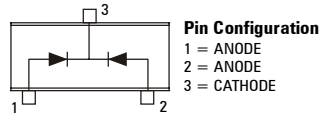
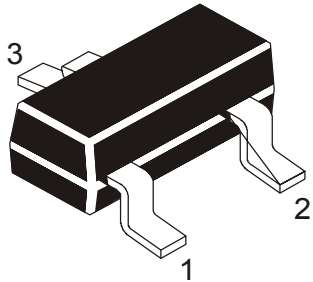


SILICON PLANAR ZENER DIODES

CZMK3V3-39V



SOT-23 Formed SMD Package

Dual Zener Diodes, Common Cathode

ABSOLUTE MAXIMUM RATINGS Per Diode ($T_a=25^\circ\text{C}$ 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 $T_{amb}=25^\circ\text{C}$ | P_{tot}^* | 300 | mW |
| Power Dissipation upto $T_{amb}=25^\circ\text{C}$ | P_{tot}^{**} | 250 | mW |
| Storage Temperature | T_j | 150 | $^\circ\text{C}$ |
| Junction Temperature | T_{stg} | - 55 to +150 | $^\circ\text{C}$ |

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 alumina

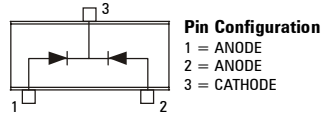
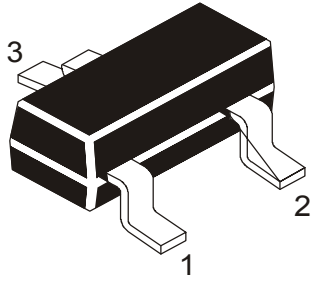
** Device mounted on an FR5 printed circuit board

ELECTRICAL CHARACTERISTICS Per Diode ($T_a=25^\circ\text{C}$ $V_F < 0.9\text{V}$ max, $I_F=10\text{mA}$)

| Device # | Working Voltage | | Differential Resistance | | Reverse Current | | Temperature Coefficient | | | Differential Resistance | | Marking |
|----------|---|-------|--|-----|-----------------|---|--|------|-----|--|-----|---------|
| | $V_Z(\text{V})^{***}$ @ $I_{Ztest}=5\text{mA}$ | | $r_{diff}(\Omega)$ @ $I_{Ztest}=5\text{mA}$ | | I_R | | $S_Z(\text{mV/K})$ @ $I_{Ztest}=5\text{mA}$ | | | $r_{diff}(\Omega)$ @ $I_{Ztest}=1\text{mA}$ | | |
| | 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 |

SILICON PLANAR ZENER DIODES

CZMK3V3-39V



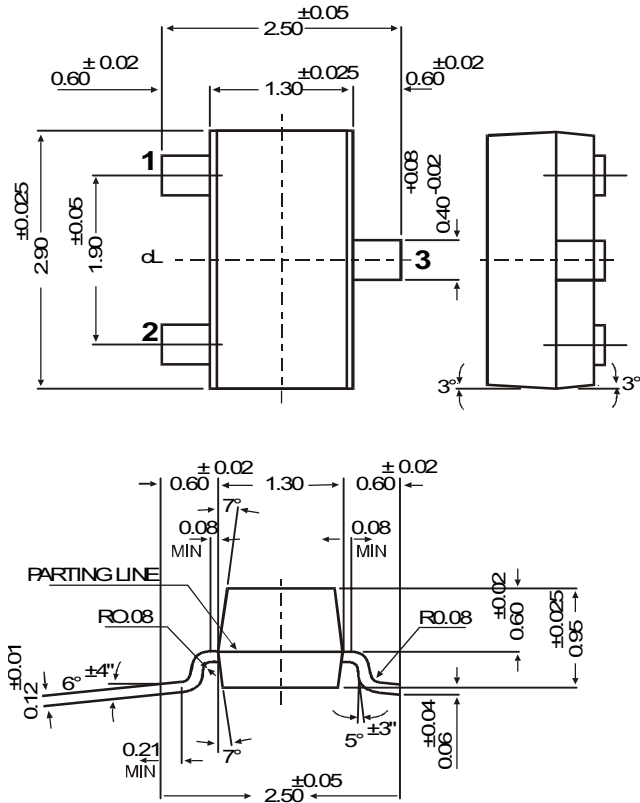
SOT-23 Formed SMD Package

ELECTRICAL CHARACTERISTICS Per Diode ($T_a=25^\circ\text{C}$ $V_F < 0.9\text{V max}$, $I_F=10\text{mA}$)

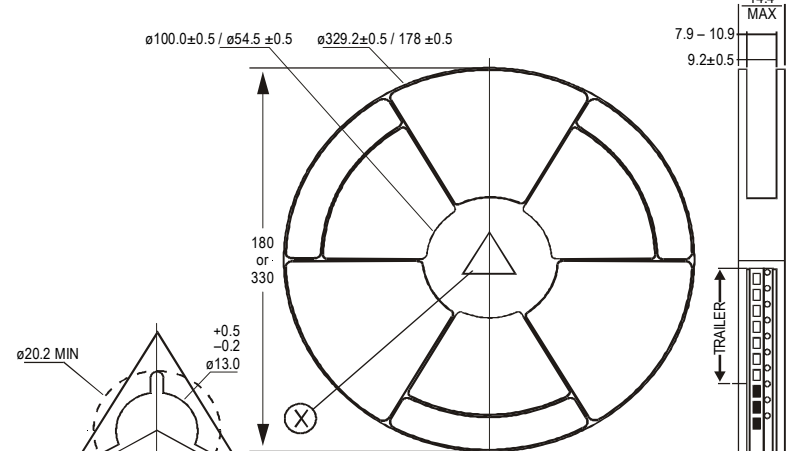
| Device # | Working Voltage | | Differential Resistance | | Reverse Current | | Temperature Coefficient | | | Differential Resistance | | Marking | |
|----------|--|-------|--|-----|-----------------|------|---|---------------------------------|------|--|-----------------------------------|---------|--|
| | $V_Z(\text{V})^{***}$ @ $I_{Z\text{test}}=5\text{mA}$ | | $r_{\text{diff}}(\Omega)$ @ $I_{Z\text{test}}=5\text{mA}$ | | I_R | | $S_Z(\text{mV/K})$ @ $I_{Z\text{test}}=5\text{mA}$ | | | $r_{\text{diff}}(\Omega)$ @ $I_{Z\text{test}}=1\text{mA}$ | | | |
| | 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 | |
| | @ $I_{Z\text{test}}=2\text{mA}$ | | @ $I_{Z\text{test}}=2\text{mA}$ | | | | | @ $I_{Z\text{test}}=2\text{mA}$ | | | @ $I_{Z\text{test}}=0.5\text{mA}$ | | |
| 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 $20\text{ms} \leq t_p \leq 50\text{ms}$.

SOT-23 Formed SMD Package



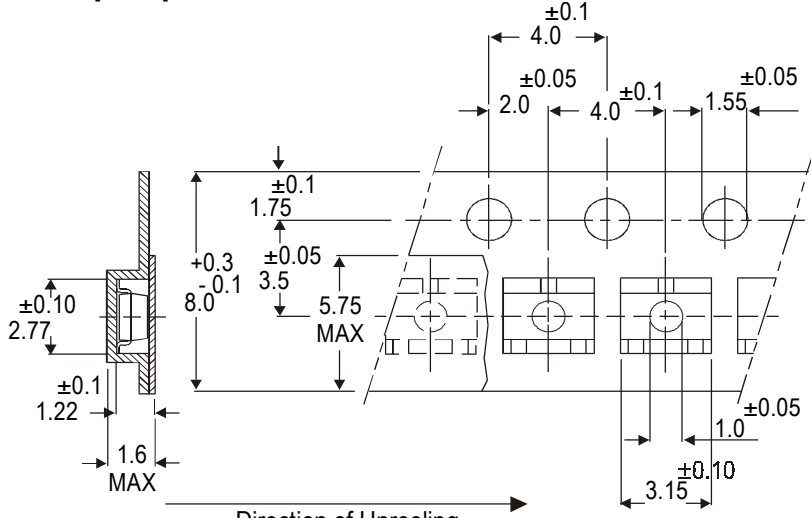
SOT-23 Package Reel Information
Reel specification for W" Packing (13" reel)



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

- NOTES:
- | | 8mm Tape Size of Reel | 8mm Tape Size of Reel |
|----------------|-----------------------|-----------------------|
| No. of Devices | 10,000 Pcs | 3,000 Pcs |
| | 330 mm (13") | 180 mm (7") |
- The bandolier of 330 mm reel contains at least 10,000 devices.
 - The bandolier of 180 mm reel contains at least 3,000 devices.
 - No more than 0.5% missing devices / reel. 50 empty compartments for 330 mm reel. 15 empty compartments for 180 mm reel.
 - Three consecutive empty places might be found provided this gap is followed by 6 consecutive devices.
 - 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



All dimensions in mm

Packing Detail

| 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 |
| | 10K/reel | 415 gm/10K pcs | 9" x 9" x 9" | 51 K | 19" x 19" x 19" | 408 K | 28 kgs |
| | | | 13" x 13" x 0.5" | 10 K | 17" x 15" x 13.5" | 300 K | 16 kgs |

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