



SOT-523 Plastic-Encapsulate Diodes

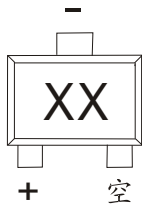
BZX84C2V4T-BZX84C39T

ZENER DIODE

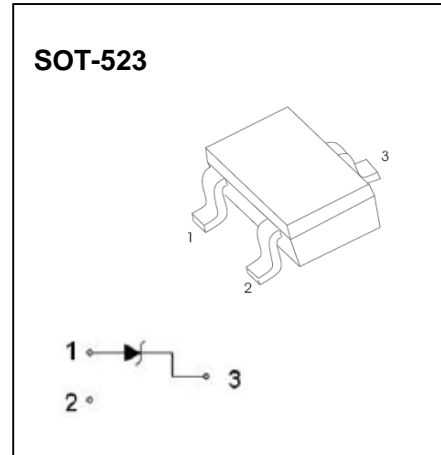
FEATURES

- 150mW Power Dissipation Rating
- Planar Die Construction
- Ultra-small Surface Mount Package
- Lead Free/RoHS Compliant(Note 1)

Marking:



XX= Device code, see table on page2 the marking code



Maximum Ratings (T_a=25°C unless otherwise specified)

| Characteristic | Symbol | Value | Unit |
|------------------------------------------------------|-----------------------------------|----------|------|
| Forward Voltage @I _F =10mA | V _F | 0.9 | V |
| Power Dissipation(Note 2) | P _D | 150 | mW |
| Thermal Resistance from Junction to Ambient (Note 2) | R _{θJA} | 833 | °C/W |
| Operation Junction and Storage Temperature Range | T _J , T _{stg} | -55~+150 | °C |

- Notes:**
1. No purposefully added lead.
 2. Device mounted on FR-4 PC board with recommended pad layout.

ELECTRICAL CHARACTERISTICS

T_a=25°C unless otherwise specified

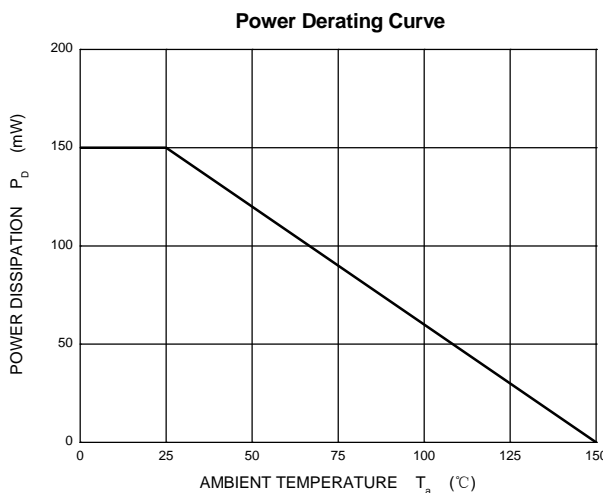
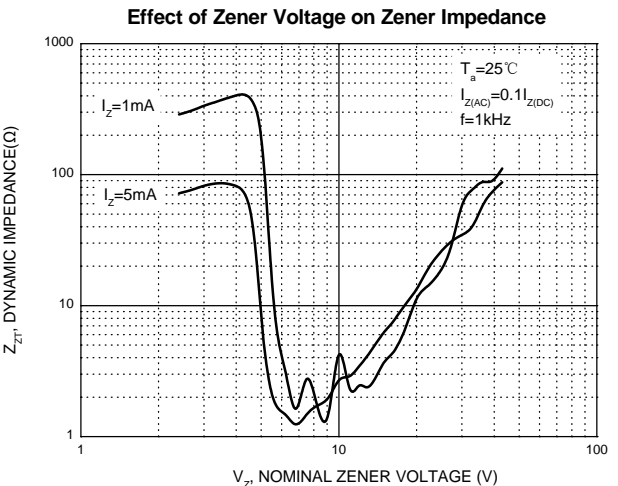
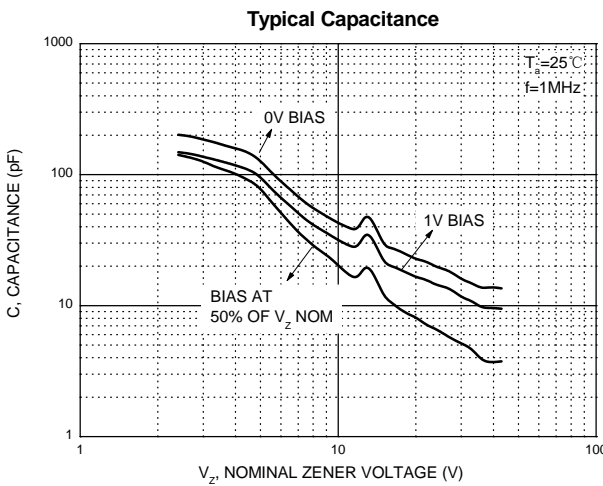
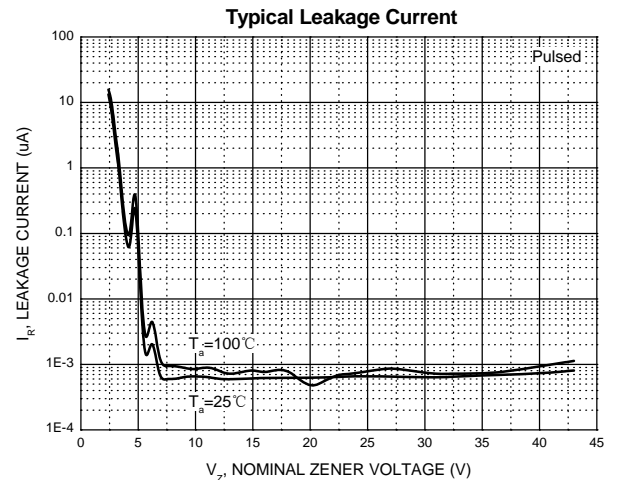
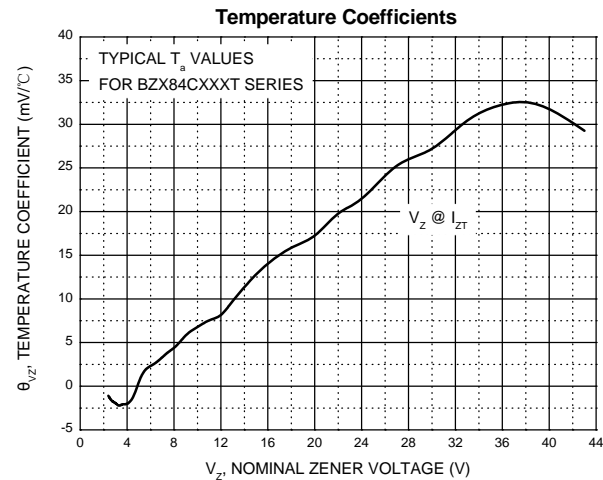
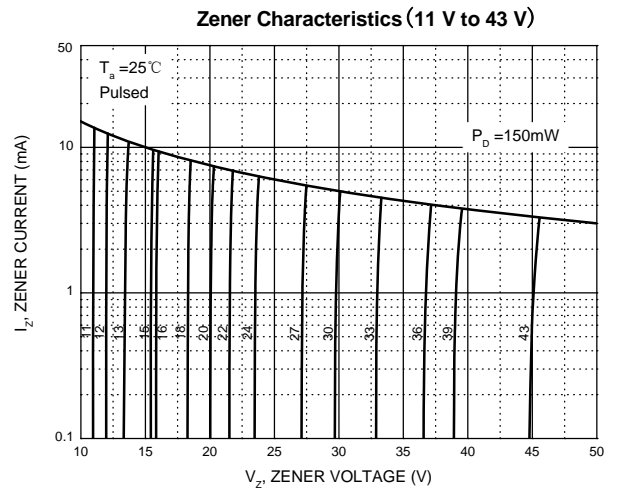
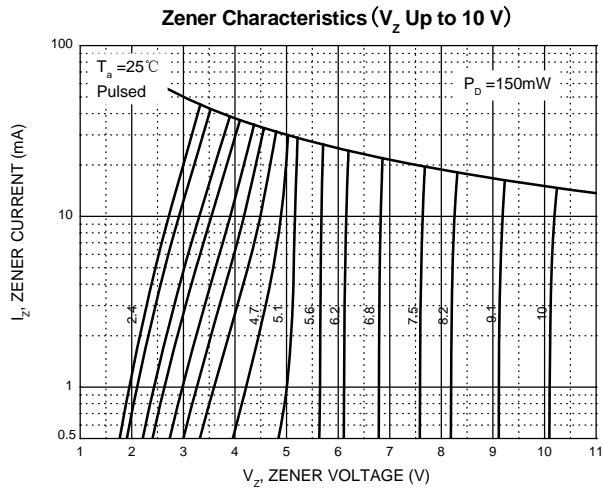
| Type Number | Marking Code | Zener Voltage Range (Note 3) | | | | Maximum Zener Impedance (Note 4) | | | Maximum Reverse Current (Note 3) | | Temperature Coefficient of Zener Voltage @ I _{ZT} = 5mA (mV/°C) | |
|-------------|--------------|----------------------------------|---------|---------|-----------------|-----------------------------------|-----------------------------------|-----------------|----------------------------------|------------------|--------------------------------------------------------------------------|------|
| | | V _Z @ I _{ZT} | | | I _{ZT} | Z _{ZT} @ I _{ZT} | Z _{ZK} @ I _{ZK} | I _{ZK} | I _R | @ V _R | Min | Max |
| | | Nom (V) | Min (V) | Max (V) | mA | Ω | | mA | uA | V | | |
| BZX84C2V4T | RB | 2.4 | 2.2 | 2.6 | 5.0 | 100 | 600 | 1.0 | 50 | 1.0 | -3.5 | 0 |
| BZX84C2V7T | RC | 2.7 | 2.5 | 2.9 | 5.0 | 100 | 600 | 1.0 | 20 | 1.0 | -3.5 | 0 |
| BZX84C3V0T | RD | 3.0 | 2.8 | 3.2 | 5.0 | 95 | 600 | 1.0 | 20 | 1.0 | -3.5 | 0 |
| BZX84C3V3T | RE | 3.3 | 3.1 | 3.5 | 5.0 | 95 | 600 | 1.0 | 5.0 | 1.0 | -3.5 | 0 |
| BZX84C3V6T | RF | 3.6 | 3.4 | 3.8 | 5.0 | 90 | 600 | 1.0 | 5.0 | 1.0 | -3.5 | 0 |
| BZX84C3V9T | RG | 3.9 | 3.7 | 4.1 | 5.0 | 90 | 600 | 1.0 | 3.0 | 1.0 | -3.5 | 0 |
| BZX84C4V3T | RH | 4.3 | 4.0 | 4.6 | 5.0 | 90 | 600 | 1.0 | 3.0 | 1.0 | -3.5 | 0 |
| BZX84C4V7T | R1 | 4.7 | 4.4 | 5.0 | 5.0 | 80 | 600 | 1.0 | 3.0 | 2.0 | -3.5 | 0.2 |
| BZX84C5V1T | R2 | 5.1 | 4.8 | 5.4 | 5.0 | 60 | 500 | 1.0 | 2.0 | 2.0 | -2.7 | 1.2 |
| BZX84C5V6T | R3 | 5.6 | 5.2 | 6.0 | 5.0 | 40 | 480 | 1.0 | 1.0 | 2.0 | -2.0 | 2.5 |
| BZX84C6V2T | R4 | 6.2 | 5.8 | 6.6 | 5.0 | 10 | 400 | 1.0 | 3.0 | 4.0 | 0.4 | 3.7 |
| BZX84C6V8T | R5 | 6.8 | 6.4 | 7.2 | 5.0 | 15 | 150 | 1.0 | 2.0 | 4.0 | 1.2 | 4.5 |
| BZX84C7V5T | R6 | 7.5 | 7.0 | 7.9 | 5.0 | 15 | 80 | 1.0 | 1.0 | 5.0 | 2.5 | 5.3 |
| BZX84C8V2T | R7 | 8.2 | 7.7 | 8.7 | 5.0 | 15 | 80 | 1.0 | 0.7 | 5.0 | 3.2 | 6.2 |
| BZX84C9V1T | R8 | 9.1 | 8.5 | 9.6 | 5.0 | 15 | 80 | 1.0 | 0.5 | 6.0 | 3.8 | 7.0 |
| BZX84C10T | R9 | 10 | 9.4 | 10.6 | 5.0 | 20 | 100 | 1.0 | 0.2 | 7.0 | 4.5 | 8.0 |
| BZX84C11T | P1 | 11 | 10.4 | 11.6 | 5.0 | 20 | 150 | 1.0 | 0.1 | 8.0 | 5.4 | 9.0 |
| BZX84C12T | P2 | 12 | 11.4 | 12.7 | 5.0 | 25 | 150 | 1.0 | 0.1 | 8.0 | 6.0 | 10.0 |
| BZX84C13T | P3 | 13 | 12.4 | 14.1 | 5.0 | 30 | 150 | 1.0 | 0.1 | 8.0 | 7.0 | 11.0 |
| BZX84C15T | P4 | 15 | 13.8 | 15.6 | 5.0 | 30 | 170 | 1.0 | 0.1 | 10.5 | 9.2 | 13.0 |
| BZX84C16T | P5 | 16 | 15.3 | 17.1 | 5.0 | 40 | 200 | 1.0 | 0.1 | 11.2 | 10.4 | 14.0 |
| BZX84C18T | P6 | 18 | 16.8 | 19.1 | 5.0 | 45 | 200 | 1.0 | 0.1 | 12.6 | 12.4 | 16.0 |
| BZX84C20T | P7 | 20 | 18.8 | 21.2 | 5.0 | 55 | 225 | 1.0 | 0.1 | 14.0 | 14.4 | 18.0 |
| BZX84C22T | P8 | 22 | 20.8 | 23.3 | 5.0 | 55 | 225 | 1.0 | 0.1 | 15.4 | 16.4 | 20.0 |
| BZX84C24T | P9 | 24 | 22.8 | 25.6 | 5.0 | 70 | 250 | 1.0 | 0.1 | 16.8 | 18.4 | 22.0 |
| BZX84C27T | PA | 27 | 25.1 | 28.9 | 2.0 | 80 | 250 | 0.5 | 0.1 | 18.9 | 21.4 | 25.3 |
| BZX84C30T | PB | 30.0 | 28.0 | 32.0 | 2.0 | 80 | 300 | 0.5 | 0.1 | 21.0 | 24.4 | 29.4 |
| BZX84C33T | PC | 33.0 | 31.0 | 35.0 | 2.0 | 80 | 300 | 0.5 | 0.1 | 23.1 | 27.4 | 33.4 |
| BZX84C36T | PD | 36.0 | 34.0 | 38.0 | 2.0 | 90 | 325 | 0.5 | 0.1 | 25.2 | 30.4 | 37.4 |
| BZX84C39T | PE | 39.0 | 37.0 | 41.0 | 2.0 | 130 | 350 | 0.5 | 0.1 | 27.3 | 33.4 | 41.2 |

Note: 3. Short duration pulse test used to minimize self-heating effect.

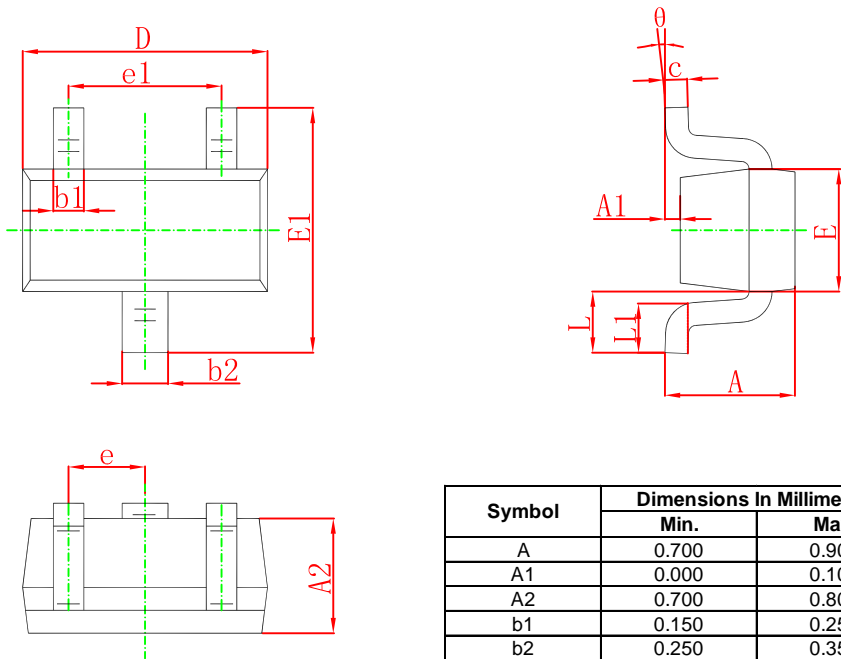
4. f =1kHz.

5. For Packaging Details, go to our website.

Typical Characteristics

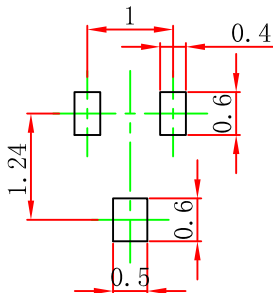


SOT-523 Package Outline Dimensions



| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|--------|---------------------------|-------|----------------------|-------|
| | Min. | Max. | Min. | Max. |
| A | 0.700 | 0.900 | 0.028 | 0.035 |
| A1 | 0.000 | 0.100 | 0.000 | 0.004 |
| A2 | 0.700 | 0.800 | 0.028 | 0.031 |
| b1 | 0.150 | 0.250 | 0.006 | 0.010 |
| b2 | 0.250 | 0.350 | 0.010 | 0.014 |
| c | 0.100 | 0.200 | 0.004 | 0.008 |
| D | 1.500 | 1.700 | 0.059 | 0.067 |
| E | 0.700 | 0.900 | 0.028 | 0.035 |
| E1 | 1.450 | 1.750 | 0.057 | 0.069 |
| e | 0.500 TYP. | | 0.020 TYP. | |
| e1 | 0.900 | 1.100 | 0.035 | 0.043 |
| L | 0.400 REF. | | 0.016 REF. | |
| L1 | 0.260 | 0.460 | 0.010 | 0.018 |
| θ | 0° | 8° | 0° | 8° |

SOT-523 Suggested Pad Layout



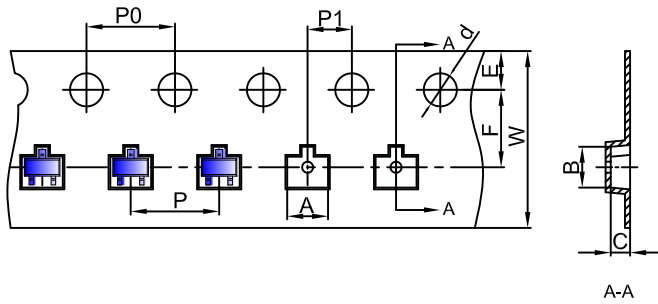
- Note:
1. Controlling dimension: in millimeters.
 2. General tolerance: $\pm 0.05\text{mm}$.
 3. The pad layout is for reference purposes only.

NOTICE

JSCJ reserves the right to make modifications, enhancements, improvements, corrections or other changes without further notice to any product herein. JSCJ does not assume any liability arising out of the application or use of any product described herein.

SOT-523 Tape and Reel

SOT-523 Embossed Carrier Tape



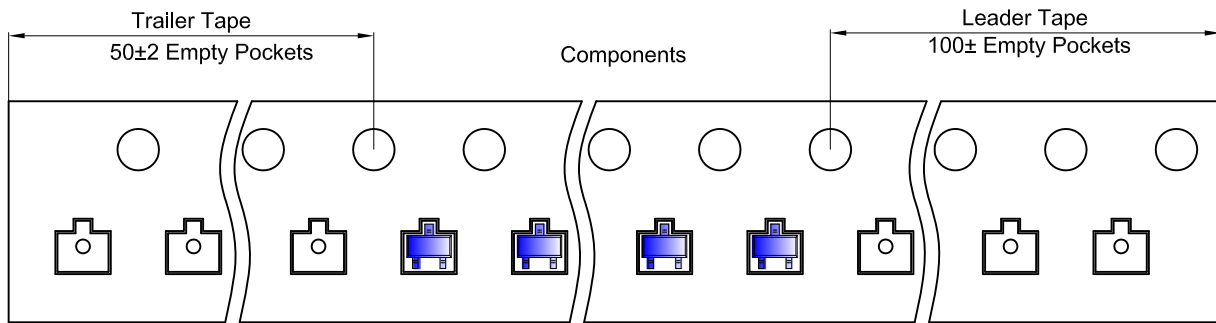
Packaging Description:

SOT-523 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).

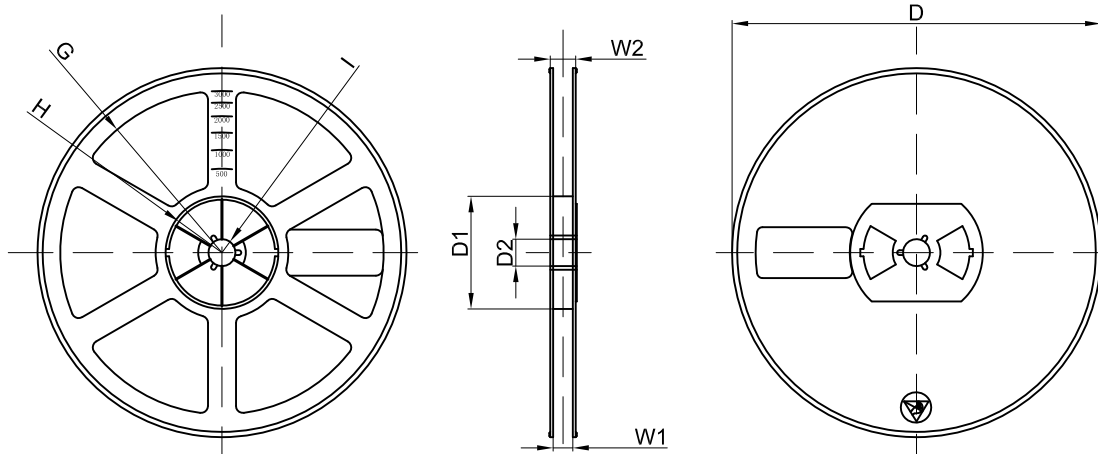
Dimensions are in millimeter

| Pkg type | A | B | C | d | E | F | P0 | P | P1 | W |
|----------|------|------|-------|-------|------|------|------|------|------|------|
| SOT-523 | 1.85 | 1.85 | 0.875 | Ø1.50 | 1.75 | 3.50 | 4.00 | 4.00 | 2.00 | 8.00 |

SOT-523 Tape Leader and Trailer



SOT-523 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 | |