

## MM3Z2V2B - MM3Z39B

$V_Z$  : 2.2 to 39 V

$P_D$  : 300 mW

### FEATURES :

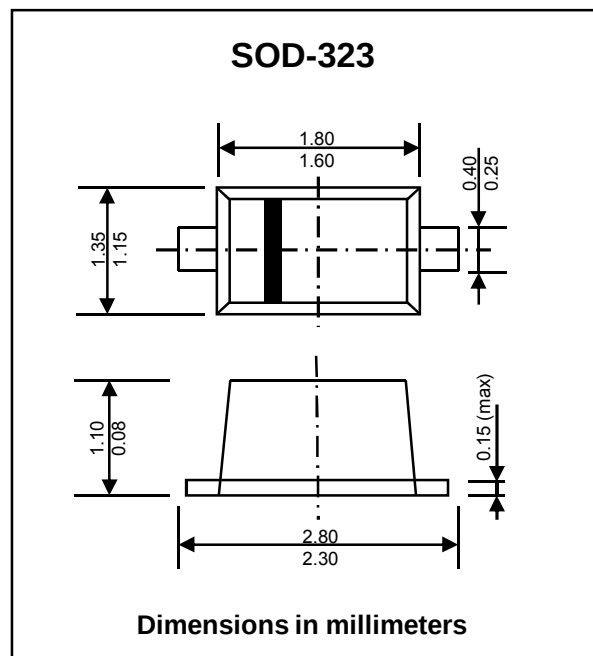
- \* Total power dissipation : max. 300 mW
- \* Small plastic package suitable for surface mount design
- \* High reliability
- \* Pb / RoHS Free

### MECHANICAL DATA :

Case: SOD-323 Plastic Package

Weight: approx. 0.004g

## ZENER DIODES



### Maximum Ratings and Thermal Characteristics (Ta = 25 °C)

| Parameter                                  | Symbol          | Value        | Unit |
|--------------------------------------------|-----------------|--------------|------|
| Power Dissipation                          | $P_D$           | 300          | mW   |
| Forward Voltage at $V_F = 10$ mA           | $V_F$           | 0.9          | V    |
| Thermal Resistance Junction to Ambient Air | $R_{\theta JA}$ | 625          | °C/W |
| Junction Temperature Range                 | $T_J$           | 150          | °C   |
| Storage Temperature Range                  | $T_{STG}$       | -55 to + 150 | °C   |

## ELECTRICAL CHARACTERISTICS

| Type No. | Marking | Zener Voltage <sup>(1)</sup> |                   |       | Test Current | Dynamic Impedance <sup>(2)</sup> | Test Current | Reverse         |                                 |
|----------|---------|------------------------------|-------------------|-------|--------------|----------------------------------|--------------|-----------------|---------------------------------|
|          |         | V <sub>Z</sub>               | @ I <sub>ZT</sub> | (V)   |              |                                  |              | Leakage Current |                                 |
|          |         |                              |                   |       |              |                                  |              | I <sub>ZT</sub> | Z <sub>Z</sub> @ I <sub>Z</sub> |
|          |         | Min.                         | Nom.              | Max.  | (mA)         | (Ω)                              | (mA)         | (μA)            | (V)                             |
| MM3Z2V2B | MF      | 2.08                         | 2.2               | 2.33  | 5            | 100                              | 5            | 120             | 0.7                             |
| MM3Z2V4B | 7C      | 2.30                         | 2.4               | 2.65  | 5            | 100                              | 5            | 120             | 1.0                             |
| MM3Z2V7B | 7D      | 2.65                         | 2.7               | 2.95  | 5            | 110                              | 5            | 120             | 1.0                             |
| MM3Z3V0B | 7E      | 2.95                         | 3.0               | 3.25  | 5            | 120                              | 5            | 50              | 1.0                             |
| MM3Z3V3B | 7F      | 3.25                         | 3.3               | 3.55  | 5            | 120                              | 5            | 20              | 1.0                             |
| MM3Z3V6B | 7H      | 3.60                         | 3.6               | 3.845 | 5            | 100                              | 5            | 10              | 1.0                             |
| MM3Z3V9B | 7J      | 3.89                         | 3.9               | 4.16  | 5            | 100                              | 5            | 5               | 1.0                             |
| MM3Z4V3B | 7K      | 4.17                         | 4.3               | 4.43  | 5            | 100                              | 5            | 5               | 1.0                             |
| MM3Z4V7B | 7M      | 4.55                         | 4.7               | 4.75  | 5            | 100                              | 5            | 2               | 1.0                             |
| MM3Z5V1B | 7N      | 4.98                         | 5.1               | 5.20  | 5            | 80                               | 5            | 2               | 1.5                             |
| MM3Z5V6B | 7P      | 5.49                         | 5.6               | 5.73  | 5            | 60                               | 5            | 1               | 2.5                             |
| MM3Z6V2B | 7R      | 6.06                         | 6.2               | 6.33  | 5            | 60                               | 5            | 1               | 3.0                             |
| MM3Z6V8B | 7X      | 6.65                         | 6.8               | 6.93  | 5            | 40                               | 5            | 0.5             | 3.5                             |
| MM3Z7V5B | 7Y      | 7.28                         | 7.5               | 7.60  | 5            | 30                               | 5            | 0.5             | 4.0                             |
| MM3Z8V2B | 7Z      | 8.02                         | 8.2               | 8.36  | 5            | 30                               | 5            | 0.5             | 5.0                             |
| MM3Z9V1B | 8A      | 8.85                         | 9.1               | 9.23  | 5            | 30                               | 5            | 0.5             | 6.0                             |
| MM3Z10B  | 8B      | 9.77                         | 10                | 10.21 | 5            | 30                               | 5            | 0.1             | 7.0                             |
| MM3Z11B  | 8C      | 10.76                        | 11                | 11.22 | 5            | 30                               | 5            | 0.1             | 8.0                             |
| MM3Z12B  | 8D      | 11.74                        | 12                | 12.24 | 5            | 30                               | 5            | 0.1             | 9.0                             |
| MM3Z13B  | 8E      | 12.91                        | 13                | 13.49 | 5            | 37                               | 5            | 0.1             | 10                              |
| MM3Z15B  | 8F      | 14.34                        | 15                | 14.98 | 5            | 42                               | 5            | 0.1             | 11                              |
| MM3Z16B  | 8H      | 15.85                        | 16                | 16.51 | 5            | 50                               | 5            | 0.1             | 12                              |
| MM3Z18B  | 8J      | 17.56                        | 18                | 18.35 | 5            | 65                               | 5            | 0.1             | 13                              |
| MM3Z20B  | 8K      | 19.52                        | 20                | 20.39 | 5            | 85                               | 5            | 0.1             | 15                              |
| MM3Z22B  | 8M      | 21.54                        | 22                | 22.47 | 5            | 100                              | 5            | 0.1             | 17                              |
| MM3Z24B  | 8N      | 23.72                        | 24                | 24.78 | 5            | 120                              | 5            | 0.1             | 19                              |
| MM3Z27B  | 8P      | 26.19                        | 27                | 27.53 | 5            | 150                              | 2            | 0.1             | 21                              |
| MM3Z30B  | 8R      | 29.19                        | 30                | 30.69 | 5            | 200                              | 2            | 0.1             | 23                              |
| MM3Z33B  | 8X      | 32.15                        | 33                | 33.79 | 5            | 250                              | 2            | 0.1             | 25                              |
| MM3Z36B  | 8Y      | 35.07                        | 36                | 36.87 | 5            | 300                              | 2            | 0.1             | 27                              |
| MM3Z39B  | 8Z      | 37.00                        | 39                | 41.00 | 5            | 100                              | 2            | 2.0             | 30                              |

### Notes :

(1)  $V_Z$  is tested with pulses (20 ms).

(2)  $Z_Z$  is measured at  $I_Z$  by given a very small A.C. current signal.