

**2% 500mW SOD-523 PLANAR ZENER SERIES**

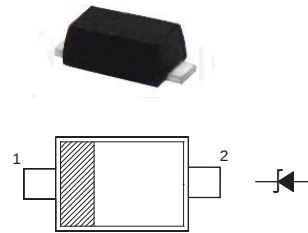
**Features**

- Standard Zener Breakdown Voltage Range 2.0 V to 75 V
- Steady State Power Rating of 500 mW
- P/N suffix V means AEC-Q101 qualified, e.g:MM5Z2V0BV
- Halogen-free

**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

Ratings at 25 °C ambient temperature unless otherwise specified.  
resistive or inductive load.

Top View  
Simplified outline SOD-523 and symbol



**PINNING**

| PIN | DESCRIPTION |
|-----|-------------|
| 1   | Cathode     |
| 2   | Anode       |

**Absolute Maximum Ratings ( $T_a = 25\text{ }^{\circ}\text{C}$ )**

| Parameter                              | Symbol         | Value         | Unit               |
|----------------------------------------|----------------|---------------|--------------------|
| Total Device Dissipation               | $P_{tot}$      | 500           | mW                 |
| Junction and Storage Temperature Range | $T_j, T_{stg}$ | - 65 to + 150 | $^{\circ}\text{C}$ |

**Characteristics at  $T_a = 25\text{ }^{\circ}\text{C}$**

| Parameter                                  | Symbol | Max. | Unit |
|--------------------------------------------|--------|------|------|
| Forward Voltage<br>at $I_F = 10\text{ mA}$ | $V_F$  | 0.9  | V    |

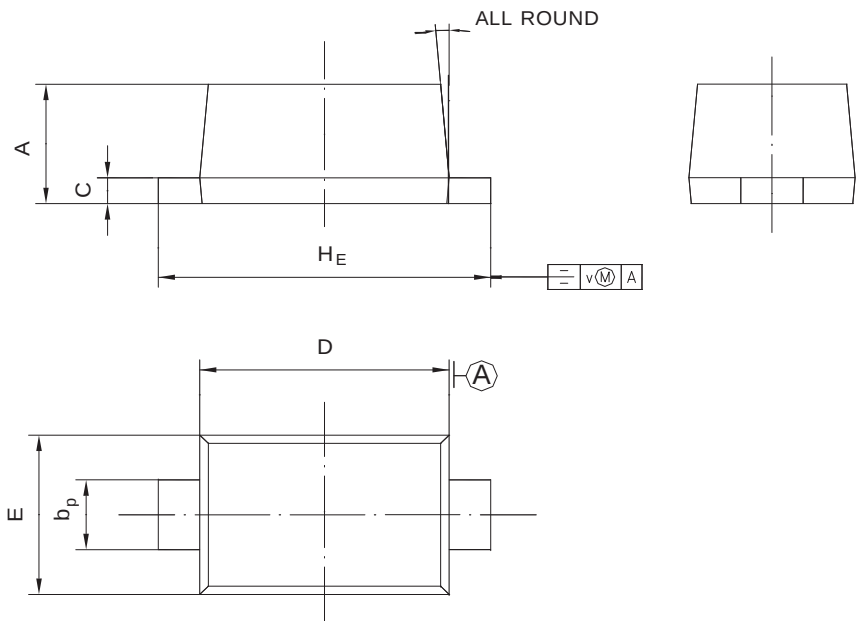
| Type     | Marking Code | Zener Voltage <sup>1)</sup> |      |       |             | Zener Impedance |          |             | Leakage Current |          |
|----------|--------------|-----------------------------|------|-------|-------------|-----------------|----------|-------------|-----------------|----------|
|          |              | $V_{ZT}$ (V)                |      |       | at $I_{ZT}$ | $Z_{ZT}$        | $Z_{ZK}$ | at $I_{ZK}$ | $I_R$           | at $V_R$ |
|          |              | Min.                        | Nom. | Max.  | mA          | $\Omega$        | $\Omega$ | mA          | $\mu A$         | V        |
| MM5Z2V0B | RD           | 1.96                        | 2.0  | 2.04  | 5           | 100             | -        | -           | 120             | 0.5      |
| MM5Z2V2B | RE           | 2.15                        | 2.2  | 2.24  | 5           | 100             | -        | -           | 120             | 0.7      |
| MM5Z2V4B | Z7           | 2.35                        | 2.4  | 2.45  | 5           | 100             | 1000     | 1           | 120             | 1        |
| MM5Z2V7B | A8           | 2.65                        | 2.7  | 2.75  | 5           | 100             | 1000     | 1           | 120             | 1        |
| MM5Z3V0B | B8           | 2.94                        | 3.0  | 3.06  | 5           | 100             | 1000     | 1           | 50              | 1        |
| MM5Z3V3B | C8           | 3.23                        | 3.3  | 3.37  | 5           | 95              | 1000     | 1           | 20              | 1        |
| MM5Z3V6B | D8           | 3.53                        | 3.6  | 3.67  | 5           | 90              | 1000     | 1           | 10              | 1        |
| MM5Z3V9B | E8           | 3.82                        | 3.9  | 3.98  | 5           | 90              | 1000     | 1           | 5               | 1        |
| MM5Z4V3B | F8           | 4.21                        | 4.3  | 4.39  | 5           | 90              | 1000     | 1           | 5               | 1        |
| MM5Z4V7B | G8           | 4.61                        | 4.7  | 4.79  | 5           | 80              | 800      | 1           | 2               | 1        |
| MM5Z5V1B | H8           | 5.0                         | 5.1  | 5.2   | 5           | 60              | 500      | 1           | 2               | 1.5      |
| MM5Z5V6B | I8           | 5.49                        | 5.6  | 5.71  | 5           | 40              | 200      | 1           | 1               | 2.5      |
| MM5Z6V2B | J8           | 6.08                        | 6.2  | 6.32  | 5           | 10              | 100      | 1           | 1               | 3        |
| MM5Z6V8B | K8           | 6.66                        | 6.8  | 6.94  | 5           | 15              | 160      | 1           | 0.5             | 3.5      |
| MM5Z7V5B | L8           | 7.35                        | 7.5  | 7.65  | 5           | 15              | 160      | 1           | 0.5             | 4        |
| MM5Z8V2B | M8           | 8.04                        | 8.2  | 8.36  | 5           | 15              | 160      | 1           | 0.5             | 5        |
| MM5Z9V1B | N8           | 8.92                        | 9.1  | 9.28  | 5           | 15              | 160      | 1           | 0.5             | 6        |
| MM5Z10B  | O8           | 9.8                         | 10   | 10.2  | 5           | 20              | 160      | 1           | 0.05            | 7        |
| MM5Z11B  | P8           | 10.78                       | 11   | 11.22 | 5           | 20              | 160      | 1           | 0.05            | 8        |
| MM5Z12B  | Q8           | 11.76                       | 12   | 12.24 | 5           | 25              | 80       | 1           | 0.05            | 9        |
| MM5Z13B  | R8           | 12.74                       | 13   | 13.26 | 5           | 30              | 80       | 1           | 0.05            | 10       |
| MM5Z15B  | S8           | 14.7                        | 15   | 15.3  | 5           | 30              | 80       | 1           | 0.05            | 11       |
| MM5Z16B  | T8           | 15.68                       | 16   | 16.32 | 2           | 40              | 80       | 1           | 0.05            | 12       |
| MM5Z18B  | U8           | 17.64                       | 18   | 18.36 | 2           | 45              | 80       | 1           | 0.05            | 13       |
| MM5Z20B  | V8           | 19.6                        | 20   | 20.4  | 2           | 55              | 100      | 1           | 0.05            | 15       |
| MM5Z22B  | W8           | 21.56                       | 22   | 22.44 | 2           | 55              | 100      | 1           | 0.05            | 17       |
| MM5Z24B  | X8           | 23.52                       | 24   | 24.48 | 2           | 70              | 120      | 1           | 0.05            | 19       |
| MM5Z27B  | Y8           | 26.46                       | 27   | 27.54 | 2           | 80              | 300      | 1           | 0.05            | 21       |
| MM5Z30B  | Z8           | 29.4                        | 30   | 30.6  | 2           | 80              | 300      | 1           | 0.05            | 23       |
| MM5Z33B  | A9           | 32.34                       | 33   | 33.66 | 2           | 80              | 300      | 1           | 0.05            | 29       |
| MM5Z36B  | B9           | 35.28                       | 36   | 36.72 | 2           | 90              | 500      | 1           | 0.05            | 27       |
| MM5Z39B  | C9           | 38.22                       | 39   | 39.78 | 2           | 130             | 500      | 1           | 2               | 30       |
| MM5Z43B  | D9           | 42.14                       | 43   | 43.86 | 1           | 150             | 500      | 1           | 2               | 33       |
| MM5Z47B  | E9           | 46.06                       | 47   | 47.94 | 1           | 170             | 500      | 1           | 2               | 36       |
| MM5Z51B  | F9           | 49.98                       | 51   | 52.02 | 1           | 180             | 500      | 1           | 1               | 39       |
| MM5Z56B  | G9           | 54.88                       | 56   | 57.12 | 1           | 200             | 500      | 1           | 1               | 43       |
| MM5Z62B  | H9           | 60.76                       | 62   | 63.24 | 1           | 215             | 500      | 1           | 0.2             | 47       |
| MM5Z68B  | I9           | 66.64                       | 68   | 69.36 | 1           | 240             | 500      | 1           | 0.2             | 52       |
| MM5Z75B  | J9           | 73.5                        | 75   | 76.5  | 1           | 255             | 500      | 1           | 0.2             | 57       |

<sup>1)</sup> Tested with pulses  $t_p = 20$  ms.

PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

SOD-523



| UNIT | A            | b <sub>p</sub> | C              | D            | E            | H <sub>E</sub> | V   |    |
|------|--------------|----------------|----------------|--------------|--------------|----------------|-----|----|
| mm   | 0.70<br>0.60 | 0.4<br>0.3     | 0.135<br>0.100 | 1.25<br>1.15 | 0.85<br>0.75 | 1.7<br>1.5     | 0.1 | 5° |

## PACKAGING OF DIODE AND BRIDGE RECTIFIERS

### REEL PACK

| PACKAGE | PACKING CODE | EA PER REEL | EA PER INNER BOX | COMPONENT SPACE (mm) | TAPE SPACE (mm) | REEL DIA (mm) | CARTON SIZE (mm) | EA PER CARTON | GROSS WEIGHT(Kg) |
|---------|--------------|-------------|------------------|----------------------|-----------------|---------------|------------------|---------------|------------------|
| SOD-523 | -T           | 8,000       | --               | ---                  | ---             | 178           | 390*205*31       | 320,000       | 6.16             |

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