



# MMXZ5223B THRU MMXZ5259B

**200 mW**  
**Zener Diodes**  
**2.7 to 39 Volts**

## Features

- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Planar Die construction
- Zener Voltages from 2.7V-39V and 200mW Power Dissipation
- Halogen free available upon request by adding suffix "-HF"
- Ideally Suited for Automated Assembly Processes

## Mechanical Data

- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Approx. Weight: 0.008 gram
- Mounting Position: Any
- Storage & Operating Junction Temperature: -55°C to +150°C

### Maximum Ratings @ 25°C Unless Otherwise Specified

|   |                   |     |       |
|---|-------------------|-----|-------|
| Forward Current                             | I <sub>F</sub>    | 10  | mA    |
| Maximum Forward Voltage(Notes 1)            | V <sub>F</sub>    | 0.9 | V     |
| Power Dissipation (Notes 2)                 | P <sub>D</sub>    | 200 | mWatt |
| Thermal Resistance, Junction to Ambient Air | R <sub>thja</sub> | 625 | °C/W  |

#### NOTES:

1. Tested with pulses, T<sub>p</sub><1.0ms
2. Device mounted on ceramic PCBS; 7.6 mm x 9.4 mm x 0.87 mm with pad areas 25 mm<sup>2</sup>.



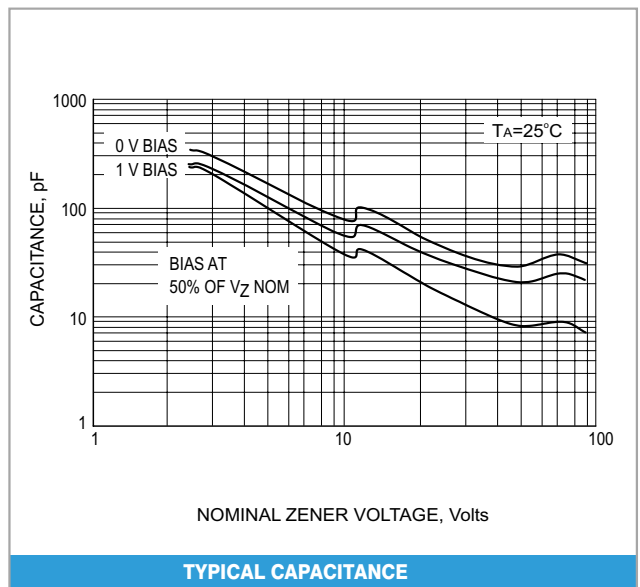
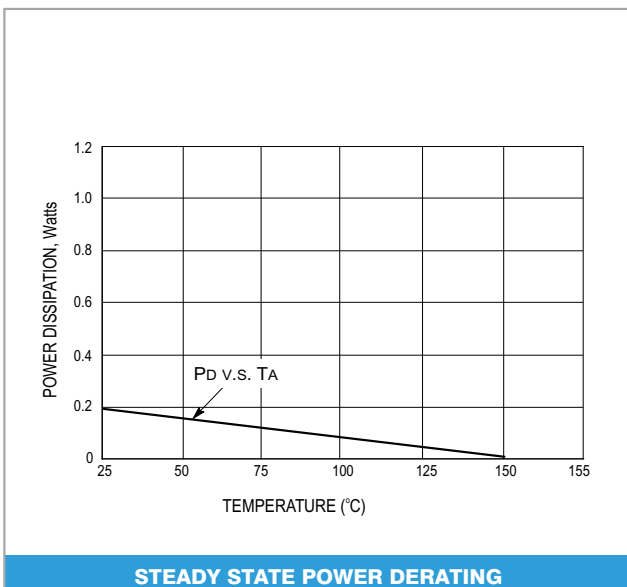
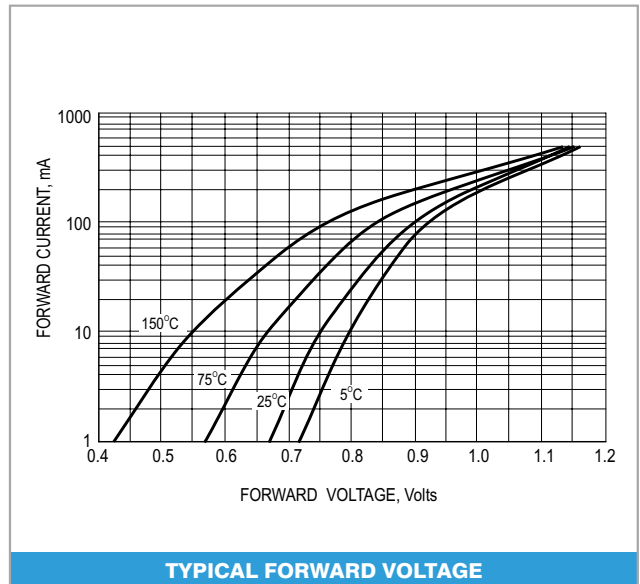
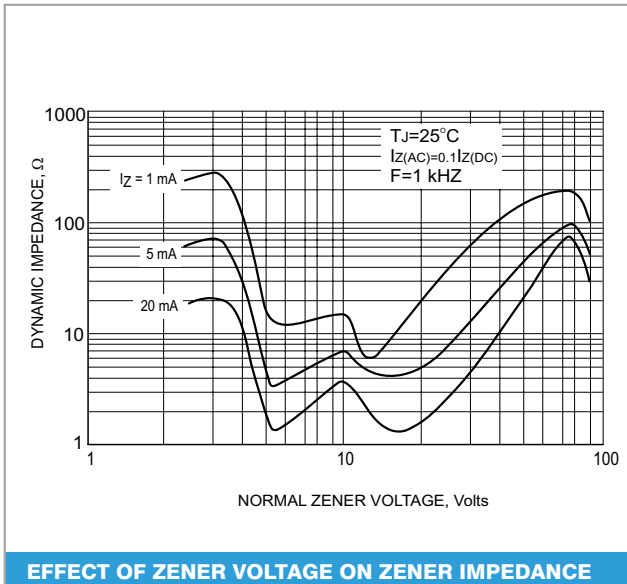
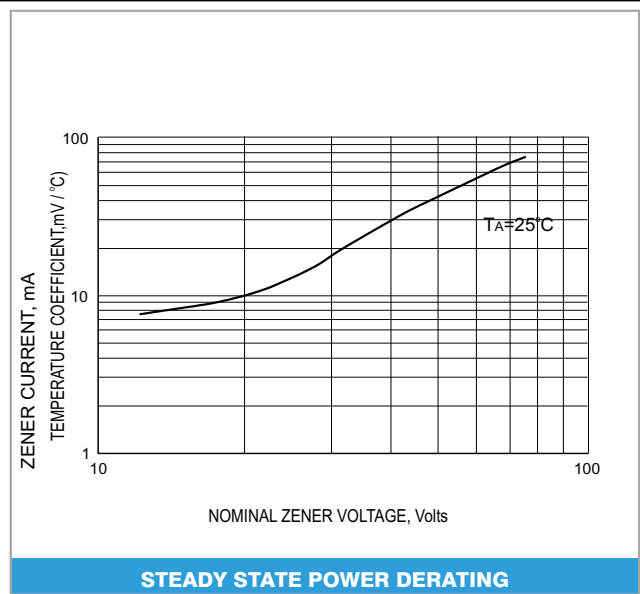
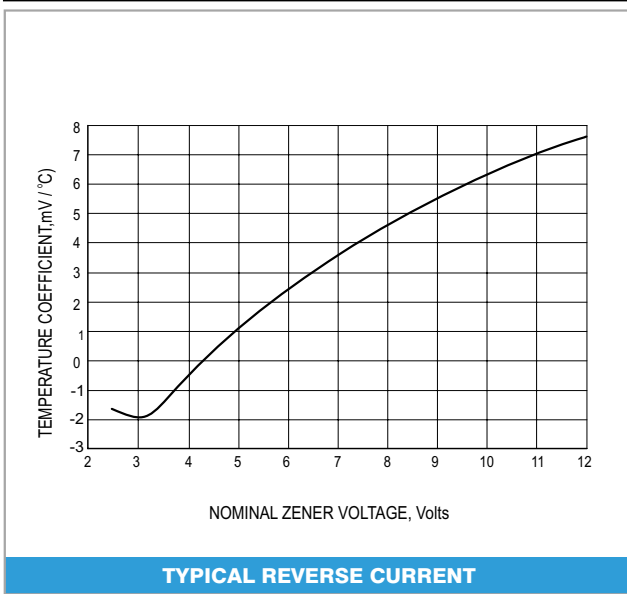
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## Electrical Characteristics @ 25°C Unless Otherwise Specified

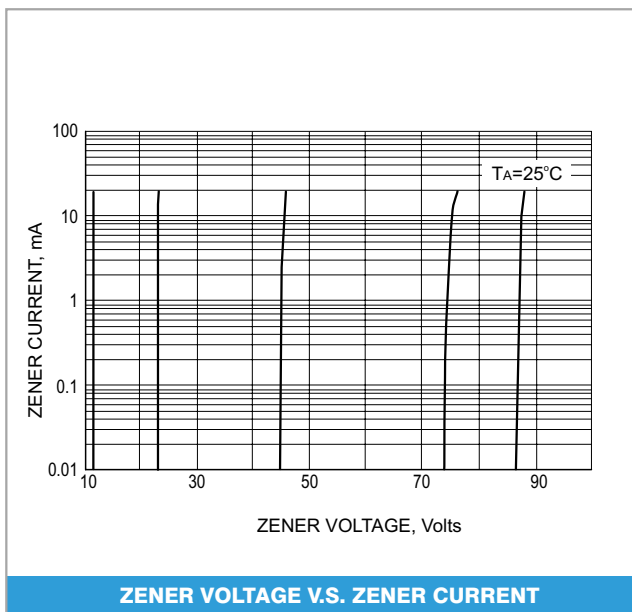
| MCC PART NUMBER | Marking | NORMAL ZENER VOLTAGE             | TEST CURRENT I <sub>zt</sub> | MAXIMUM ZENER IMPEDANCE 'B' SUFFIX ONLY |   | MAXIMUM REVERSE LEAKAGE CURRENT |       | MAXIMUM ZENER VOLTAGE TEMP COEFFICIENT 'B' SUFFIX ONLY |
|-----------------|---------|----------------------------------|------------------------------|---|---|---------------------------------|-------|--|
|                 |         | V <sub>z</sub> @ I <sub>zt</sub> |                              | Z <sub>zt</sub> @ I <sub>zt</sub>       | Z <sub>zk</sub> @ I <sub>zk</sub> =0.25mA | I <sub>r</sub> @ V <sub>r</sub> |       |  |
|                 |         | VOLTS                            | mA                           | OHMS                                    | OHMS                                      | μA                              | VOLTS | %/°C   |
| MMXZ5223B       | C3      | 2.7                              | 20                           | 30                                      | 1300                                      | 75                              | 1.0   | -0.080   |
| MMXZ5225B       | C5      | 3.0                              | 20                           | 29                                      | 1600                                      | 50                              | 1.0   | -0.075   |
| MMXZ5226B       | G1      | 3.3                              | 20                           | 28                                      | 1600                                      | 25                              | 1.0   | -0.070   |
| MMXZ5227B       | G2      | 3.6                              | 20                           | 24                                      | 1700                                      | 15                              | 1.0   | -0.065   |
| MMXZ5228B       | G3      | 3.9                              | 20                           | 23                                      | 1900                                      | 10                              | 1.0   | -0.060   |
| MMXZ5229B       | G4      | 4.3                              | 20                           | 22                                      | 2000                                      | 5.0                             | 1.0   | ±0.055   |
| MMXZ5230B       | G5      | 4.7                              | 20                           | 19                                      | 1900                                      | 5.0                             | 2.0   | ±0.030   |
| MMXZ5231B       | E1      | 5.1                              | 20                           | 17                                      | 1600                                      | 5.0                             | 2.0   | ±0.030   |
| MMXZ5232B       | E2      | 5.6                              | 20                           | 11                                      | 1600                                      | 5.0                             | 3.0   | +0.038   |
| MMXZ5234B       | E4      | 6.2                              | 20                           | 7.0                                     | 1000                                      | 5.0                             | 4.0   | +0.045   |
| MMXZ5235B       | E5      | 6.8                              | 20                           | 5.0                                     | 750                                       | 3.0                             | 5.0   | +0.050   |
| MMXZ5236B       | F1      | 7.5                              | 20                           | 6.0                                     | 500                                       | 3.0                             | 6.0   | +0.058   |
| MMXZ5237B       | F2      | 8.2                              | 20                           | 8.0                                     | 500                                       | 3.0                             | 6.5   | +0.062   |
| MMXZ5239B       | F4      | 9.1                              | 20                           | 10                                      | 600                                       | 3.0                             | 7.0   | +0.068   |
| MMXZ5240B       | F5      | 10                               | 20                           | 17                                      | 600                                       | 3.0                             | 8.0   | +0.075   |
| MMXZ5241B       | H1      | 11                               | 20                           | 22                                      | 600                                       | 2.0                             | 8.4   | +0.076   |
| MMXZ5242B       | H2      | 12                               | 20                           | 30                                      | 600                                       | 1.0                             | 9.1   | +0.077   |
| MMXZ5243B       | H3      | 13                               | 9.5                          | 13                                      | 600                                       | 0.5                             | 9.9   | +0.079   |
| MMXZ5245B       | H5      | 15                               | 8.5                          | 16                                      | 600                                       | 0.1                             | 11    | +0.082   |
| MMXZ5246B       | J1      | 16                               | 7.8                          | 17                                      | 600                                       | 0.1                             | 12    | +0.083   |
| MMXZ5248B       | J3      | 18                               | 7.0                          | 21                                      | 600                                       | 0.1                             | 14    | +0.085   |
| MMXZ5250B       | J5      | 20                               | 6.2                          | 25                                      | 600                                       | 0.1                             | 15    | +0.086   |
| MMXZ5251B       | K1      | 22                               | 5.6                          | 29                                      | 600                                       | 0.1                             | 17    | +0.087   |
| MMXZ5252B       | K2      | 24                               | 5.2                          | 33                                      | 600                                       | 0.1                             | 18    | +0.088   |
| MMXZ5254B       | K4      | 27                               | 4.6                          | 41                                      | 600                                       | 0.1                             | 21    | +0.090   |
| MMXZ5255B       | K5      | 28                               | 4.5                          | 44                                      | 600                                       | 0.1                             | 21    | +0.091   |
| MMXZ5256B       | M1      | 30                               | 4.2                          | 49                                      | 600                                       | 0.1                             | 23    | +0.091   |
| MMXZ5257B       | M2      | 33                               | 3.8                          | 58                                      | 700                                       | 0.1                             | 25    | +0.092   |
| MMXZ5258B       | M3      | 36                               | 3.4                          | 70                                      | 700                                       | 0.1                             | 27    | +0.093   |
| MMXZ5259B       | M4      | 39                               | 3.2                          | 80                                      | 800                                       | 0.1                             | 30    | +0.094   |

NOTE:

1. Tolerance and Type Number Designation. The type numbers listed have a standard tolerance on the nominal zener voltage of ±5%.
2. Specials Available Include:
  - A. Nominal zener voltages between the voltages shown and tighter voltage tolerances.
  - B. Matched sets.
3. Zener Voltage (V<sub>z</sub>) Measurement. Guarantees the zener voltage when measured at 90 seconds while maintaining the lead temperature (T<sub>l</sub>) at 30°C, from the diode body.
4. Zener Impedance (Z<sub>z</sub>) Derivation. The zener impedance is derived from the 60 cycle ac voltage, which results when an AC current having an rms value equal to 10% of the dc zener current (I<sub>zt</sub> or I<sub>zk</sub>) is superimposed on I<sub>zt</sub> or I<sub>zk</sub>.
5. Surge Current (I<sub>r</sub>) Non-Repetitive. The rating listed in the electrical characteristics table is maximum peak, non-repetitive, reverse surge current of 1/2 square wave or equivalent sine wave pulse of 1/120 second duration superimposed on the test current, I<sub>zt</sub>, per JEDEC registration; however, actual device capability is as described in Figure 5.



# MMXZ5223B thru MMXZ5259B





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### Ordering Information :

| Device         | Packing               |
|----------------|-----------------------|
| Part Number-TP | Tape&Reel: 3Kpcs/Reel |

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

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