



**THE DATASHEET OF  
MMBZ5232BTW\_R1\_00001**



# MMBZ5221BTW ~ MMBZ5267BTW Series

## SURFACE MOUNT SILICON ZENER DIODES

**VOLTAGE** 2.4 to 75 Volt **POWER** 200 mWatt

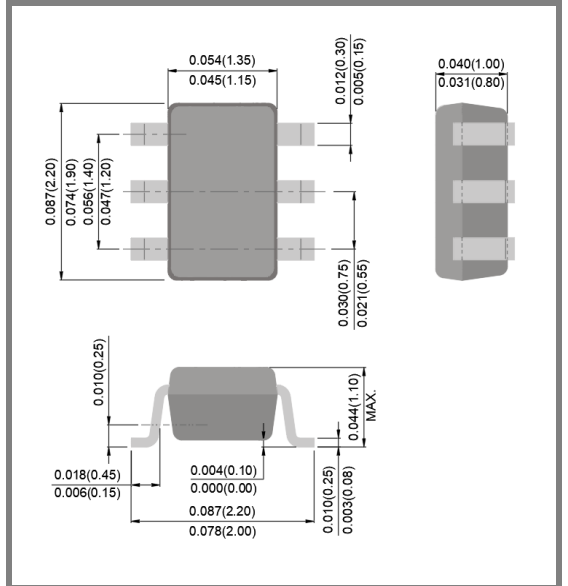
**SOT-363 Dimension** Unit: inch(mm)

### FEATURES

- Planar Die Construction
- 200mW Power Dissipation
- Zener Voltages from 2.4~75V
- Ideally Suited for Automated Assembly Processes
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

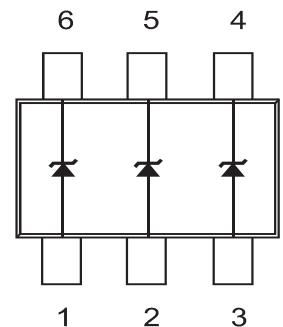
### MECHANICAL DATA

- Case : SOT-363, Plastic
- Terminals : Solderable per MIL-STD-750, Method 2026
- Approx. Weight : 0.006 grams



## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T<sub>J</sub>=25°C unless otherwise noted)

PARAMETER	SYMBOL	VALUE	UNITS
Power Dissipation (Note A)	P <sub>D</sub>	200	mW
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (Notes B)	I <sub>FSM</sub>	2	A
Operating Junction Temperature and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150	°C



### NOTES :

- A. Mounted on 5mm<sup>2</sup> (0.013mm thick) land areas.
- B. Measured on 8.3ms, single half sine-wave or equivalent square wave, duty cycle=4 pulses per minute maximum.

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Part Number	Nominal Zener Voltage			Max. Zener Impedance				Max Reverse Leakage Current		Marking Code
	V <sub>Z</sub> @ I <sub>ZT</sub>			Z <sub>ZT</sub> @ I <sub>ZT</sub>		Z <sub>ZK</sub> @ I <sub>ZK</sub>		I <sub>R</sub> @ V <sub>R</sub>		
	Nom. V	Min. V	Max. V	Ω	mA	Ω	mA	μA	V	
<b>200 mWatts Zener Diodes</b>										
MMBZ5221BTW	2.4	2.28	2.52	30	20.0	1200	0.25	100	1.0	C1
MMBZ5222BTW	2.5	2.38	2.63	30	20.0	1250	0.25	100	1.0	C2
MMBZ5223BTW	2.7	2.57	2.84	30	20.0	1300	0.25	75	1.0	C3
MMBZ5224BTW	2.8	2.66	2.94	30	20.0	1400	0.25	75	1.0	C4
MMBZ5225BTW	3.0	2.85	3.15	30	20.0	1600	0.25	50	1.0	C5
MMBZ5226BTW	3.3	3.14	3.47	28	20.0	1600	0.25	25	1.0	D1
MMBZ5227BTW	3.6	3.42	3.78	24	20.0	1700	0.25	15	1.0	D2
MMBZ5228BTW	3.9	3.71	4.10	23	20.0	1900	0.25	10	1.0	D3
MMBZ5229BTW	4.3	4.09	4.52	22	20.0	2000	0.25	5.0	1.0	D4
MMBZ5230BTW	4.7	4.47	4.94	19	20.0	1900	0.25	5.0	2.0	D5
MMBZ5231BTW	5.1	4.85	5.36	17	20.0	1600	0.25	5.0	2.0	E1
MMBZ5232BTW	5.6	5.32	5.88	11	20.0	1600	0.25	5.0	3.0	E2
MMBZ5233BTW	6.0	5.70	6.30	7	20.0	1600	0.25	5.0	3.5	E3
MMBZ5234BTW	6.2	5.89	6.51	7	20.0	1000	0.25	5.0	4.0	E4
MMBZ5235BTW	6.8	6.46	7.14	5	20.0	750	0.25	3.0	5.0	E5
MMBZ5236BTW	7.5	7.13	7.88	6	20.0	500	0.25	3.0	6.0	F1
MMBZ5237BTW	8.2	7.79	8.61	8	20.0	500	0.25	3.0	6.5	F2
MMBZ5238BTW	8.7	8.27	9.14	8	20.0	600	0.25	3.0	6.5	F3
MMBZ5239BTW	9.1	8.65	9.56	10	20.0	600	0.25	3.0	7.0	F4
MMBZ5240BTW	10	9.50	10.50	17	20.0	600	0.25	3.0	8.0	F5
MMBZ5241BTW	11	10.45	11.55	22	20.0	600	0.25	2.0	8.4	H1
MMBZ5242BTW	12	11.40	12.60	30	20.0	600	0.25	1.0	9.1	H2
MMBZ5243BTW	13	12.35	13.65	13	9.5	600	0.25	0.5	9.9	H3
MMBZ5244BTW	14	13.30	14.70	15	9.0	600	0.25	0.1	10.5	H4
MMBZ5245BTW	15	14.25	15.75	16	8.5	600	0.25	0.1	11.0	H5
MMBZ5246BTW	16	15.20	16.80	17	7.8	600	0.25	0.1	12.0	J1
MMBZ5247BTW	17	16.15	17.85	19	7.5	600	0.25	0.1	13.0	J2
MMBZ5248BTW	18	17.10	18.90	21	7.0	600	0.25	0.1	14.0	J3
MMBZ5249BTW	19	18.05	19.95	23	6.6	600	0.25	0.1	14.0	J4
MMBZ5250BTW	20	19.00	21.00	25	6.2	600	0.25	0.1	15.0	J5
MMBZ5251BTW	22	20.90	23.10	29	5.6	600	0.25	0.1	17.0	K1
MMBZ5252BTW	24	22.80	25.20	33	5.2	600	0.25	0.1	18.0	K2
MMBZ5253BTW	25	23.75	26.25	35	5.0	600	0.25	0.1	19.0	K3
MMBZ5254BTW	27	25.65	28.35	41	5.0	600	0.25	0.1	21.0	K4
MMBZ5255BTW	28	26.60	29.40	44	4.5	600	0.25	0.1	21.0	K5
MMBZ5256BTW	30	28.50	31.50	49	4.2	600	0.25	0.1	23.0	M1
MMBZ5257BTW	33	31.35	34.65	58	3.8	700	0.25	0.1	25.0	M2
MMBZ5258BTW	36	34.20	37.80	70	3.4	700	0.25	0.1	27.0	M3
MMBZ5259BTW	39	37.05	40.95	80	3.2	800	0.25	0.1	30.0	M4
MMBZ5260BTW	43	40.85	45.15	93	3.0	900	0.25	0.1	33.0	M5
MMBZ5261BTW	47	44.65	49.35	105	2.7	1000	0.25	0.1	36.0	N1
MMBZ5262BTW	51	48.45	53.55	125	2.5	1100	0.25	0.1	39.0	N2

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	Nom. V	Min. V	Max. V	Ω	mA	Ω	mA	μA	V	
MMBZ5263BTW	56	53.2	58.8	150	2.2	1300	0.25	0.1	43	N3
MMBZ5264BTW	60	57	63	170	2.1	1400	0.25	0.1	46	N4
MMBZ5265BTW	62	58.9	65.1	185	2	1500	0.25	0.1	47	N5
MMBZ5266BTW	68	64.6	71.4	230	1.8	1600	0.25	0.1	52	P1
MMBZ5267BTW	75	71.25	78.75	270	1.7	1400	0.25	0.1	56	P2

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## CHARACTERISTIC CURVES

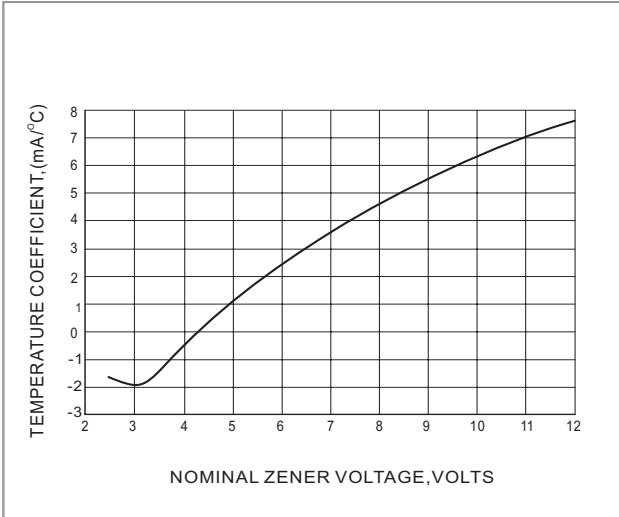


Fig.1 TEMPERATURE COEFFICIENTS

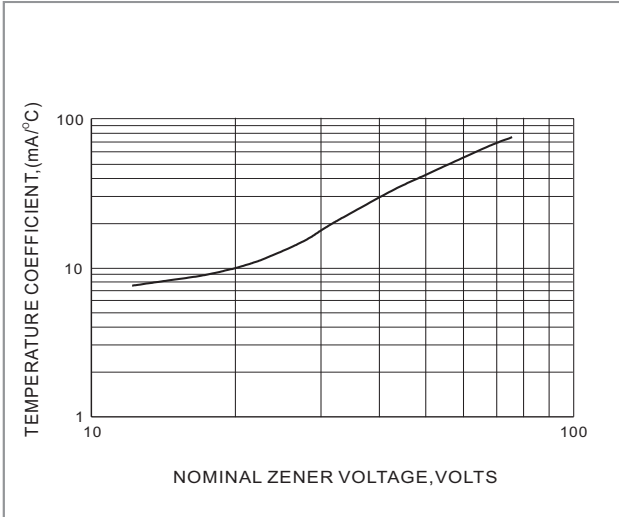


Fig.2 TEMPERATURE COEFFICIENTS

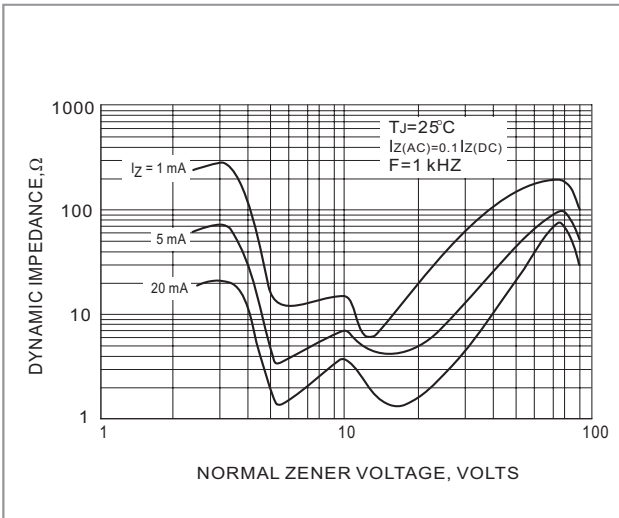


Fig.3 EFFECT OF ZENER VOLTAGE ON ZENER IMPEDANCE

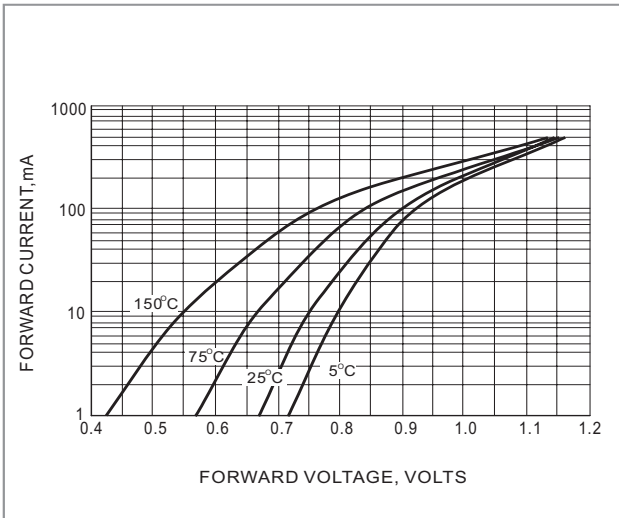


Fig.4 TYPICAL FORWARD VOLTAGE

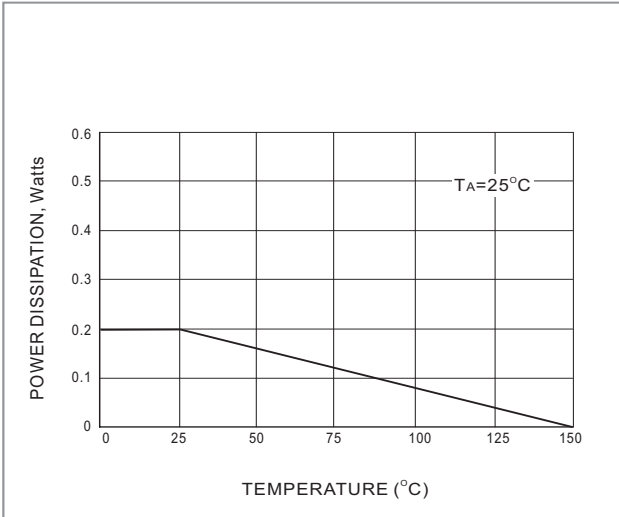


Fig.5 STEADY STATE POWER DERATING

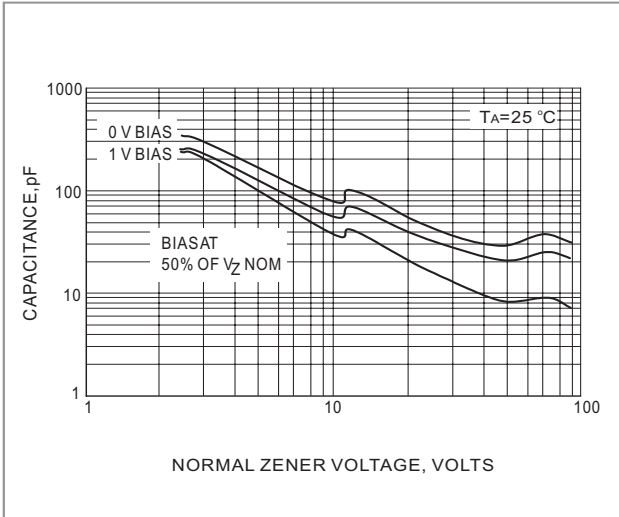


Fig.6 TYPICAL CAPACITANCE

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## CHARACTERISTIC CURVES

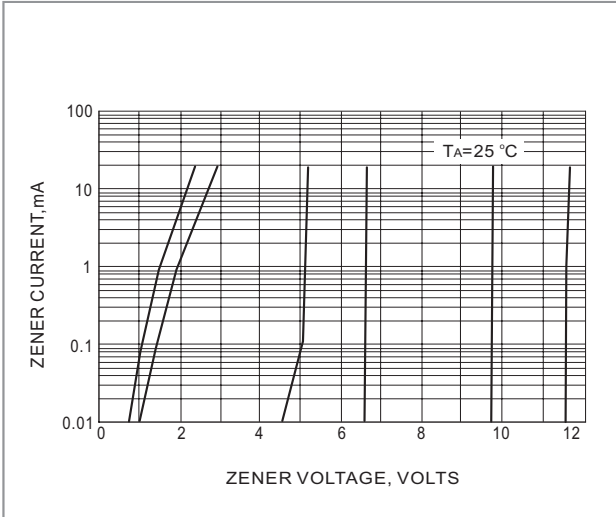


Fig.7 ZENER VOLTAGE VERSUS ZENER CURRENT

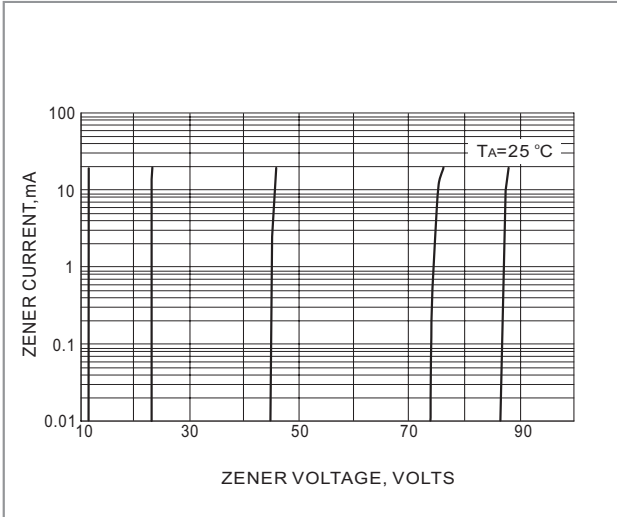


Fig.8 ZENER VOLTAGE VERSUS ZENER CURRENT

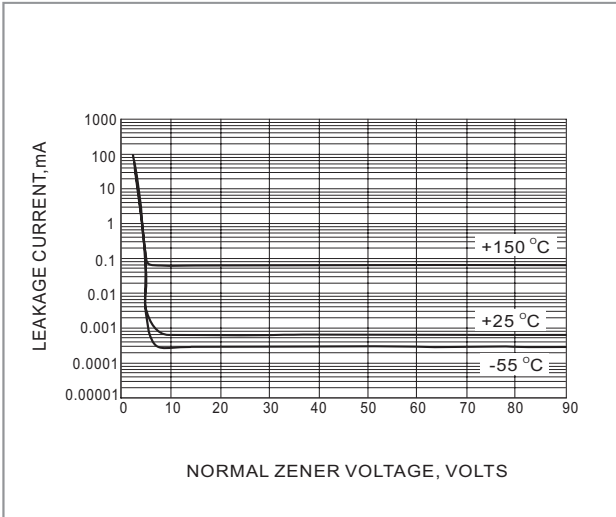


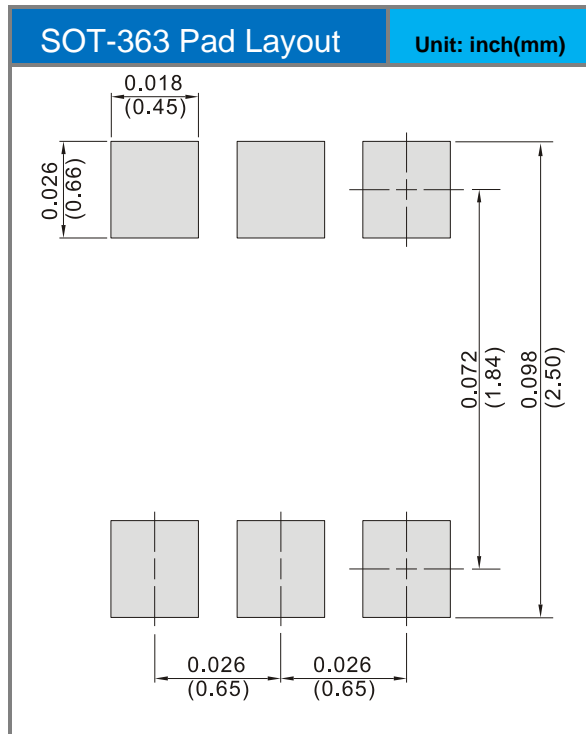
Fig.9 TYPICAL LEAKAGE CURRENT

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## Product and Packing Information

Part No.	Package Type	Packing Type	Marking
MMBZ52xxBTW	SOT-363	3K pcs / 7" reel	See Table

## Mounting Pad Layout



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