

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
- 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

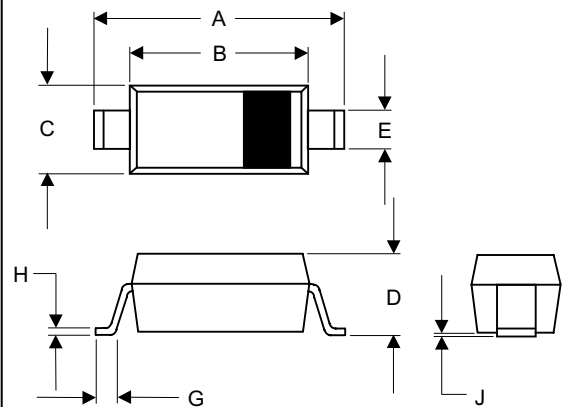
Maximum Ratings @ 25°C Unless Otherwise Specified

Forward Current	I_F	10	mA
Maximum Forward Voltage(Notes 1)	V_F	0.9	V
Power Dissipation(Notes 2)	P_D	200	mWatt
Thermal Resistance, Junction to Ambient Air	$R_{\theta ja}$	625	°C/W

NOTES:

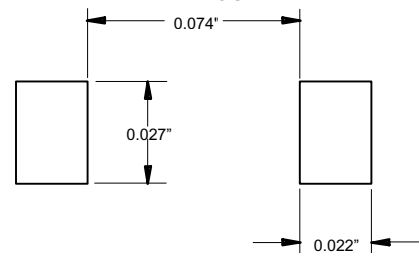
1. Tested with pulses, $T_p < 1.0\text{ms}$
2. Device mounted on ceramic PCBS; 7.6 mm x 9.4 mm x 0.87 mm with pad areas 25 mm².

SOD-323



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.090	.107	2.30	2.70	
B	.063	.071	1.60	1.80	
C	.045	.053	1.15	1.35	
D	.031	.045	0.80	1.15	
E	.010	.016	0.25	0.40	
G	.004	.018	0.10	0.45	
H	.004	.010	0.10	0.25	
J	-----	.006	-----	0.15	

SUGGESTED SOLDER PAD LAYOUT



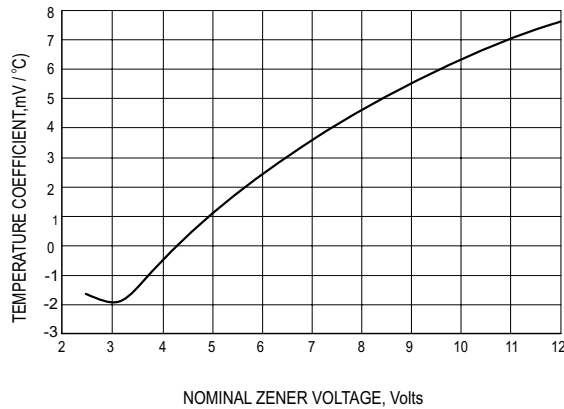
MMXZ5223B thru MMXZ5259B

Electrical Characteristics @ 25°C Unless Otherwise Specified

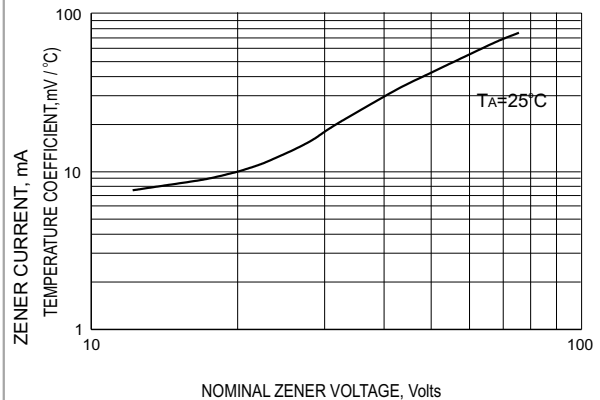
MCC PART NUMBER	Marking	NORMAL ZENER VOLTAGE V _z @ I _{zt}	TEST CURRENT I _{zt}	MAXIMUM ZENER IMPEDANCE 'B' SUFFIX ONLY Z _{zt} @ I _{zt} Z _{zk} @ I _{zk} =0.25mA		MAXIMUM REVERSE LEAKAGE CURRENT I _r @ V _r		MAXIMUM ZENER VOLTAGE TEMP COEFFICIENT 'B' SUFFIX ONLY
		VOLTS	mA	OHMS	OHMS	uA	VOLTS	%/°C
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:

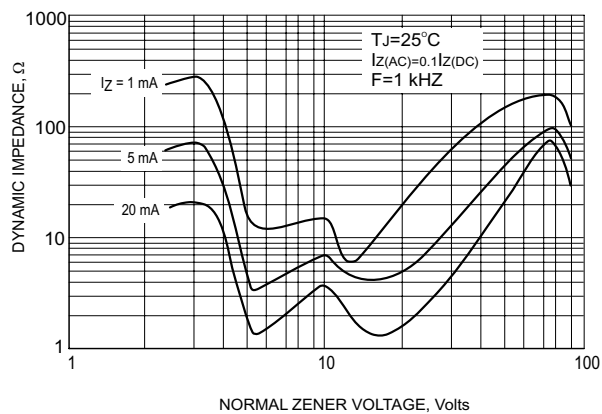
1. Tolerance and Type Number Designation. The type numbers listed have a standard tolerance on the nominal zener voltage of ±5%.
2. Specials Available Include:
 - A. Nominal zener voltages between the voltages shown and tighter voltage tolerances.
 - B. Matched sets.
3. Zener Voltage (V_z) Measurement. Guarantees the zener voltage when measured at 90 seconds while maintaining the lead temperature (T_l) at 30°C, from the diode body.
4. Zener Impedance (Z_z) 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_{zt} or I_{zk}) is superimposed on I_{zt} or I_{zk}.
5. Surge Current (I_r) 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_{zt}, per JEDEC registration; however, actual device capability is as described in Figure 5.



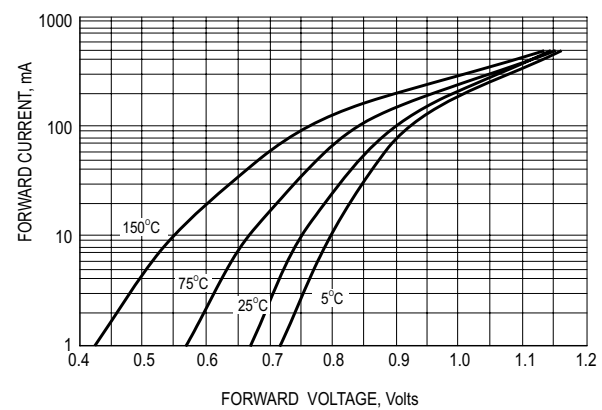
TYPICAL REVERSE CURRENT



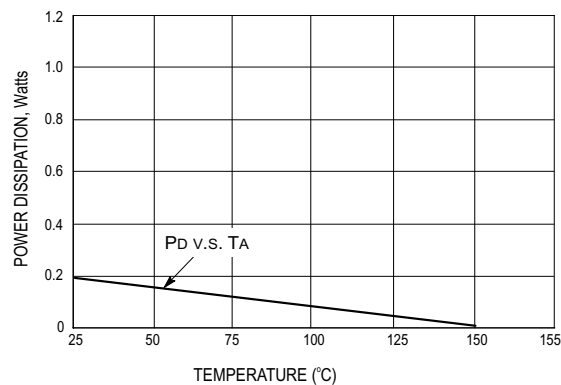
STEADY STATE FORWARD BIASING



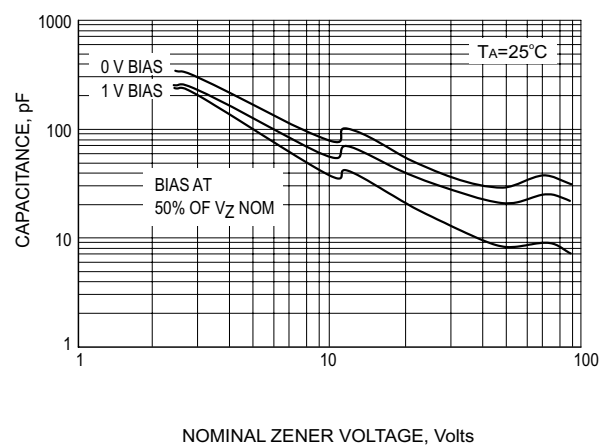
EFFECT OF ZENER VOLTAGE ON ZENER IMPEDANCE



TYPICAL FORWARD VOLTAGE



STEADY STATE POWER DERATING

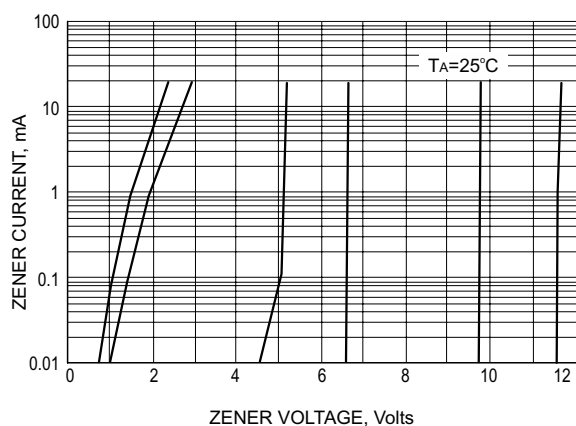


TYPICAL CAPACITANCE

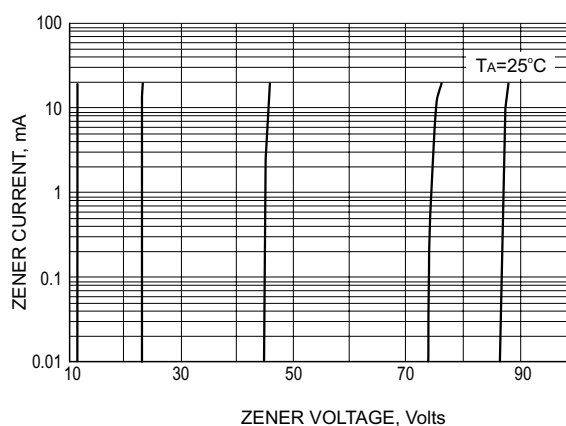
MMXZ5223B thru MMXZ5259B

•M•C•C•

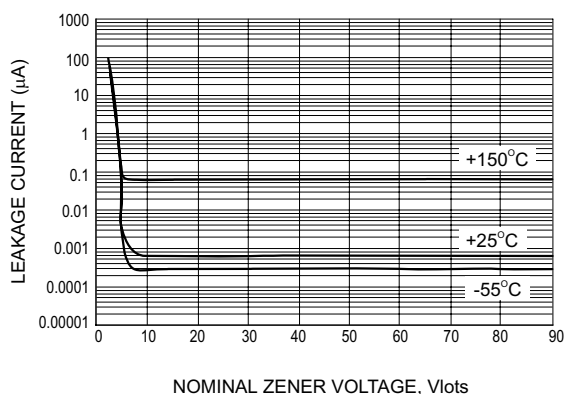
Micro Commercial Components



ZENER VOLTAGE V.S. ZENER CURRENT



ZENER VOLTAGE V.S. ZENER CURRENT



TYPICAL LEAKGE CURRENT

Ordering Information :

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

IMPORTANT NOTICE

Micro Commercial Components Corp. reserves the right to make changes without further notice to any product herein to make corrections, modifications , enhancements , improvements , or other changes . **Micro Commercial Components Corp .** does not assume any liability arising out of the application or use of any product described herein; neither does it convey any license under its patent rights ,nor the rights of others . The user of products in such applications shall assume all risks of such use and will agree to hold **Micro Commercial Components Corp .** and all the companies whose products are represented on our website, harmless against all damages.

LIFE SUPPORT

MCC's products are not authorized for use as critical components in life support devices or systems without the express written approval of Micro Commercial Components Corporation.

CUSTOMER AWARENESS

Counterfeiting of semiconductor parts is a growing problem in the industry. Micro Commercial Components (MCC) is taking strong measures to protect ourselves and our customers from the proliferation of counterfeit parts. MCC strongly encourages customers to purchase MCC parts either directly from MCC or from Authorized MCC Distributors who are listed by country on our web page cited below. Products customers buy either from MCC directly or from Authorized MCC Distributors are genuine parts, have full traceability, meet MCC's quality standards for handling and storage. **MCC will not provide any warranty coverage or other assistance for parts bought from Unauthorized Sources.** MCC is committed to combat this global problem and encourage our customers to do their part in stopping this practice by buying direct or from authorized distributors.