



DC COMPONENTS CO., LTD.  
RECTIFIER SPECIALISTS

MMBZ5221BW  
THRU  
MMBZ5259BW

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

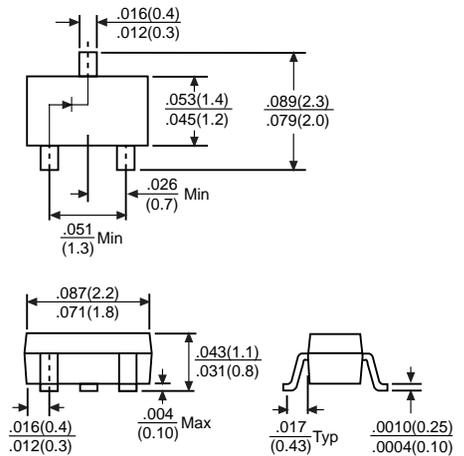
- \* Case: Molded Plastic
- \* Terminals: Solder plated, solderable per MIL-STD-202, Method 208
- \* Polarity: See Diagram Below
- \* Mounting position: Any
- \* Weight: 0.008 gram Approx.

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%.



SOT-323



	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 (MMBZ5221BW THRU MMBZ5259BW)

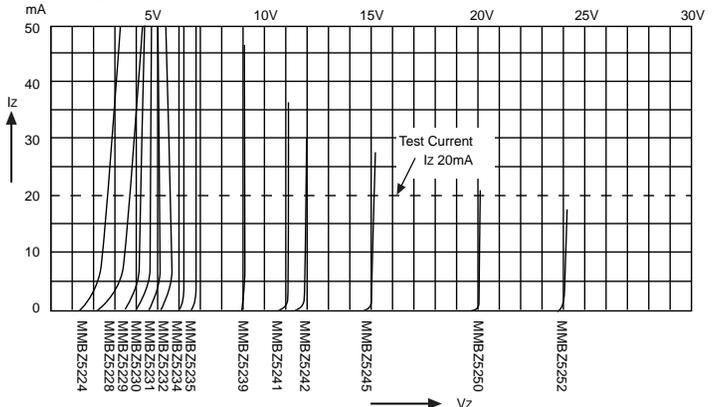
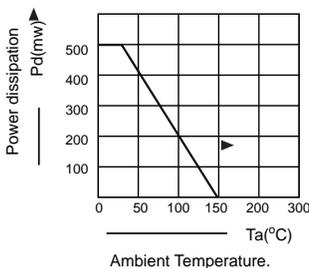
TYPE	Nominal Zener Voltage $V_Z @ I_ZT$	Zener Test Current $I_ZT$	Maximum Zener Impedance		$I_{ZK}$	Maximum Reverse Leakage Current		Typical Temperature Coefficient	Max. Zener Current $I_{ZM} @ T_A$	Marking Code
			$Z_{ZT} @ I_{ZT}$	$Z_{ZT} @ I_{ZK}$		$I_R @ V_R$				
	Volts	mA	Ohms	Ohms	mA	$\mu A$	Volts	% / °C	mA	
MMBZ5221BW	2.4	20	30	1200	0.25	100	1.0	-0.070	188	C1
MMBZ5222BW	2.5	20	30	1250	0.25	100	1.0	-0.065	180	C2
MMBZ5223BW	2.7	20	30	1300	0.25	75	1.0	-0.060	167	C3
MMBZ5225BW	3.0	20	30	1600	0.25	50	1.0	-0.055	150	C5
MMBZ5226BW	3.3	20	28	1600	0.25	25	1.0	$\pm 0.030$	136	D1
MMBZ5227BW	3.6	20	24	1700	0.25	15	1.0	$\pm 0.030$	126	D2
MMBZ5228BW	3.9	20	23	1900	0.25	10	1.0	+0.038	115	D3
MMBZ5229BW	4.3	20	22	2000	0.25	5	1.0	+0.038	106	D4
MMBZ5230BW	4.7	20	19	1900	0.25	5	2.0	+0.045	97	D5
MMBZ5231BW	5.1	20	17	1600	0.25	5	2.0	+0.050	89	E1
MMBZ5232BW	5.6	20	11	1600	0.25	5	3.0	+0.058	81	E2
MMBZ5233BW	6.0	20	9	1600	0.25	5	3.5	+0.060	76	E3
MMBZ5234BW	6.2	20	7	1000	0.25	5	4.0	+0.062	73	E4
MMBZ5235BW	6.8	20	5	750	0.25	3	5.0	+0.065	67	E5
MMBZ5236BW	7.5	20	6	500	0.25	3	6.0	+0.068	61	F1
MMBZ5237BW	8.2	20	8	500	0.25	3	6.0	+0.075	55	F2
MMBZ5238BW	8.7	20	9	600	0.25	3	6.5	+0.075	52	F3
MMBZ5239BW	9.1	20	10	600	0.25	3	6.5	+0.076	50	F4
MMBZ5240BW	10	20	17	600	0.25	3	8.0	+0.077	45	F5
MMBZ5241BW	11	20	22	600	0.25	3	8.4	+0.079	41	H1
MMBZ5242BW	12	20	30	600	0.25	2	9.1	+0.082	38	H2
MMBZ5243BW	13	9.5	13	600	0.25	1	9.9	+0.082	35	H3
MMBZ5244BW	14	9.0	14	600	0.25	0.5	10	+0.082	32	H4
MMBZ5245BW	15	8.5	16	600	0.25	0.1	11	+0.083	30	H5
MMBZ5246BW	16	7.8	17	600	0.25	0.1	12	+0.084	28	J1
MMBZ5247BW	17	7.4	19	600	0.25	0.1	13	+0.084	27	J2
MMBZ5248BW	18	7.0	21	600	0.25	0.1	14	+0.085	25	J3
MMBZ5249BW	19	6.6	23	600	0.25	0.1	14	+0.085	24	J4
MMBZ5250BW	20	6.2	25	600	0.25	0.1	15	+0.086	23	J5
MMBZ5251BW	22	5.6	29	600	0.25	0.1	17	+0.086	21	K1
MMBZ5252BW	24	5.2	33	600	0.25	0.1	18	+0.087	19.1	K2
MMBZ5253BW	25	5.0	36	600	0.25	0.1	19	+0.087	18.2	K3
MMBZ5254BW	27	4.6	41	600	0.25	0.1	21	+0.087	16.8	K4
MMBZ5255BW	28	4.5	44	600	0.25	0.1	21	+0.089	16.2	K5
MMBZ5256BW	30	4.2	49	600	0.25	0.1	23	+0.090	15.1	M1
MMBZ5257BW	33	3.8	58	700	0.25	0.1	25	+0.091	13.8	M2
MMBZ5258BW	36	3.4	70	700	0.25	0.1	27	+0.091	12.6	M3
MMBZ5259BW	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.



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