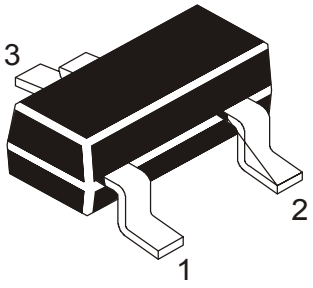
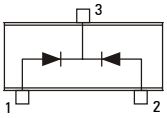
## SILIICON PLANAR ZENER DIODES

**CZMK3V3-39V**

**SOT-23**
**Formed SMD Package**




**Pin Configuration**
1 = ANODE
2 = ANODE
3 = CATHODE

## Dual Zener Diodes, Common Cathode

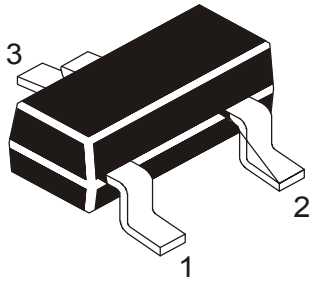
**ABSOLUTE MAXIMUM RATINGS Per Diode ($T_a$=25°C Unless Specified Otherwise)**

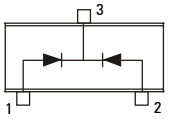
| DESCRIPTION | SYMBOL | VALUE | UNIT |
|---|---|---|---|
| Working Voltage Range | $V_Z$ | 3V3 to 39 | V |
| Working Voltage Tolerance | | +/-5 | % |
| Repetitive Peak Forward Current | $I_{FRM}$ | 250 | mA |
| Repetitive Peak Working Current | $I_{ZRM}$ | 250 | mA |
| Power Dissipation upto $T_{amb}$=25ºC | $P_{tot}$ * | 300 | mW |
| Power Dissipation upto $T_{amb}$=25ºC | $P_{tot}$ ** | 250 | mW |
| Storage Temperature | $T_j$ | 150 | °C |
| Junction Temperature | $T_{stg}$ | - 55 to +150 | °C |
| **Thermal Resistance** | | | |
| From Junction to Ambient | $R_{th\ (j-a)}$ | 430 | K/W |
| From Junction to Ambient | $R_{th\ (j-a)}$ | 500 | K/W |

*** Device mounted on a ceramic alumna**
**** Device mounted on an FR5 printed circuit board**

**ELECTRICAL CHARACTERISTICS Per Diode ($T_a$=25°C $V_F$ <0.9V max, $I_F$=10mA)**

| Device # | Working Voltage $V_Z$(V)*** @ $I_Z$test=5mA | | Differential Resistance rdiff (Ω) @ $I_Z$test=5mA | | Reverse Current $I_R$ | | Temperature Coefficient $S_Z$ (mV/K) @ $I_Z$test=5mA | | | Differential Resistance rdiff (Ω) @ $I_Z$test=1mA | | Marking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | min | max | typ | max | µA | V | min | typ | max | typ | max | |
| CZMK 3.3 | 3.10 | 3.50 | 85 | 95 | 5.0 | 1 | -3.5 | -2.4 | 0 | 350 | 600 | ZF |
| CZMK 3.6 | 3.40 | 3.80 | 85 | 90 | 5.0 | 1 | -3.5 | -2.4 | 0 | 375 | 600 | ZG |
| CZMK 3.9 | 3.70 | 4.10 | 85 | 90 | 3.0 | 1 | -3.5 | -2.5 | 0 | 400 | 600 | ZH |
| CZMK 4.3 | 4.00 | 4.60 | 80 | 90 | 3.0 | 1 | -3.5 | -2.5 | 0 | 410 | 600 | ZJ |
| CZMK 4.7 | 4.40 | 5.00 | 50 | 80 | 3.0 | 2 | -3.5 | -1.4 | 0.2 | 425 | 500 | ZK |
| CZMK 5.1 | 4.80 | 5.40 | 40 | 60 | 2.0 | 2 | -2.7 | -0.8 | 1.2 | 400 | 480 | ZL |
| CZMK 5.6 | 5.20 | 6.00 | 15 | 40 | 1.0 | 2 | -2.0 | -1.2 | 2.5 | 80 | 400 | ZM |
| CZMK 6.2 | 5.80 | 6.60 | 6 | 10 | 3.0 | 4 | 0.4 | 2.3 | 3.7 | 40 | 150 | ZN |
| CZMK 6.8 | 6.40 | 7.20 | 6 | 15 | 2.0 | 4 | 1.2 | 3.0 | 4.5 | 30 | 80 | ZP |
| CZMK 7.5 | 7.00 | 7.90 | 6 | 15 | 1.0 | 5 | 2.5 | 4.0 | 5.3 | 30 | 80 | ZT |
| CZMK 8.2 | 7.70 | 8.70 | 6 | 15 | 0.7 | 5 | 3.2 | 4.6 | 6.2 | 40 | 80 | ZV |
| CZMK 9.1 | 8.50 | 9.60 | 6 | 15 | 0.5 | 6 | 3.8 | 5.5 | 7.0 | 40 | 100 | ZW |
| CZMK 10 | 9.40 | 10.60 | 8 | 20 | 0.2 | 7 | 4.5 | 6.4 | 8.0 | 50 | 150 | ZX |




**Pin Configuration**
1 = ANODE
2 = ANODE
3 = CATHODE

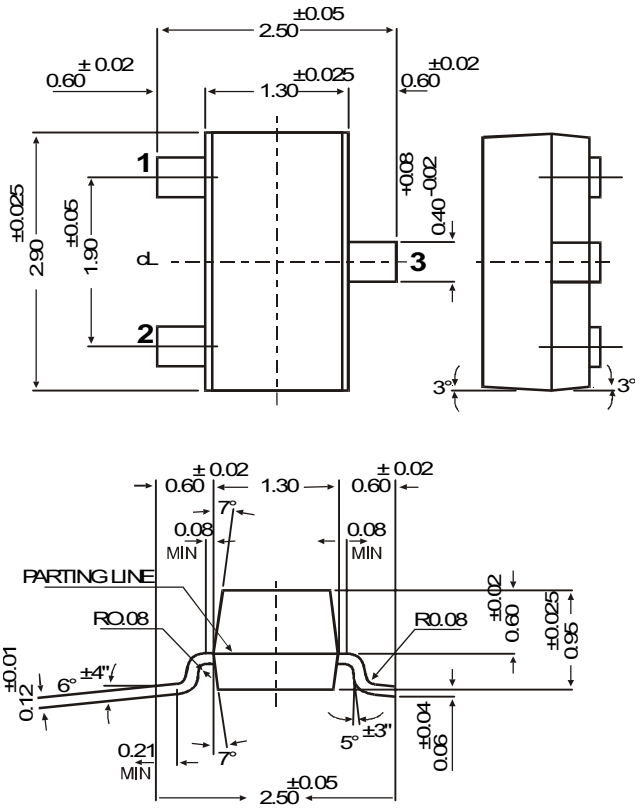
**SOT-23**
**Formed SMD Package**

**ELECTRICAL CHARACTERISTICS Per Diode ($T_a$=25°C $V_F$ <0.9V max, $I_F$=10mA)**

| Device # | Working Voltage | | Differential Resistance | | Reverse Current | | Temperature Coefficient | | | Differential Resistance | | Marking |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | $V_Z$(V)*** @ $I_Z$test=5mA | | rdiff (Ω) @ $I_Z$test=5mA | | $I_R$ | | $S_Z$ (mV/K) @ $I_Z$test=5mA | | | rdiff (Ω) @ $I_Z$test=1mA | | |
| | min | max | typ | max | µA | V | min | typ | max | typ | max | |
| CZMK 11 | 10.40 | 11.60 | 10 | 20 | 0.1 | 8.0 | 5.4 | 7.4 | 9.0 | 50 | 150 | ZY |
| CZMK 12 | 11.40 | 12.70 | 10 | 25 | 0.1 | 8.0 | 6.0 | 8.4 | 10 | 50 | 150 | ZZ |
| CZMK 13 | 12.40 | 14.10 | 10 | 30 | 0.1 | 8.0 | 7.0 | 9.4 | 11 | 50 | 170 | YB |
| CZMK 15 | 13.80 | 15.60 | 10 | 30 | 0.05 | 10.5 | 9.2 | 11.4 | 13 | 50 | 200 | YC |
| CZMK 16 | 15.30 | 17.10 | 10 | 40 | 0.05 | 11.2 | 10.4 | 12.4 | 14 | 50 | 200 | YD |
| CZMK 18 | 16.80 | 19.10 | 10 | 45 | 0.05 | 12.6 | 12.4 | 14.4 | 16 | 50 | 225 | YE |
| CZMK 20 | 18.80 | 21.20 | 15 | 55 | 0.05 | 14.0 | 14.4 | 16.4 | 18 | 60 | 225 | YF |
| CZMK 22 | 20.80 | 23.30 | 20 | 55 | 0.05 | 15.4 | 16.4 | 18.4 | 20 | 60 | 250 | YG |
| CZMK 24 | 22.80 | 25.60 | 25 | 70 | 0.05 | 16.8 | 18.4 | 20.4 | 22 | 60 | 250 | YH |
| | @ $I_Z$test=2mA | | @ $I_Z$test=2mA | | | | @ $I_Z$test=2mA | | | @ $I_Z$test=0.5mA | | |
| CZMK 27 | 25.10 | 28.90 | 25 | 80 | 0.05 | 18.9 | 21.4 | 23.4 | 25.3 | 65 | 300 | YJ |
| CZMK 30 | 28.00 | 32.00 | 30 | 80 | 0.05 | 21.0 | 24.4 | 26.6 | 29.4 | 70 | 300 | YK |
| CZMK 33 | 31.00 | 35.00 | 35 | 80 | 0.05 | 23.1 | 27.4 | 29.7 | 33.4 | 75 | 325 | YL |
| CZMK 36 | 34.00 | 38.00 | 35 | 90 | 0.05 | 25.2 | 30.4 | 33.0 | 37.4 | 80 | 350 | YM |
| CZMK 39 | 37.00 | 41.00 | 40 | 130 | 0.05 | 27.3 | 33.4 | 36.4 | 41.2 | 80 | 350 | YN |

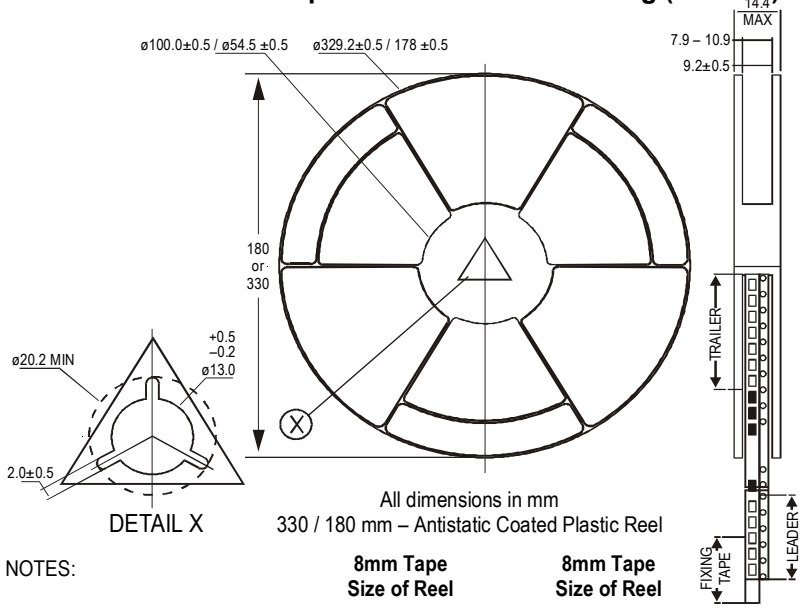
***Pulse test 20ms≤ $t_p$ ≤50ms.

## SOT-23 Formed SMD Package




## SOT-23 Package Reel Information

**Reel specification for W" Packing (13" reel)**



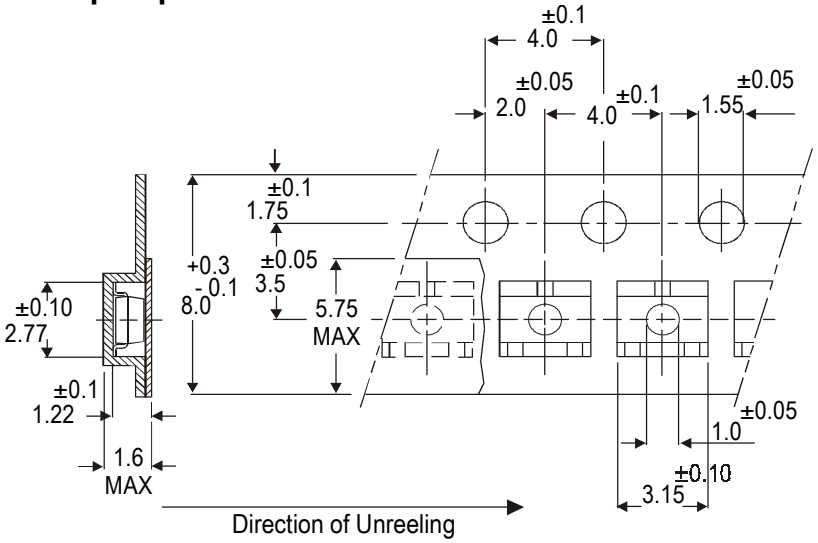

All dimensions in mm
330 / 180 mm – Antistatic Coated Plastic Reel

NOTES:

| | 8mm Tape Size of Reel | 8mm Tape Size of Reel |
|---|---|---|
| | 330 mm (13") | 180 mm (7") |
| No. of Devices | 10,000 Pcs | 3,000 Pcs |

1. The bandolier of 330 mm reel contains at least 10,000 devices.
2. The bandolier of 180 mm reel contains at least 3,000 devices.
3. No more than 0.5% missing devices / reel. 50 empty compartments for 330 mm reel. 15 empty compartments for 180 mm reel.
4. Three consecutive empty places might be found provided this gap is followed by 6 consecutive devices.
5. The carrier tape (leader) starts with at least 75 empty positions (equivalent to 330 mm). In order to fix the carrier tape a self adhesive tape of 20 to 50 mm is applied. At the end of the bandolier at least 40 empty positions (equivalent to 160 mm) are there.

## Tape Specification for SOT-23 Surface Mount Device




## Packing Detail

**All dimensions in mm**

| PACKAGE | STANDARD PACK | | INNER CARTON BOX | | OUTER CARTON BOX | | |
|---|---|---|---|---|---|---|---|
| | Details | Net Weight/Qty | Size | Qty | Size | Qty | Gr Wt |
| SOT-23 T&R | 3K/reel | 136 gm/3K pcs | 3" x 7.5" x 7.5" | 12 K | 17" x 15" x 13.5" | 192 K | 12 kgs |
| | | | 9" x 9" x 9" | 51 K | 19" x 19" x 19" | 408 K | 28 kgs |
| | 10K/reel | 415 gm/10K pcs | 13" x 13" x 0.5" | 10 K | 17" x 15" x 13.5" | 300 K | 16 kgs |

## Disclaimer

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