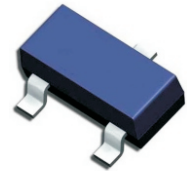


## CZRT55C2V4-GThru CZRT55C39-G

**Voltage: 2.4 to 39 Volts**

**Power: 350 mWatts**

**RoHS Device**

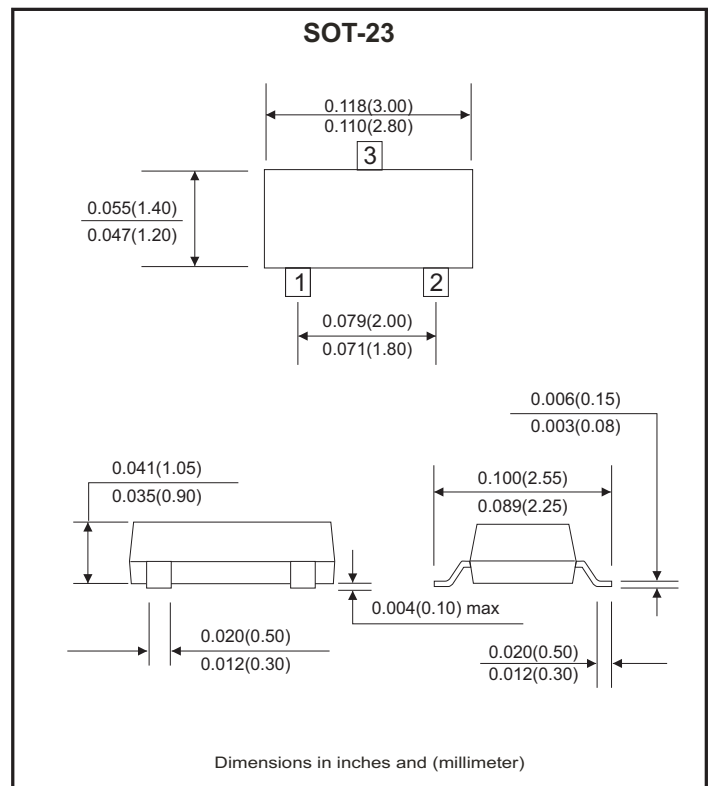
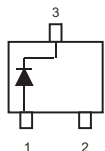


### Features

- Planar die construction
- 350mW power dissipation
- Ideally suited for automated assembly process
- Pb free product are available : 99% Sn above can meet RoHS

### Mechanical data

- Case: SOT-23, Molded plastic
- Terminals: Solderable per MIL-STD-202G, method 208
- Polarity: See diagram below
- Weight: 0.008 gram(approx.)
- Mounting position: Any



### Maximum Rating And Electrical Characteristics

| Parameter                                        | Symbol           | Value       | Unit |
|--------------------------------------------------|------------------|-------------|------|
| Forward Voltage (Notes 2) @ IF=10mA              | V <sub>F</sub>   | 0.9         | V    |
| Power Dissipation (Notes 1)                      | P <sub>d</sub>   | 350         | mW   |
| Thermal Resistance, Junction to Ambient Air      | R <sub>θJA</sub> | 357         | °C/W |
| Operating junction and Storage Temperature Range | T <sub>J</sub>   | -65 to +150 | °C   |

**Notes:**

1. Valid provided that device terminals are kept at ambient temperature.
2. Tested with pulses, period=5ms, pulse width=300us.
3. f=1KHz

## Electrical Characteristics(Ta = 25°C)

| Part Number | Zener Voltage                      |      |      | Operating Resistance  |                      | Rising Operating Resistance |                      | Reverse Current     |                    | Marking Code |
|-------------|------------------------------------|------|------|-----------------------|----------------------|-----------------------------|----------------------|---------------------|--------------------|--------------|
|             | V <sub>Z</sub> (V)@I <sub>ZT</sub> |      |      | Z <sub>ZT</sub> (Ohm) |                      | Z <sub>ZK</sub> (Ohm)       |                      | I <sub>R</sub> (uA) |                    |              |
|             | Min.                               | Nom. | Max. | Max.                  | I <sub>ZT</sub> (mA) | Max.                        | I <sub>ZK</sub> (mA) | Max.                | V <sub>R</sub> (V) |              |
| CZRT55C2V4  | 2.2                                | 2.4  | 2.6  | 100                   | 5.0                  | 600                         | 1.0                  | 50                  | 1                  | Z11          |
| CZRT55C2V7  | 2.5                                | 2.7  | 2.9  | 100                   | 5.0                  | 600                         | 1.0                  | 20                  | 1                  | Z12          |
| CZRT55C3    | 2.8                                | 3.0  | 3.2  | 95                    | 5.0                  | 600                         | 1.0                  | 10                  | 1                  | Z13          |
| CZRT55C3V3  | 3.1                                | 3.3  | 3.5  | 95                    | 5.0                  | 600                         | 1.0                  | 5.0                 | 1                  | Z14          |
| CZRT55C3V6  | 3.4                                | 3.6  | 3.8  | 90                    | 5.0                  | 600                         | 1.0                  | 5.0                 | 1                  | Z15          |
| CZRT55C3V9  | 3.7                                | 3.9  | 4.1  | 90                    | 5.0                  | 600                         | 1.0                  | 3.0                 | 1                  | Z16          |
| CZRT55C4V3  | 4.0                                | 4.3  | 4.6  | 90                    | 5.0                  | 600                         | 1.0                  | 3.0                 | 1                  | Z17          |
| CZRT55C4V7  | 4.4                                | 4.7  | 5.0  | 80                    | 5.0                  | 500                         | 1.0                  | 3.0                 | 2                  | Z1           |
| CZRT55C5V1  | 4.8                                | 5.1  | 5.4  | 60                    | 5.0                  | 480                         | 1.0                  | 2.0                 | 2                  | Z2           |
| CZRT55C5V6  | 5.2                                | 5.6  | 6.0  | 40                    | 5.0                  | 400                         | 1.0                  | 1.0                 | 2                  | Z3           |
| CZRT55C6V2  | 5.8                                | 6.2  | 6.6  | 10                    | 5.0                  | 150                         | 1.0                  | 3.0                 | 4                  | Z4           |
| CZRT55C6V8  | 6.4                                | 6.8  | 7.2  | 15                    | 5.0                  | 80                          | 1.0                  | 2.0                 | 4                  | Z5           |
| CZRT55C7V5  | 7.0                                | 7.5  | 7.9  | 15                    | 5.0                  | 80                          | 1.0                  | 1.0                 | 5                  | Z6           |
| CZRT55C8V2  | 7.7                                | 8.2  | 8.7  | 15                    | 5.0                  | 80                          | 1.0                  | 0.7                 | 5                  | Z7           |
| CZRT55C9V1  | 8.5                                | 9.1  | 9.6  | 15                    | 5.0                  | 100                         | 1.0                  | 0.5                 | 6                  | Z8           |
| CZRT55C10   | 9.4                                | 10   | 10.6 | 20                    | 5.0                  | 150                         | 1.0                  | 0.2                 | 7                  | Z9           |
| CZRT55C11   | 10.4                               | 11   | 11.6 | 20                    | 5.0                  | 150                         | 1.0                  | 0.1                 | 8                  | Y1           |
| CZRT55C12   | 11.4                               | 12   | 12.7 | 25                    | 5.0                  | 150                         | 1.0                  | 0.1                 | 8                  | Y2           |
| CZRT55C13   | 12.4                               | 13   | 14.1 | 30                    | 5.0                  | 170                         | 1.0                  | 0.1                 | 8                  | Y3           |
| CZRT55C15   | 13.8                               | 15   | 15.6 | 30                    | 5.0                  | 200                         | 1.0                  | 0.1                 | 10.5               | Y4           |
| CZRT55C16   | 15.3                               | 16   | 17.1 | 40                    | 5.0                  | 200                         | 1.0                  | 0.1                 | 11.2               | Y5           |
| CZRT55C18   | 16.8                               | 18   | 19.1 | 45                    | 5.0                  | 225                         | 1.0                  | 0.1                 | 12.6               | Y6           |
| CZRT55C20   | 18.8                               | 20   | 21.2 | 55                    | 5.0                  | 225                         | 1.0                  | 0.1                 | 14.0               | Y7           |
| CZRT55C22   | 20.8                               | 22   | 23.3 | 55                    | 5.0                  | 250                         | 1.0                  | 0.1                 | 15.4               | Y8           |
| CZRT55C24   | 22.8                               | 24   | 25.6 | 70                    | 5.0                  | 250                         | 1.0                  | 0.1                 | 16.8               | Y9           |
| CZRT55C27   | 25.1                               | 27   | 28.9 | 80                    | 2.0                  | 300                         | 0.5                  | 0.1                 | 18.9               | Y10          |
| CZRT55C30   | 28.0                               | 30   | 32.0 | 80                    | 2.0                  | 300                         | 0.5                  | 0.1                 | 21.0               | Y11          |
| CZRT55C33   | 31.0                               | 33   | 35.0 | 80                    | 2.0                  | 325                         | 0.5                  | 0.1                 | 23.1               | Y12          |
| CZRT55C36   | 34.0                               | 36   | 38.0 | 90                    | 2.0                  | 350                         | 0.5                  | 0.1                 | 25.2               | Y13          |
| CZRT55C39   | 37.0                               | 39   | 41.0 | 130                   | 2.0                  | 350                         | 0.5                  | 0.1                 | 27.3               | Y14          |

## RATING AND CHARACTERISTIC CURVES (CZRT55C2V4-G Thru CZRT55C39-G)

Fig.1- Power Derating Curve

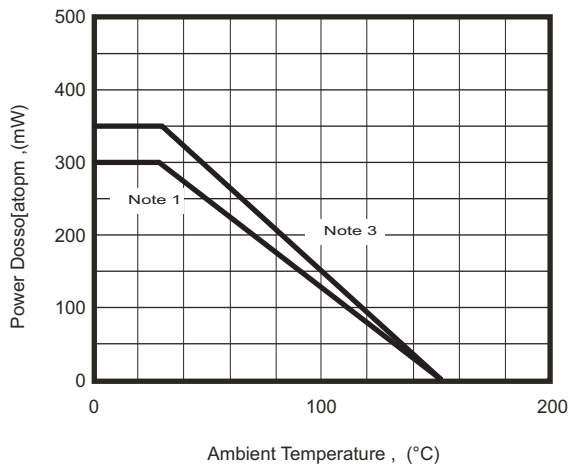


Fig.2- Zener Breakdown Characteristics

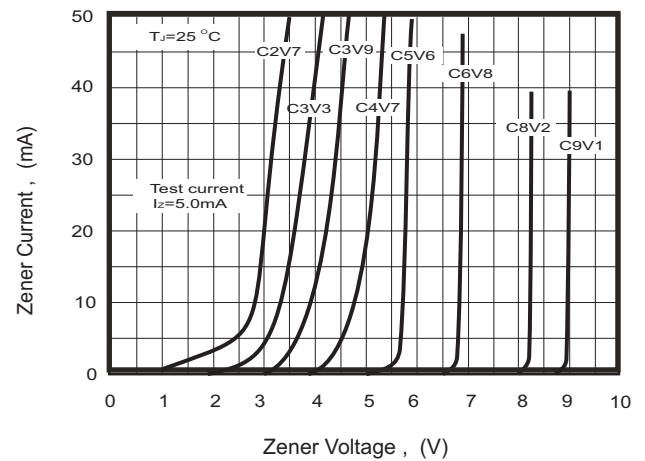


Fig.3- Zener Breakdown Characteristics

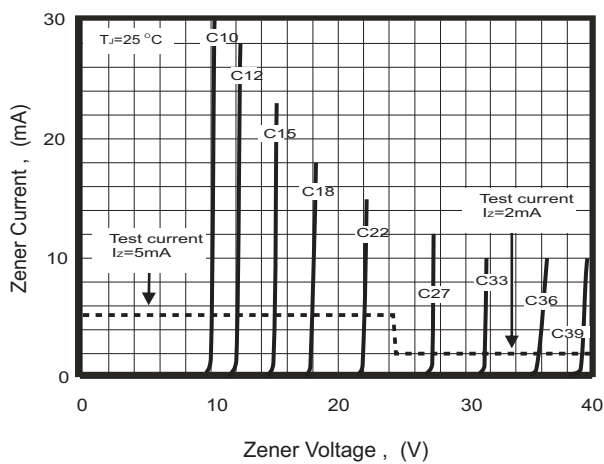
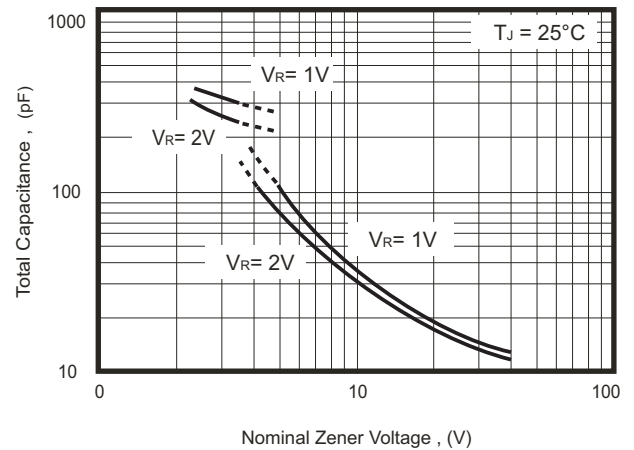
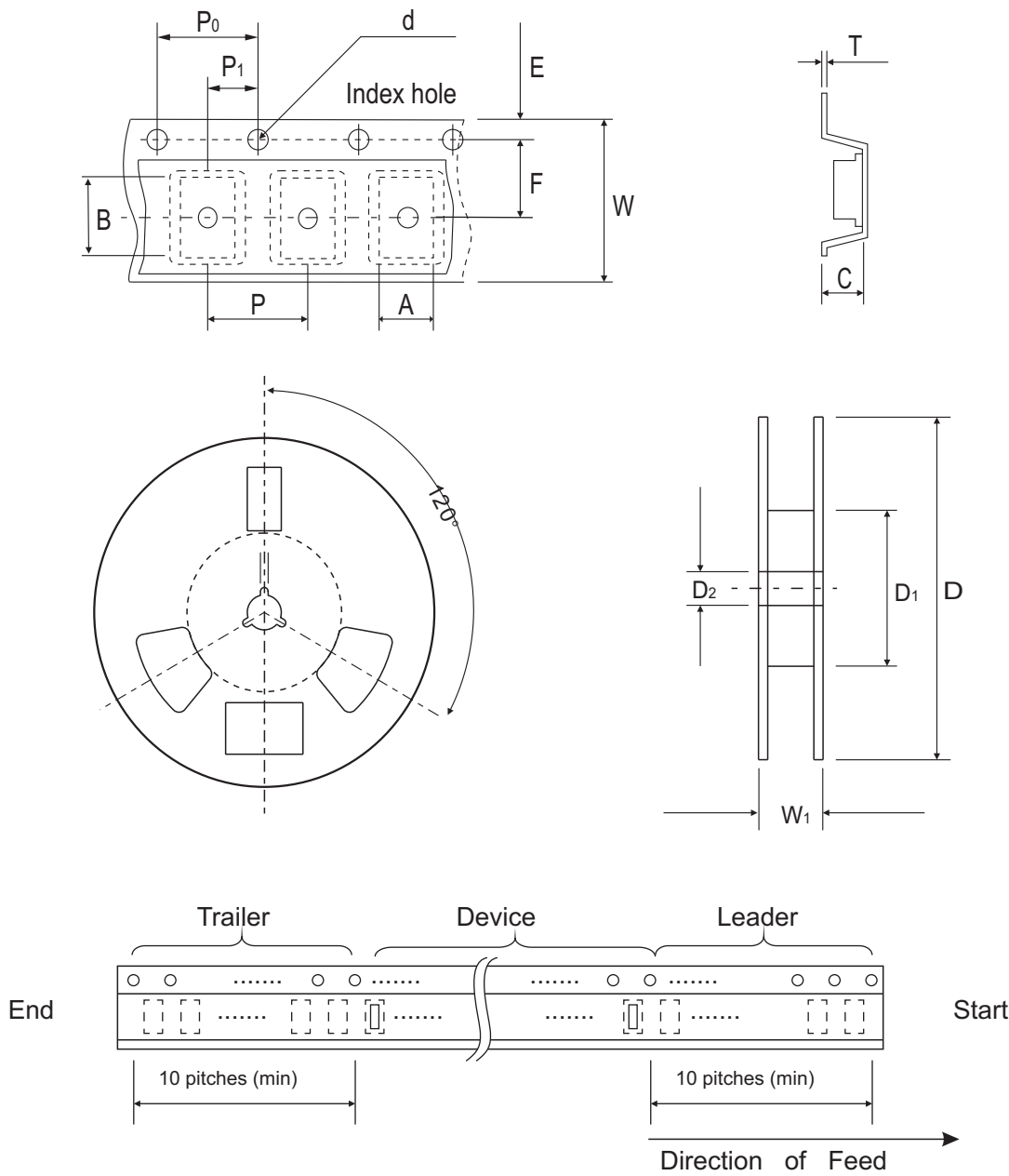


Fig.4- Total Capacitance vs Nominal Zener Voltage



## Reel Taping Specification

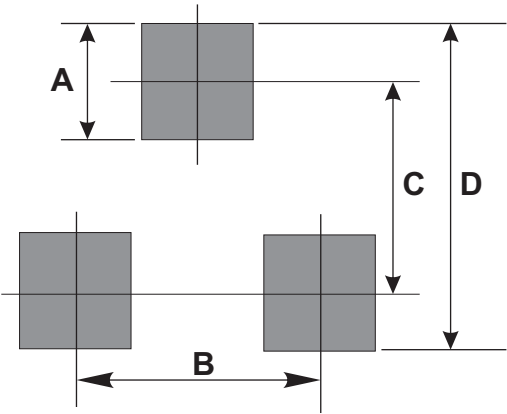


| SOT-23 | SYMBOL | A             | B             | C             | d             | D             | D <sub>1</sub> | D <sub>2</sub> |
|--------|--------|---------------|---------------|---------------|---------------|---------------|----------------|----------------|
|        | (mm)   | 3.15 ± 0.10   | 2.77 ± 0.10   | 1.22 ± 0.10   | 1.50 ± 0.10   | 178 ± 1.00    | 54.40 ± 0.40   | 13.00 ± 0.20   |
|        | (inch) | 0.124 ± 0.004 | 0.109 ± 0.004 | 0.048 ± 0.004 | 0.059 ± 0.004 | 7.008 ± 0.039 | 2.142 ± 0.016  | 0.512 ± 0.008  |

| SOT-23 | SYMBOL | E             | F             | P             | P <sub>0</sub> | P <sub>1</sub> | W                       | W <sub>1</sub> |
|--------|--------|---------------|---------------|---------------|----------------|----------------|-------------------------|----------------|
|        | (mm)   | 1.75 ± 0.10   | 3.50 ± 0.05   | 4.00 ± 0.10   | 4.00 ± 0.10    | 2.00 ± 0.10    | 8.00 ± 0.30 / - 0.10    | 9.50 ± 1.00    |
|        | (inch) | 0.069 ± 0.004 | 0.138 ± 0.002 | 0.158 ± 0.004 | 0.158 ± 0.004  | 0.079 ± 0.004  | 0.315 ± 0.012 / - 0.004 | 0.374 ± 0.039  |

## Suggested PAD Layout

| SIZE | SOT-23 |        |
|------|--------|--------|
|      | (mm)   | (inch) |
| A    | 0.80   | 0.031  |
| B    | 1.90   | 0.075  |
| C    | 2.02   | 0.080  |
| D    | 2.82   | 0.111  |



## Standard Packaging

| Case Type | REEL PACK       |                     |
|-----------|-----------------|---------------------|
|           | REEL<br>( pcs ) | Reel Size<br>(inch) |
| SOT-23    | 3,000           | 7                   |