

RoHS Compliant Product  
A suffix of "-C" specifies halogen & lead-free

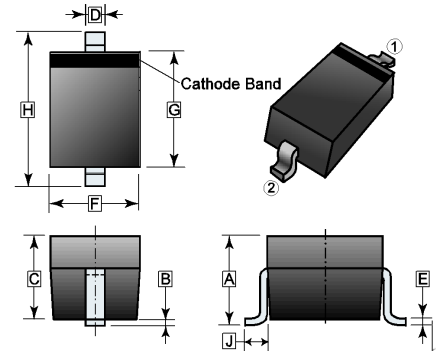
## FEATURES

- Planar Die Construction
- General Purpose Dissipation
- Ideally Suited for Automated Assembly Process

## PACKAGING INFORMATION

- Case: SOD-323, Plastic
- Case Material – UL Flammability Rating Classification 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020A
- Terminals: Solderable per MIL-STD-020, Method 208
- Polarity: Cathode Band
- Weight: 0.005 grams(approx.)

### SOD-323



| REF. | Millimeter |       | REF. | Millimeter |      |
|------|------------|-------|------|------------|------|
|      | Min.       | Max.  |      | Min.       | Max. |
| A    | 1.05       | REF.  | F    | 1.15       | 1.45 |
| B    | 0.20       | REF.  | G    | 1.6        | 1.8  |
| C    | 0.80       | 1.00  | H    | 2.30       | 2.75 |
| D    | 0.25       | 0.40  | J    | 0.475      | REF. |
| E    | 0.080      | 0.180 |      |            |      |

## MAXIMUM RATINGS (T<sub>A</sub>=25°C unless otherwise specified)

| Parameter   | Symbol                            | Value     | Unit   |
|---|-----------------------------------|-----------|--------|
| Forward Voltage @ I <sub>F</sub> =10mA <sup>1</sup>     | V <sub>F</sub>                    | 1.0       | V      |
| Power Dissipation <sup>2</sup>                          | P <sub>D</sub>                    | 200       | mW     |
| Thermal Resistance Junction to Ambient Air <sup>2</sup> | R <sub>θJA</sub>                  | 650       | °C / W |
| Operating and Storage Temperature Range                 | T <sub>J</sub> , T <sub>STG</sub> | -65 ~ 150 | °C     |

Notes:

1. Short duration test pulse used in minimizing self-heating effect.
2. Device mount on ceramic PCB; 7.6 mm x 9.4 mm x 0.87 mm with pad areas 25 mm<sup>2</sup>

**ELECTRICAL RATINGS** ( $T_A=25^\circ\text{C}$  unless otherwise specified)

| Part Number | Marking | Zener Voltage Range <sup>1</sup> |        |        |          | Maximum Zener Impedance <sup>3</sup> |                              | Maximum Reverse Leakage Current <sup>1</sup> |     |
|-------------|---------|----------------------------------|--------|--------|----------|--------------------------------------|------------------------------|--|-----|
|             |         | $V_Z @ I_{ZT}$                   |        |        | $I_{ZT}$ | $Z_{ZT} @ I_{ZT}$                    | $V_{ZK} @ I_{ZK}$<br>=0.25mA | $I_R @ V_R$                                  |     |
|             |         | Min(V)                           | Nom(V) | Max(V) | mA       | $\Omega$                             |                              | $\mu\text{A}$                                | V   |
| MMSZ5226BS  | D1/G1   | 3.14                             | 3.3    | 3.47   | 20       | 28                                   | 1600                         | 25   | 1.0 |
| MMSZ5227BS  | D2/G2   | 3.42                             | 3.6    | 3.78   | 20       | 24                                   | 1700                         | 15   | 1.0 |
| MMSZ5228BS  | D3/G3   | 3.71                             | 3.9    | 4.1    | 20       | 23                                   | 1900                         | 10   | 1.0 |
| MMSZ5229BS  | D4/G4   | 4.09                             | 4.3    | 4.52   | 20       | 22                                   | 2000                         | 5.0  | 1.0 |
| MMSZ5231BS  | E1      | 4.85                             | 5.1    | 5.36   | 20       | 17                                   | 1600                         | 5.0  | 2.0 |
| MMSZ5232BS  | E2      | 5.32                             | 5.6    | 5.88   | 20       | 11                                   | 1600                         | 5.0  | 3.0 |
| MMSZ5233BS  | E3      | 5.7                              | 6.0    | 6.3    | 20       | 7                                    | 1600                         | 5.0  | 3.5 |
| MMSZ5234BS  | E4      | 5.89                             | 6.2    | 6.51   | 20       | 7                                    | 1000                         | 5.0  | 4.0 |
| MMSZ5235BS  | E5      | 6.46                             | 6.8    | 7.14   | 20       | 5                                    | 750                          | 3.0  | 5.0 |
| MMSZ5236BS  | F1      | 7.13                             | 7.5    | 7.88   | 20       | 6                                    | 500                          | 3.0  | 6.0 |
| MMSZ5237BS  | F2      | 7.79                             | 8.2    | 8.61   | 20       | 8                                    | 500                          | 3.0  | 6.5 |
| MMSZ5238BS  | F3      | 8.27                             | 8.7    | 9.14   | 20       | 8                                    | 600                          | 3.0  | 6.5 |
| MMSZ5239BS  | F4      | 8.65                             | 9.1    | 9.56   | 20       | 10                                   | 600                          | 3.0  | 7.0 |
| MMSZ5240BS  | F5      | 9.5                              | 10     | 10.50  | 20       | 17                                   | 600                          | 3.0  | 8.0 |
| MMSZ5241BS  | H1      | 10.45                            | 11     | 11.55  | 20       | 22                                   | 600                          | 2.0  | 8.4 |
| MMSZ5242BS  | H2      | 11.4                             | 12     | 12.6   | 20       | 30                                   | 600                          | 1.0  | 9.1 |
| MMSZ5243BS  | H3      | 12.35                            | 13     | 13.65  | 9.5      | 13                                   | 600                          | 0.5  | 9.9 |
| MMSZ5244BS  | H4      | 13.3                             | 14     | 14.7   | 9        | 15                                   | 600                          | 0.1  | 10  |
| MMSZ5245BS  | H5      | 14.25                            | 15     | 15.75  | 8.5      | 16                                   | 600                          | 0.1  | 11  |
| MMSZ5246BS  | J1      | 15.2                             | 16     | 16.8   | 7.8      | 17                                   | 600                          | 0.1  | 12  |
| MMSZ5248BS  | J3      | 17.1                             | 18     | 18.9   | 7.0      | 21                                   | 600                          | 0.1  | 14  |
| MMSZ5250BS  | J5      | 19                               | 20     | 21     | 6.2      | 25                                   | 600                          | 0.1  | 15  |
| MMSZ5251BS  | K1      | 20.9                             | 22     | 23.1   | 5.6      | 29                                   | 600                          | 0.1  | 17  |
| MMSZ5252BS  | K2      | 22.8                             | 24     | 25.2   | 5.2      | 33                                   | 600                          | 0.1  | 18  |
| MMSZ5254BS  | K4      | 25.65                            | 27     | 28.35  | 5.0      | 41                                   | 600                          | 0.1  | 21  |
| MMSZ5255BS  | K5      | 26.6                             | 28     | 29.4   | 4.5      | 44                                   | 600                          | 0.1  | 21  |
| MMSZ5256BS  | M1      | 28.5                             | 30     | 31.5   | 4.2      | 49                                   | 600                          | 0.1  | 23  |
| MMSZ5257BS  | M2      | 31.35                            | 33     | 34.65  | 3.8      | 58                                   | 700                          | 0.1  | 25  |
| MMSZ5258BS  | M3      | 34.2                             | 36     | 37.8   | 3.4      | 70                                   | 700                          | 0.1  | 27  |

Notes:

- Short duration test pulse used to minimize self-heating effect.
- Device mount on ceramic PCB; 7.6 mm x 9.4 mm x 0.87 mm with pad areas 25 mm<sup>2</sup>
- f = 1KHz

**CHARACTERISTIC CURVES**

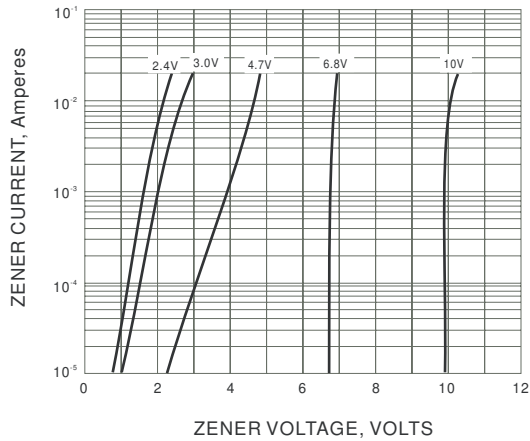


Fig.1 ZENER VOLTAGE VERSUS ZENER CURRENT

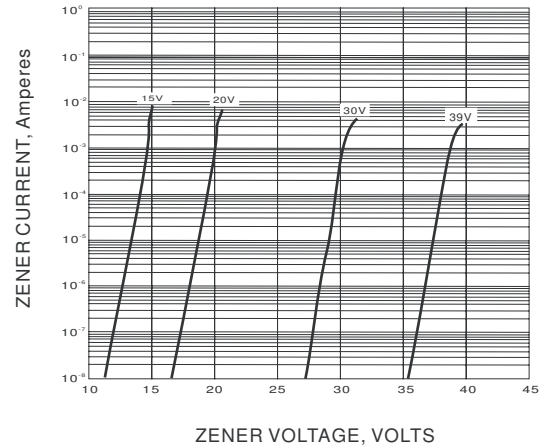


Fig.2 ZENER VOLTAGE VERSUS ZENER CURRENT

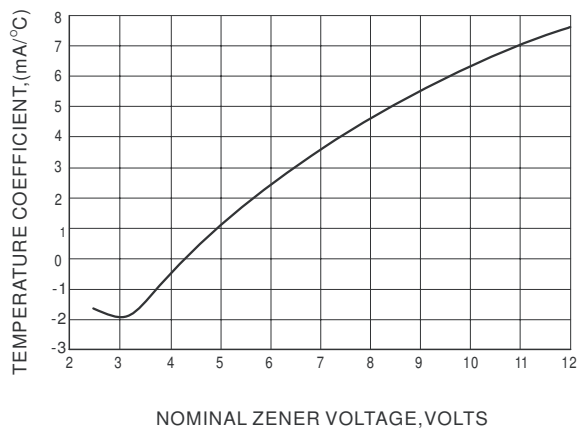


Fig.3 TEMPERATURE COEFFICIENTS

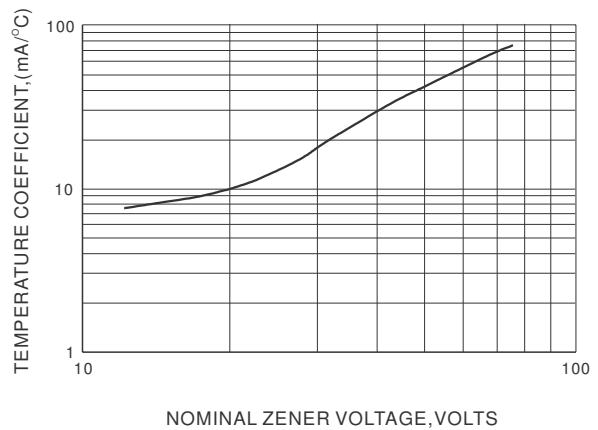


Fig.4 TEMPERATURE COEFFICIENTS

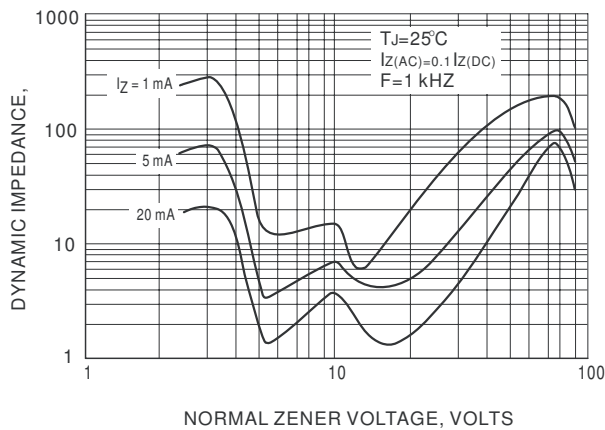


Fig.5 EFFECT OF ZENER VOLTAGE ON ZENER IMPEDANCE

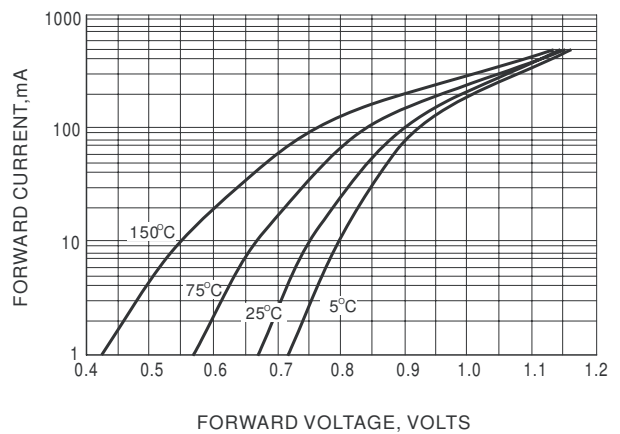


Fig.6 TYPICAL FORWARD VOLTAGE

**CHARACTERISTIC CURVES**

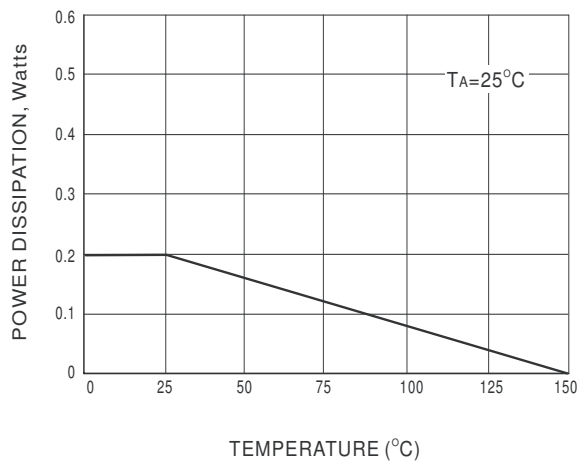


Fig.7 STEADY STATE POWER DERATING

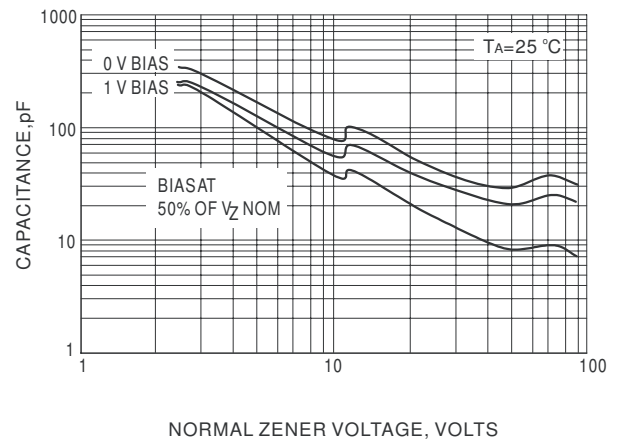


Fig.7 TYPICAL CAPACITANCE