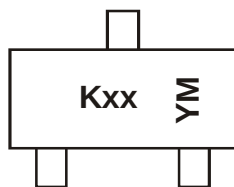
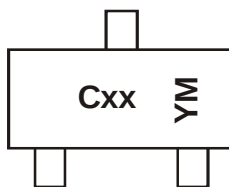


## Marking Information



K = SAT (Shanghai Assembly / Test Site)  
xx = Product Type Marking Code  
See Electrical Characteristics Table  
YM = Date Code Marking  
Y = Year (ex: I = 2021)  
M = Month (ex: 9 = September)

For DZ23C15-7-F only:  
Assembly/Test in Shanghai or Chuzhou  
M or  $\bar{M}$  = Month (ex: 9 = September)



C = CAT (Chengdu Assembly / Test Site)  
xx = Product Type Marking Code  
See Electrical Characteristics Table  
YM = Date Code Marking  
Y = Year (ex: I = 2021)  
M = Month (ex: 9 = September)

### Date Code Key

| Year | 2013 | ..... | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 |
|------|------|-------|------|------|------|------|------|------|------|------|------|------|
| Code | A    | ..... | I    | J    | K    | L    | M    | N    | O    | P    | R    | S    |

| Month | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Code  | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | O   | N   | D   |

## Thermal Characteristics

| Characteristic                                       | Symbol          | Value       | Unit |
|------------------------------------------------------|-----------------|-------------|------|
| Power Dissipation (Note 5)                           | $P_D$           | 300         | mW   |
| Thermal Resistance, Junction to Ambient Air (Note 5) | $R_{\theta JA}$ | 417         | °C/W |
| Operating and Storage Temperature Range              | $T_J, T_{STG}$  | -65 to +150 | °C   |

Note: 5. Mounted on FR4 PC Board with recommended pad layout which can be found on our website at <http://www.diodes.com>.

## Electrical Characteristics (@ $T_A = +25^\circ\text{C}$ , unless otherwise specified.)

| Type Number | Marking Code | Zener Voltage Range (Note 6) | Maximum Zener Impedance<br>$f = 1\text{kHz}$ |                                  | Typical Temperature Coefficient<br>$TC (\%/^\circ\text{C})$ | Minimum Reverse Voltage (Note 6) |
|-------------|--------------|------------------------------|----------------------------------------------|----------------------------------|-------------------------------------------------------------|----------------------------------|
|             |              | @ $I_{ZT} = 5.0\text{mA}$    | $Z_{ZT} @ I_{ZT} = 5.0\text{mA}$             | $Z_{ZK} @ I_{ZK} = 1.0\text{mA}$ |                                                             | @ $I_R = 0.1\mu\text{A}$         |
|             |              | $V_Z (V)$                    | $\Omega$                                     | $\Omega$                         |                                                             | $V_R (V)$                        |
| DZ23C2V7    | V1           | 2.5 to 2.9                   | 83                                           | 500                              | -0.065                                                      | —                                |
| DZ23C3V0    | V2           | 2.8 to 3.2                   | 95                                           | 500                              | -0.060                                                      | —                                |
| DZ23C3V3    | V3           | 3.1 to 3.5                   | 95                                           | 500                              | -0.055                                                      | —                                |
| DZ23C3V6    | V4           | 3.4 to 3.8                   | 95                                           | 500                              | -0.055                                                      | —                                |
| DZ23C3V9    | V5           | 3.7 to 4.1                   | 95                                           | 500                              | -0.050                                                      | —                                |
| DZ23C4V3    | V6           | 4.0 to 4.6                   | 95                                           | 500                              | -0.035                                                      | —                                |
| DZ23C4V7    | V7           | 4.4 to 5.0                   | 78                                           | 500                              | -0.015                                                      | —                                |
| DZ23C5V1    | V8           | 4.8 to 5.4                   | 60                                           | 480                              | +0.005                                                      | 0.8                              |
| DZ23C5V6    | V9           | 5.2 to 6.0                   | 40                                           | 400                              | +0.020                                                      | 1.0                              |
| DZ23C6V2    | VA           | 5.8 to 6.6                   | 10                                           | 200                              | +0.030                                                      | 2.0                              |
| DZ23C6V8    | VB           | 6.4 to 7.2                   | 8.0                                          | 150                              | +0.045                                                      | 3.0                              |
| DZ23C7V5    | VC           | 7.0 to 7.9                   | 7.0                                          | 50                               | +0.050                                                      | 5.0                              |
| DZ23C8V2    | VD           | 7.7 to 8.7                   | 7.0                                          | 50                               | +0.055                                                      | 6.0                              |
| DZ23C9V1    | VE           | 8.5 to 9.6                   | 10                                           | 50                               | +0.065                                                      | 7.0                              |
| DZ23C10     | VF           | 9.4 to 10.6                  | 15                                           | 70                               | +0.065                                                      | 7.5                              |
| DZ23C11     | VG           | 10.4 to 11.6                 | 20                                           | 70                               | +0.070                                                      | 8.5                              |
| DZ23C12     | VH           | 11.4 to 12.7                 | 20                                           | 90                               | +0.075                                                      | 9.0                              |
| DZ23C13     | VI           | 12.4 to 14.1                 | 25                                           | 110                              | +0.080                                                      | 10.0                             |
| DZ23C15     | VJ           | 13.8 to 15.6                 | 30                                           | 110                              | +0.080                                                      | 11.0                             |
| DZ23C16     | VK           | 15.3 to 17.1                 | 40                                           | 170                              | +0.090                                                      | 12.0                             |
| DZ23C18     | VL           | 16.8 to 19.1                 | 50                                           | 170                              | +0.090                                                      | 14.0                             |
| DZ23C20     | VM           | 18.8 to 21.2                 | 50                                           | 220                              | +0.090                                                      | 15.0                             |
| DZ23C22     | VN           | 20.8 to 23.3                 | 55                                           | 220                              | +0.090                                                      | 17.0                             |
| DZ23C24     | VO           | 22.8 to 25.6                 | 80                                           | 220                              | +0.090                                                      | 18.0                             |
| DZ23C27     | VP           | 25.1 to 28.9                 | 80                                           | 250                              | +0.090                                                      | 20.0                             |
| DZ23C30     | VQ           | 28 to 32                     | 80                                           | 250                              | +0.090                                                      | 22.5                             |
| DZ23C33     | VR           | 31 to 35                     | 80                                           | 250                              | +0.090                                                      | 25.0                             |
| DZ23C36     | VS           | 34 to 38                     | 90                                           | 250                              | +0.090                                                      | 27.0                             |
| DZ23C39     | VT           | 37 to 41                     | 90                                           | 300                              | +0.110                                                      | 29.0                             |
| DZ23C43     | VU           | 40 to 46                     | 100                                          | 700                              | +0.110                                                      | 32.0                             |
| DZ23C47     | VV           | 44 to 50                     | 100                                          | 750                              | +0.110                                                      | 35.0                             |
| DZ23C51     | VW           | 48 to 54                     | 100                                          | 750                              | +0.110                                                      | 38.0                             |

Note: 6. Short duration pulse test used to minimize self-heating effect.

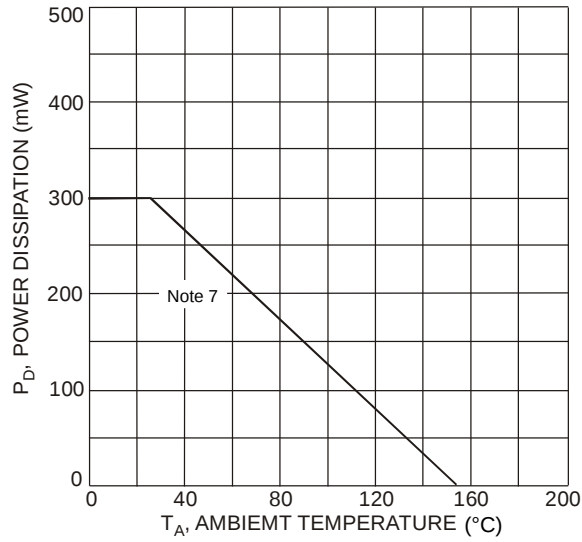


Fig. 1 Power Derating Curve

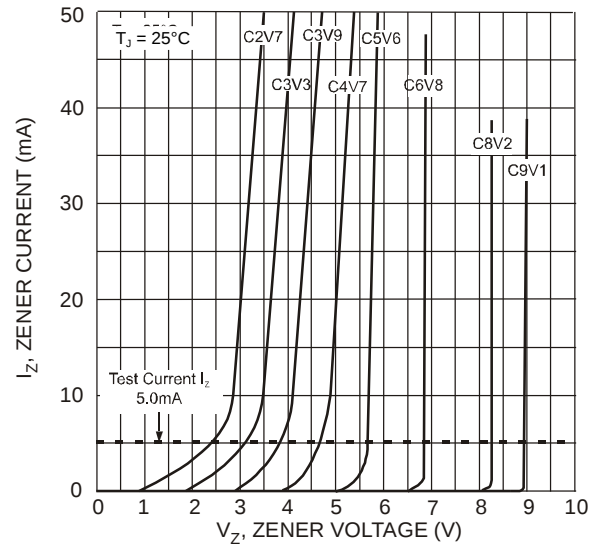


Fig. 2 Typical Zener Breakdown Characteristics

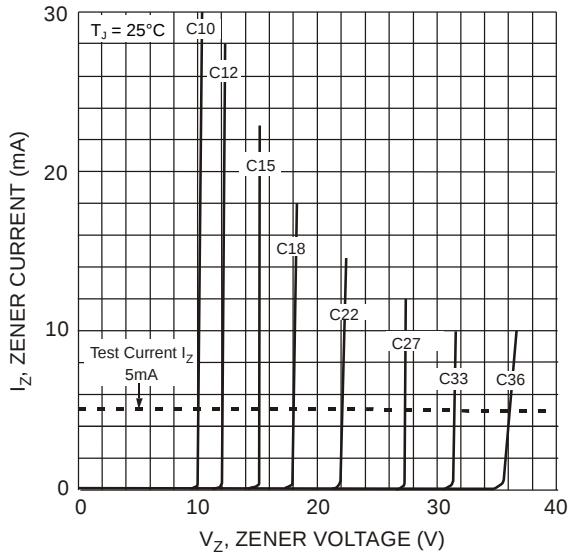


Fig. 3 Typical Zener Breakdown Characteristics

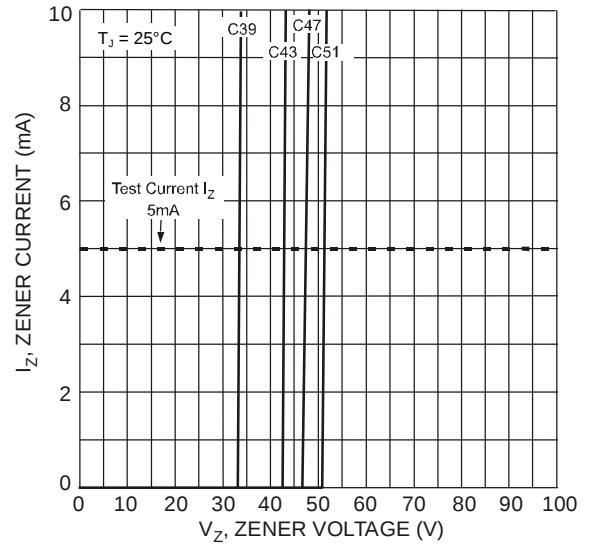


Fig. 4 Typical Zener Breakdown Characteristics

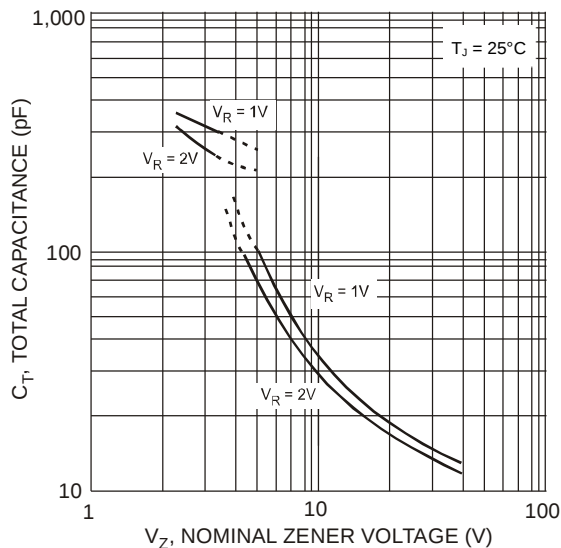
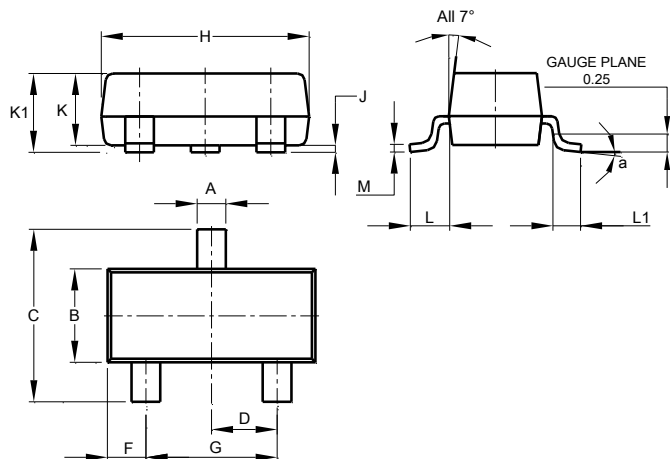


Fig. 5 Typical Total Capacitance vs. Nominal Zener Voltage

## Package Outline Dimensions

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

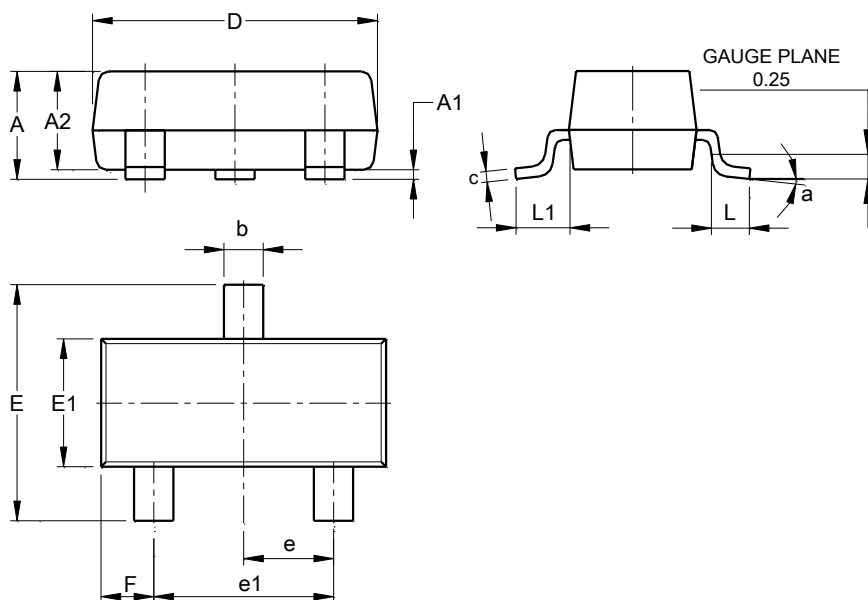
### SOT23



| SOT23                |       |       |       |
|----------------------|-------|-------|-------|
| Dim                  | Min   | Max   | Typ   |
| A                    | 0.37  | 0.51  | 0.40  |
| B                    | 1.20  | 1.40  | 1.30  |
| C                    | 2.30  | 2.50  | 2.40  |
| D                    | 0.89  | 1.03  | 0.915 |
| F                    | 0.45  | 0.60  | 0.535 |
| G                    | 1.78  | 2.05  | 1.83  |
| H                    | 2.80  | 3.00  | 2.90  |
| J                    | 0.013 | 0.10  | 0.05  |
| K                    | 0.890 | 1.00  | 0.975 |
| K1                   | 0.903 | 1.10  | 1.025 |
| L                    | 0.45  | 0.61  | 0.55  |
| L1                   | 0.25  | 0.55  | 0.40  |
| M                    | 0.085 | 0.150 | 0.110 |
| a                    | 0°    | 8°    | --    |
| All Dimensions in mm |       |       |       |

For DZ23C15-7-F only:

### SOT23 (Standard)

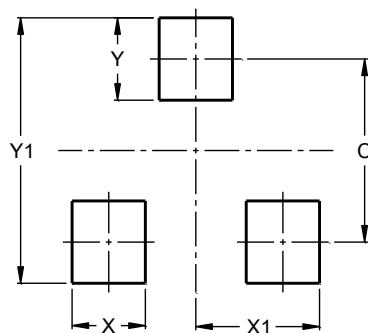


| SOT23 (Standard)     |       |       |       |
|----------------------|-------|-------|-------|
| Dim                  | Min   | Max   | Typ   |
| A                    | 0.90  | 1.15  | 1.025 |
| A1                   | 0.00  | 0.10  | 0.05  |
| A2                   | 0.85  | 1.10  | 0.975 |
| b                    | 0.30  | 0.51  | 0.40  |
| c                    | 0.080 | 0.202 | 0.11  |
| D                    | 2.80  | 3.00  | 2.90  |
| E                    | 2.25  | 2.55  | 2.40  |
| E1                   | 1.20  | 1.40  | 1.30  |
| e                    | 0.89  | 1.03  | 0.915 |
| e1                   | 1.78  | 2.05  | 1.83  |
| F                    | 0.40  | 0.60  | 0.535 |
| L1                   | 0.45  | 0.61  | 0.55  |
| L                    | 0.25  | 0.55  | 0.40  |
| a                    | 0°    | 8°    | --    |
| All Dimensions in mm |       |       |       |

## Suggested Pad Layout

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

### SOT23



| Dimensions | Value (in mm) |
|------------|---------------|
| C          | 2.0           |
| X          | 0.8           |
| X1         | 1.35          |
| Y          | 0.9           |
| Y1         | 2.9           |

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