



# HITANO ENTERPRISE CORP.

## MMBZ5221B THRU MMBZ5259B

### TECHNICAL SPECIFICATIONS OF SURFACE MOUNT SILICON ZENER DIODES

#### FEATURES

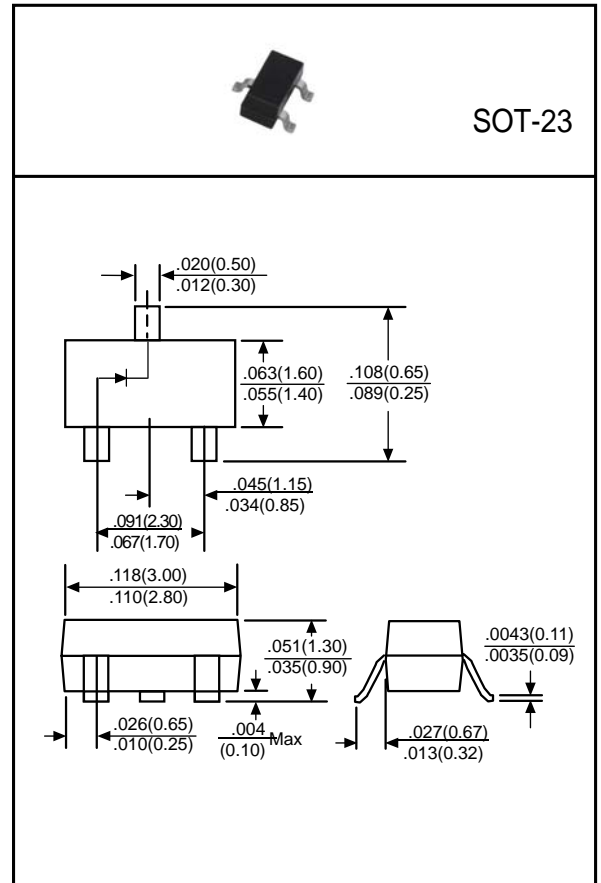
- \* Planar Die construction
- \* Zener Voltages from 2.4V - 39V
- \* 500mW Power Dissipation
- \* Ideally Suited for Automated Assembly Processes

#### MECHANICAL DATA

- \* Case: Molded Plastic
- \* Terminals: Solder plated, solderable per MIL-STD-202, Method 208
- \* Polarity: See Diagram Below
- \* Mounting position: Any
- \* Weight: 0.008 gram Approx.

#### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.  
 Single phase, half wave, 60 Hz, resistive or inductive load.  
 For capacitive load, derate current by 20%.



	SYMBOL	VALUE	UNITS
Zener Current see Table "Characteristics"			
Power Dissipation (Notes 1) at Tamb=25°C	P <sub>tot</sub>	500	mW
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) (Notes 2)	I <sub>FSM</sub>	4.0	Amps
Maximum Forward Voltage at I <sub>F</sub> =100mA	V <sub>F</sub>	1.2	Volts
Operating and Storage Temperature	T <sub>J</sub> , T <sub>stg</sub>	-55 to + 150	°C

Notes: 1. Mounted on 5.0mm<sup>2</sup> (.013mm thick) land areas.  
 2. Measured on 8.3ms, single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum.

# RATING AND CHARACTERISTIC CURVES (MMBZ5221B THRU MMBZ5259B)

TYPE	Nominal Zener Voltage $V_Z@I_{ZT}$	Zener Test Current $I_{ZT}$	Maximum Zener Impedance		$I_{ZK}$	Maximum Reverse Leakage Current		Typical Temperature Coefficient	Max. Zener Current $I_{ZM}@T_A$	Marking Code
			$Z_{ZT}@I_{ZT}$	$Z_{ZT}@I_{ZK}$		$I_R @ V_R$				
	Volts	mA	Ohms	Ohms	mA	$\mu A$	Volts	% / $^{\circ}C$	mA	
MMBZ5221B	2.4	20	30	1200	0.25	100	1.0	-0.070	188	C1
MMBZ5222B	2.5	20	30	1250	0.25	100	1.0	-0.065	180	C2
MMBZ5223B	2.7	20	30	1300	0.25	75	1.0	-0.060	167	C3
MMBZ5225B	3.0	20	30	1600	0.25	50	1.0	-0.055	150	C5
MMBZ5226B	3.3	20	28	1600	0.25	25	1.0	0.030	136	D1
MMBZ5227B	3.6	20	24	1700	0.25	15	1.0	0.030	126	D2
MMBZ5228B	3.9	20	23	1900	0.25	10	1.0	+0.038	115	D3
MMBZ5229B	4.3	20	22	2000	0.25	5	1.0	+0.038	106	D4
MMBZ5230B	4.7	20	19	1900	0.25	5	2.0	+0.045	97	D5
MMBZ5231B	5.1	20	17	1600	0.25	5	2.0	+0.050	89	E1
MMBZ5232B	5.6	20	11	1600	0.25	5	3.0	+0.058	81	E2
MMBZ5233B	6.0	20	9	1600	0.25	5	3.5	+0.060	76	E3
MMBZ5234B	6.2	20	7	1000	0.25	5	4.0	+0.062	73	E4
MMBZ5235B	6.8	20	5	750	0.25	3	5.0	+0.065	67	E5
MMBZ5236B	7.5	20	6	500	0.25	3	6.0	+0.068	61	F1
MMBZ5237B	8.2	20	8	500	0.25	3	6.0	+0.075	55	F2
MMBZ5238B	8.7	20	9	600	0.25	3	6.5	+0.075	52	F3
MMBZ5239B	9.1	20	10	600	0.25	3	6.5	+0.076	50	F4
MMBZ5240B	10	20	17	600	0.25	3	8.0	+0.077	45	F5
MMBZ5241B	11	20	22	600	0.25	3	8.4	+0.079	41	H1
MMBZ5242B	12	20	30	600	0.25	2	9.1	+0.082	38	H2
MMBZ5243B	13	9.5	13	600	0.25	1	9.9	+0.082	35	H3
MMBZ5244B	14	9.0	14	600	0.25	0.5	10	+0.082	32	H4
MMBZ5245B	15	8.5	16	600	0.25	0.1	11	+0.083	30	H5
MMBZ5246B	16	7.8	17	600	0.25	0.1	12	+0.084	28	J1
MMBZ5247B	17	7.4	19	600	0.25	0.1	13	+0.084	27	J2
MMBZ5248B	18	7.0	21	600	0.25	0.1	14	+0.085	25	J3
MMBZ5249B	19	6.6	23	600	0.25	0.1	14	+0.085	24	J4
MMBZ5250B	20	6.2	25	600	0.25	0.1	15	+0.086	23	J5
MMBZ5251B	22	5.6	29	600	0.25	0.1	17	+0.086	21	K1
MMBZ5252B	24	5.2	33	600	0.25	0.1	18	+0.087	19.1	K2
MMBZ5253B	25	5.0	36	600	0.25	0.1	19	+0.087	18.2	K3
MMBZ5254B	27	4.6	41	600	0.25	0.1	21	+0.087	16.8	K4
MMBZ5255B	28	4.5	44	600	0.25	0.1	21	+0.089	16.2	K5
MMBZ5256B	30	4.2	49	600	0.25	0.1	23	+0.090	15.1	M1
MMBZ5257B	33	3.8	58	700	0.25	0.1	25	+0.091	13.8	M2
MMBZ5258B	36	3.4	70	700	0.25	0.1	27	+0.091	12.6	M3
MMBZ5259B	39	3.2	80	800	0.25	0.1	30	+0.092	11.6	M4

NOTE: Standard Zener Voltage Tolerance  $\pm 5\%$

## Breakdown characteristics

MMBZ52 SERIES

changes in the power dissipation due to the ambient temperature.

