

# DZ23C2V4 SERIES

## DUAL SURFACE MOUNT ZENER DIODES

**VOLTAGE** 2.4 to 51 Volt **POWER** 300 mWatt

**SOT-23**

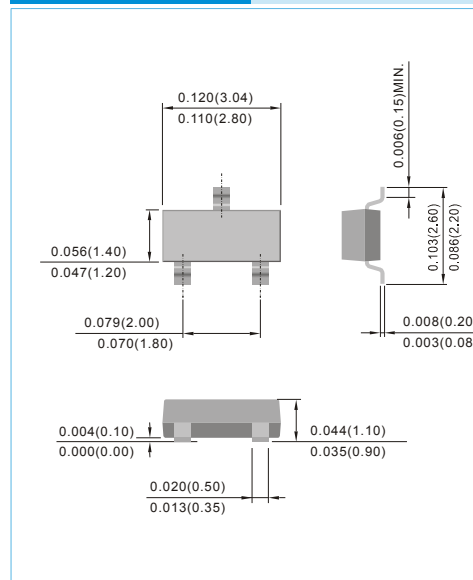
Unit : inch(mm)

### FEATURES

- Dual Zeners in Common Cathode Configuration
- 300mW Power Dissipation Rating
- Zener Voltages from 2.4~51V
- Ideally Suited for Automatic Insertion
- Common Anode Style Available See AZ Series
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

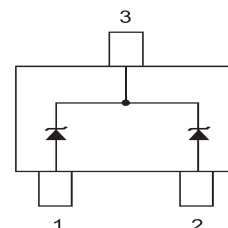
### MECHANICAL DATA

- Case: SOT-23, Molded Plastic
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.0003 ounces, 0.008 grams



## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

| PARAMETER                                                    | SYMBOL          | VALUE       | UNITS         |
|--------------------------------------------------------------|-----------------|-------------|---------------|
| Power Dissipation (Note 1)                                   | $P_D$           | 300         | mW            |
| Thermal Resistance, Junction to Ambient Air (Note 1)         | $R_{\theta JA}$ | 420         | $^{\circ}C/W$ |
| Operating Junction Temperature and Storage Temperature Range | $T_J, T_{STG}$  | -65 to +150 | $^{\circ}C$   |



### NOTES :

1. Mounted on 5mm<sup>2</sup>(0.013mm thick) land areas.
2. Measured on 8.3ms, single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum.



## DZ23C2V4 SERIES

| Part Number | Nominal Zener Voltage            |        |        | Max. Zener Impedance              |     |                                   |      | Max Reverse Leakage Current     |      | Marking Code |
|-------------|----------------------------------|--------|--------|-----------------------------------|-----|-----------------------------------|------|---------------------------------|------|--------------|
|             | V <sub>Z</sub> @ I <sub>ZT</sub> |        |        | Z <sub>ZT</sub> @ I <sub>ZT</sub> |     | Z <sub>ZK</sub> @ I <sub>ZK</sub> |      | I <sub>R</sub> @ V <sub>R</sub> |      |              |
|             | Nom. V                           | Min. V | Max. V | Ω                                 | mA  | Ω                                 | mA   | μA                              | V    |              |
| DZ23C2V4    | 2.4                              | 2.28   | 2.52   | 85                                | 5.0 | 600                               | 1.00 | 100.0                           | 1.0  | V0           |
| DZ23C2V7    | 2.7                              | 2.57   | 2.84   | 83                                | 5.0 | 600                               | 1.00 | 75                              | 1.0  | V1           |
| DZ23C3V0    | 3.0                              | 2.85   | 3.15   | 95                                | 5.0 | 600                               | 1.00 | 50                              | 1.0  | V2           |
| DZ23C3V3    | 3.3                              | 3.14   | 3.47   | 95                                | 5.0 | 600                               | 1.00 | 25                              | 1.0  | V3           |
| DZ23C3V6    | 3.6                              | 3.42   | 3.78   | 90                                | 5.0 | 600                               | 1.00 | 5.0                             | 1.0  | V4           |
| DZ23C3V9    | 3.9                              | 3.71   | 4.10   | 90                                | 5.0 | 600                               | 1.00 | 3.0                             | 1.0  | V5           |
| DZ23C4V3    | 4.3                              | 4.09   | 4.52   | 95                                | 5.0 | 600                               | 1.00 | 5.0                             | 1.0  | V6           |
| DZ23C4V7    | 4.7                              | 4.47   | 4.94   | 78                                | 5.0 | 500                               | 1.00 | 5.0                             | 2.0  | V7           |
| DZ23C5V1    | 5.1                              | 4.85   | 5.36   | 60                                | 5.0 | 480                               | 1.00 | 0.1                             | 0.8  | V8           |
| DZ23C5V6    | 5.6                              | 5.32   | 5.88   | 40                                | 5.0 | 400                               | 1.00 | 0.1                             | 1.0  | V9           |
| DZ23C6V2    | 6.2                              | 5.89   | 6.51   | 10                                | 5.0 | 150                               | 1.00 | 0.1                             | 2.0  | V10          |
| DZ23C6V8    | 6.8                              | 6.46   | 7.14   | 8                                 | 5.0 | 80                                | 1.00 | 0.1                             | 3.0  | V11          |
| DZ23C7V5    | 7.5                              | 7.13   | 7.88   | 7                                 | 5.0 | 80                                | 1.00 | 0.1                             | 5.0  | V12          |
| DZ23C8V2    | 8.2                              | 7.79   | 8.61   | 7                                 | 5.0 | 80                                | 1.00 | 0.1                             | 6.0  | V13          |
| DZ23C8V7    | 8.7                              | 8.27   | 9.14   | 7                                 | 5.0 | 80                                | 1.00 | 0.1                             | 6.5  | V87          |
| DZ23C9V1    | 9.1                              | 8.65   | 9.56   | 10                                | 5.0 | 100                               | 1.00 | 0.1                             | 7.0  | V14          |
| DZ23C10     | 10                               | 9.50   | 10.50  | 15                                | 5.0 | 150                               | 1.00 | 0.1                             | 7.5  | V15          |
| DZ23C11     | 11                               | 10.45  | 11.55  | 20                                | 5.0 | 150                               | 1.00 | 0.1                             | 8.5  | V16          |
| DZ23C12     | 12                               | 11.40  | 12.60  | 20                                | 5.0 | 150                               | 1.00 | 0.1                             | 9.0  | V17          |
| DZ23C13     | 13                               | 12.35  | 13.65  | 25                                | 5.0 | 170                               | 1.00 | 0.1                             | 10.0 | V18          |
| DZ23C14     | 14                               | 13.30  | 14.70  | 25                                | 5.0 | 170                               | 1.00 | 0.1                             | 10.5 | VA           |
| DZ23C15     | 15                               | 14.25  | 15.75  | 30                                | 5.0 | 200                               | 1.00 | 0.1                             | 11.0 | V19          |
| DZ23C16     | 16                               | 15.20  | 16.80  | 40                                | 5.0 | 200                               | 1.00 | 0.1                             | 12.0 | V20          |
| DZ23C17     | 17                               | 16.15  | 17.85  | 40                                | 5.0 | 200                               | 1.00 | 0.1                             | 13.0 | VB           |
| DZ23C18     | 18                               | 17.10  | 18.90  | 50                                | 5.0 | 225                               | 1.00 | 0.1                             | 14.0 | V21          |
| DZ23C20     | 20                               | 19.00  | 21.00  | 50                                | 5.0 | 225                               | 1.00 | 0.1                             | 15.0 | V22          |
| DZ23C22     | 22                               | 20.90  | 23.10  | 55                                | 5.0 | 250                               | 1.00 | 0.1                             | 17.0 | V23          |
| DZ23C24     | 24                               | 22.80  | 25.20  | 80                                | 5.0 | 250                               | 1.00 | 0.1                             | 18.0 | V24          |
| DZ23C27     | 27                               | 25.65  | 28.35  | 80                                | 5.0 | 300                               | 1.00 | 0.1                             | 20.0 | V25          |
| DZ23C28     | 28                               | 26.60  | 29.40  | 80                                | 5.0 | 300                               | 1.00 | 0.1                             | 22.0 | VC           |
| DZ23C30     | 30                               | 28.50  | 31.50  | 80                                | 5.0 | 300                               | 1.00 | 0.1                             | 22.5 | V26          |
| DZ23C33     | 33                               | 31.35  | 34.65  | 80                                | 5.0 | 325                               | 1.00 | 0.1                             | 25.0 | V27          |
| DZ23C36     | 36                               | 34.20  | 37.80  | 90                                | 5.0 | 350                               | 1.00 | 0.1                             | 27.0 | V28          |
| DZ23C39     | 39                               | 37.05  | 40.95  | 90                                | 5.0 | 350                               | 1.00 | 0.1                             | 29.0 | V29          |
| DZ23C43     | 43                               | 40.85  | 45.15  | 100                               | 5.0 | 375                               | 1.00 | 0.1                             | 32.0 | V30          |
| DZ23C47     | 47                               | 44.65  | 49.35  | 100                               | 5.0 | 375                               | 1.00 | 0.1                             | 35.0 | V31          |
| DZ23C51     | 51                               | 48.45  | 53.55  | 100                               | 5.0 | 400                               | 1.00 | 0.1                             | 38.0 | V32          |

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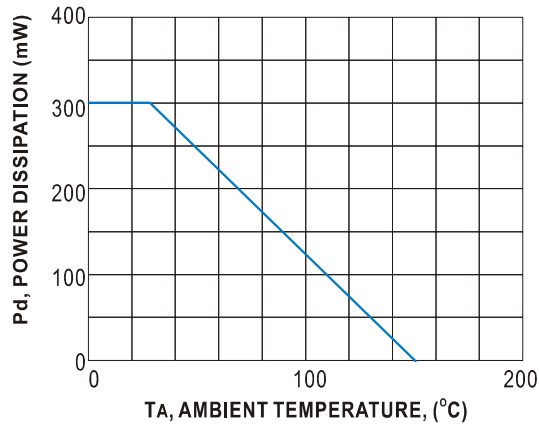


Fig.1 POWER DERATING CURVE

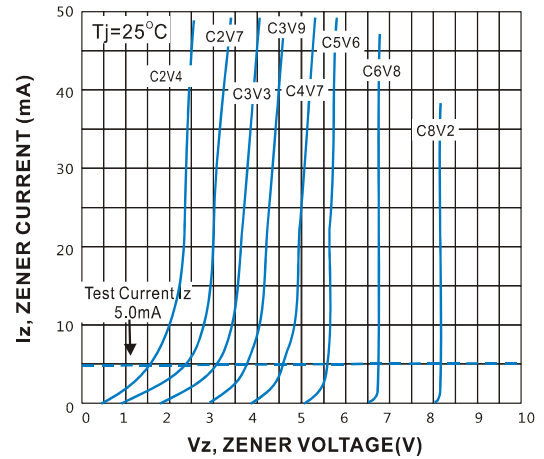


Fig.2 ZENER BREAKDOWN CHARACTERISTICS

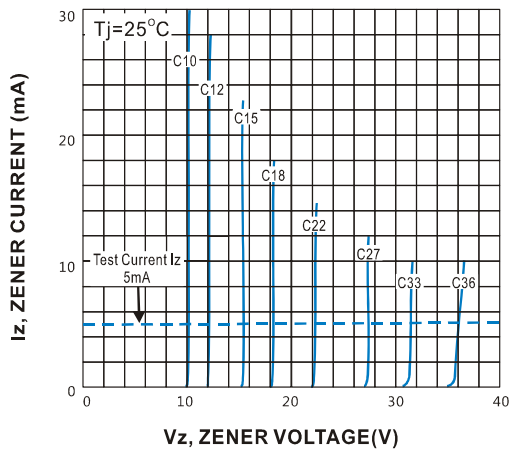


Fig.3 ZENER BREAKDOWN CHARACTERISTICS

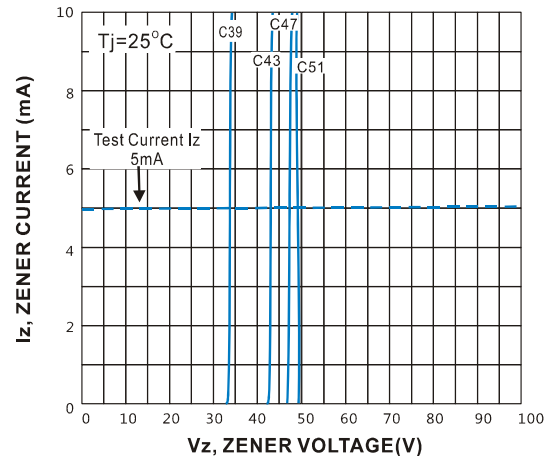


Fig.4 ZENER BREAKDOWN CHARACTERISTICS

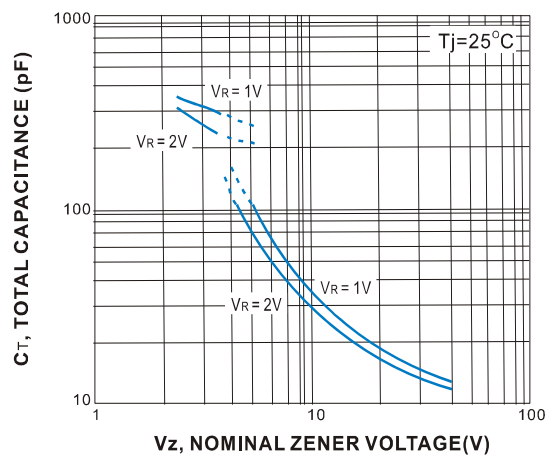


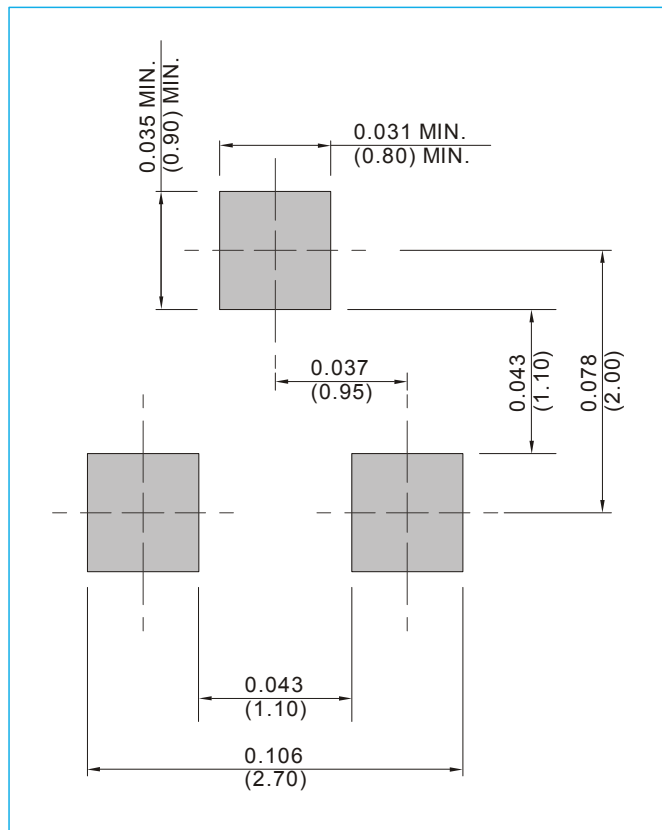
Fig.5 TOTAL CAPACITANCE VS NOMINAL ZENER VOLTAGE

## DZ23C2V4 SERIES

### MOUNTING PAD LAYOUT

**SOT-23**

Unit : inch(mm)



### ORDER INFORMATION

- Packing information

T/R - 12K per 13" plastic Reel

T/R - 3K per 7" plastic Reel

## DZ23C2V4 SERIES

Part No\_packing code\_Version

DZ23C2V4\_R1\_00001

DZ23C2V4\_R2\_00001

For example :

**RB500V-40\_R2\_00001**



| Packing Code <b>XX</b>               |                      |                                  |                      | Version Code <b>XXXXX</b> |                      |                                       |
|--------------------------------------|----------------------|----------------------------------|----------------------|---------------------------|----------------------|---------------------------------------|
| Packing type                         | 1 <sup>st</sup> Code | Packing size code                | 2 <sup>nd</sup> Code | HF or RoHS                | 1 <sup>st</sup> Code | 2 <sup>nd</sup> ~5 <sup>th</sup> Code |
| Tape and Ammunition Box (T/B)        | A                    | N/A                              | 0                    | HF                        | 0                    | serial number                         |
| Tape and Reel (T/R)                  | R                    | 7"                               | 1                    | RoHS                      | 1                    | serial number                         |
| Bulk Packing (B/P)                   | B                    | 13"                              | 2                    |                           |                      |                                       |
| Tube Packing (T/P)                   | T                    | 26mm                             | X                    |                           |                      |                                       |
| Tape and Reel (Right Oriented) (TRR) | S                    | 52mm                             | Y                    |                           |                      |                                       |
| Tape and Reel (Left Oriented) (TRL)  | L                    | PANASERT T/B CATHODE UP (PBCU)   | U                    |                           |                      |                                       |
| FORMING                              | F                    | PANASERT T/B CATHODE DOWN (PBCD) | D                    |                           |                      |                                       |



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