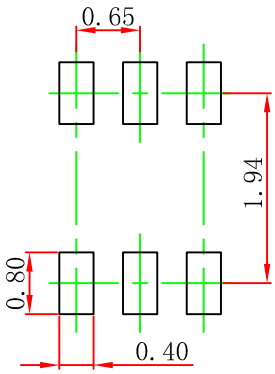


## SOT-363 Package Outline Dimensions




| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|---|---|---|---|---|
| | Min | Max | Min | Max |
| A | 0.900 | 1.100 | 0.035 | 0.043 |
| A1 | 0.000 | 0.100 | 0.000 | 0.004 |
| A2 | 0.900 | 1.000 | 0.035 | 0.039 |
| b | 0.150 | 0.350 | 0.006 | 0.014 |
| c | 0.100 | 0.150 | 0.004 | 0.006 |
| D | 2.000 | 2.200 | 0.079 | 0.087 |
| E | 1.150 | 1.350 | 0.045 | 0.053 |
| E1 | 2.150 | 2.400 | 0.085 | 0.094 |
| e | 0.650 TYP | | 0.026 TYP | |
| e1 | 1.200 | 1.400 | 0.047 | 0.055 |
| L | 0.525 REF | | 0.021 REF | |
| L1 | 0.260 | 0.460 | 0.010 | 0.018 |
| θ | 0° | 8° | 0° | 8° |

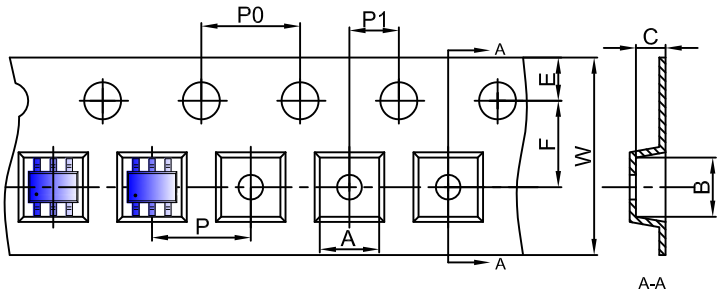
## SOT-363 Suggested Pad Layout




Note:
1.Controlling dimension:in millimeters.
2.General tolerance:±0.05mm.
3.The pad layout is for reference purposes only.

# SOT-363 Tape and Reel

## SOT-363 Embossed Carrier Tape

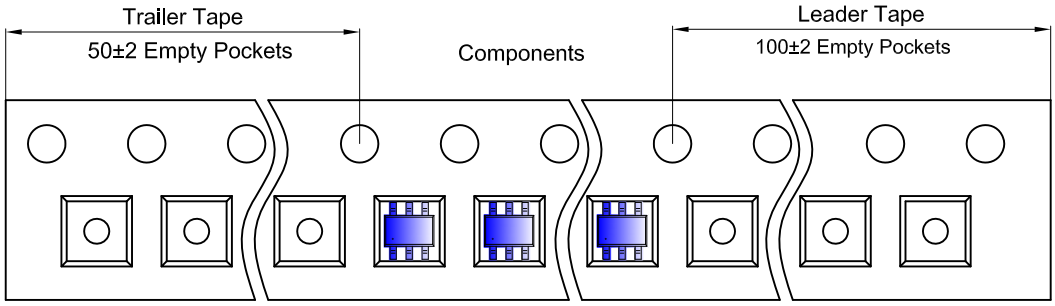



Packaging Description:

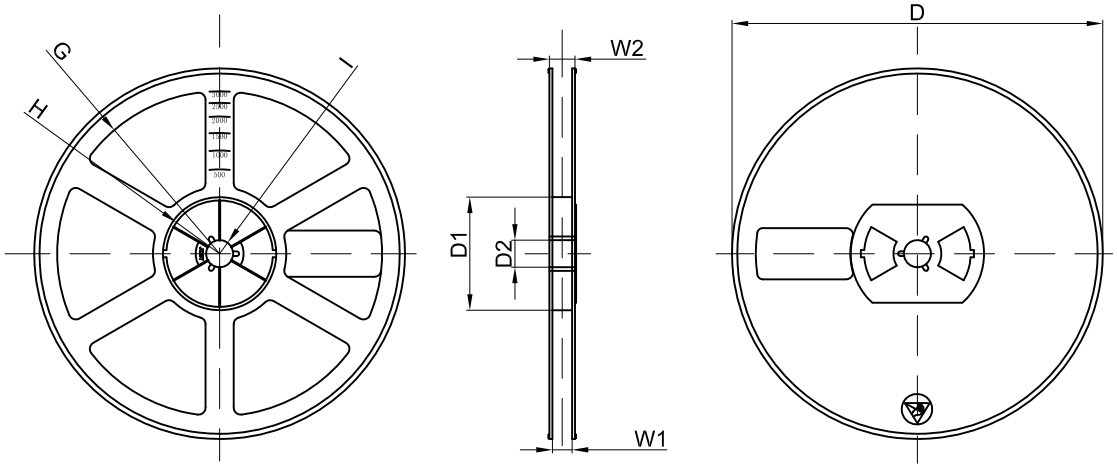
SOT-363 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 3,000 units per 7" or 17.8cm diameter reel. The reels are clear in color and is made of polystyrene plastic (anti-static coated).

| Dimensions are in millimeter | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Pkg type | A | B | C | d | E | F | P0 | P | P1 | W |
| SOT-363 | 2.25 | 2.55 | 1.20 | Ø1.50 | 1.75 | 3.50 | 4.00 | 4.00 | 2.00 | 8.00 |

## SOT-363 Tape Leader and Trailer




## SOT-363 Reel




| Dimensions are in millimeter | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Reel Option | D | D1 | D2 | G | H | I | W1 | W2 |
| 7"Dia | Ø178.00 | 54.40 | 13.00 | R78.00 | R25.60 | R6.50 | 9.50 | 12.30 |

| REEL | Reel Size | Box | Box Size(mm) | Carton | Carton Size(mm) | G.W.(kg) |
|---|---|---|---|---|---|---|
| 3000 pcs | 7 inch | 45,000 pcs | 203×203×195 | 180,000 pcs | 438×438×220 | |