

## Features

- Planar Die Construction
- 500mW Power Dissipation
- General Purpose, Medium Current
- Ideally Suited for Automated Assembly Processes
- **Lead, Halogen and Antimony Free, RoHS Compliant**
- **"Green" Device (Note 4)**
- **Qualified to AEC-Q101 Standards for High Reliability**

## Mechanical Data

- Case: SOD-123
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Matte Tin Finish annealed over Alloy 42 leadframe (Lead Free Plating). Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Marking Information: See Page 2
- Ordering Information: See Page 2
- Weight: 0.01 grams (approximate)



Top View

## Maximum Ratings @ $T_A = 25^\circ\text{C}$ unless otherwise specified

| Characteristic                                 | Symbol | Value | Unit |
|------------------------------------------------|--------|-------|------|
| Forward Voltage (Note 3) @ $I_F = 10\text{mA}$ | $V_F$  | 0.9   | V    |

## Thermal Characteristics

| Characteristic                                        | Symbol          | Value       | Unit               |
|-------------------------------------------------------|-----------------|-------------|--------------------|
| Power Dissipation (Note 1) @ $T_L = 75^\circ\text{C}$ | $P_D$           | 500         | mW                 |
| Thermal Resistance, Junction to Ambient Air (Note 1)  | $R_{\theta JA}$ | 350         | $^\circ\text{C/W}$ |
| Thermal Resistance, Junction to Lead (Note 2)         | $R_{\theta JL}$ | 150         | $^\circ\text{C/W}$ |
| Operating and Storage Temperature Range               | $T_J, T_{STG}$  | -65 to +150 | $^\circ\text{C}$   |

## Electrical Characteristics @ $T_A = 25^\circ\text{C}$ unless otherwise specified

| Type Number | Type Code | Zener Voltage Range (Note 3) |         |         | Test Current | Maximum Zener Impedance (Note 5) |                   | Maximum Reverse Leakage Current (Note 3) |       |
|-------------|-----------|------------------------------|---------|---------|--------------|----------------------------------|-------------------|------------------------------------------|-------|
|             |           | $V_Z @ I_{ZT}$               |         |         |              | $I_{ZT}$                         | $Z_{ZT} @ I_{ZT}$ | $Z_{ZK} @ I_{ZK} = 0.25\text{mA}$        | $I_R$ |
|             |           | Nom (V)                      | Min (V) | Max (V) | mA           |                                  |                   |                                          |       |
| MMSZ5263B   | M8        | 56                           | 53.20   | 58.80   | 2.2          | 150                              | 1300              | 0.1                                      | 43    |

- Notes:
1. Device mounted on FR-4 substrate, single-sided, PC boards, with minimum recommended pad layout.
  2. Thermal Resistance measurement obtained via infrared scan method.
  3. Short duration pulse test used to minimize self-heating effect.
  4. No purposefully added lead. Halogen and Antimony Free.
  5.  $f = 1\text{KHz}$ .

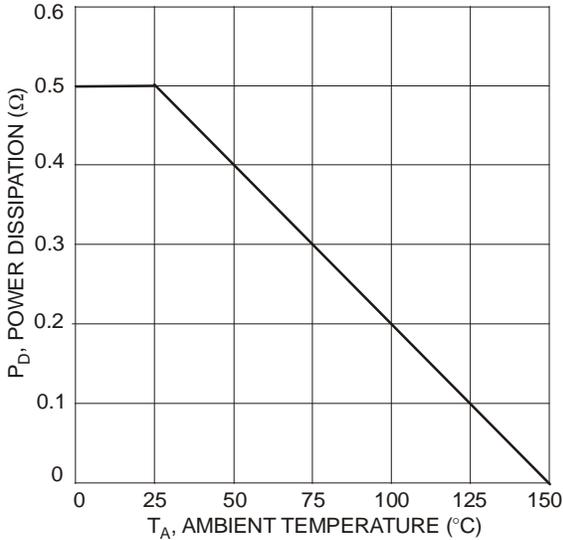


Fig. 1 Power Derating Curve

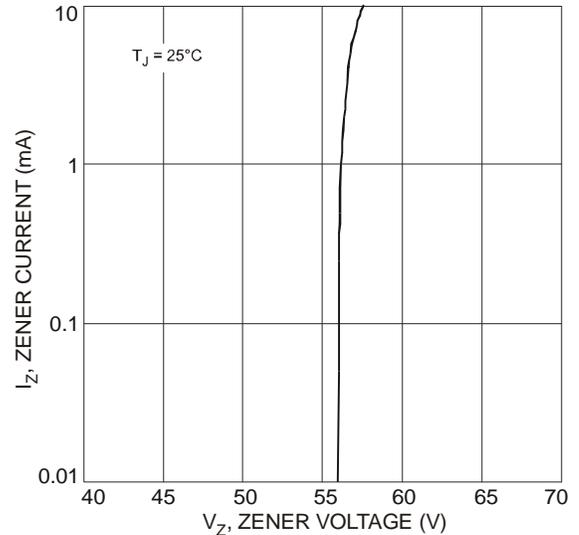


Fig. 2 Typical Zener Breakdown Characteristics

**Ordering Information** (Note 5)

| Part Number   | Packaging | Shipping         |
|---------------|-----------|------------------|
| MMSZ5263B-7-F | SOD-123   | 3000/Tape & Reel |

Notes: 5. For packaging details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

**Marking Information**



M8 = Product Type Marking Code  
(See Electrical Characteristics Table)  
YM = Date Code Marking  
Y = Year (ex: W = 2009)  
M = Month (ex: 9 = September)

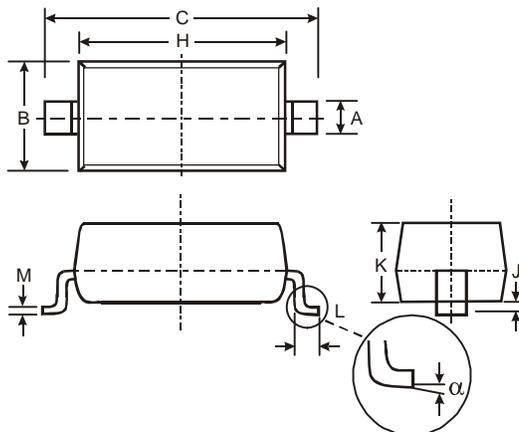
Date Code Key

| Year | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|------|------|------|------|------|------|------|------|
| Code | W    | X    | Y    | Z    | A    | B    | C    |

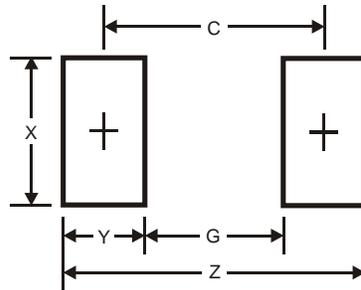
| Month | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Code  | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | O   | N   | D   |

**Package Outline Dimensions**



| SOD-123              |          |      |
|----------------------|----------|------|
| Dim                  | Min      | Max  |
| A                    | 0.55 Typ |      |
| B                    | 1.40     | 1.70 |
| C                    | 3.55     | 3.85 |
| H                    | 2.55     | 2.85 |
| J                    | 0.00     | 0.10 |
| K                    | 1.00     | 1.35 |
| L                    | 0.25     | 0.40 |
| M                    | 0.10     | 0.15 |
| α                    | 0        | 8°   |
| All Dimensions in mm |          |      |

## Suggested Pad Layout



| Dimensions | Value (in mm) |
|------------|---------------|
| Z          | 4.9           |
| G          | 2.5           |
| X          | 0.7           |
| Y          | 1.2           |
| C          | 3.7           |

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