



Small Signal Zener Diodes



FEATURES

- Silicon planar power Zener diodes
- Standard Zener voltage tolerance is $\pm 5\%$ with a "B" suffix (e.g.: MMBZ5225B-V), suffix "C" is $\pm 2\%$ tolerance.
- High temperature soldering guaranteed: 260 °C/4 x 10 s at terminals
- These diodes are also available in MiniMELF case with the type designation ZMM5225 to ZMM5267, SOD-123 case with the type designation MMSZ5225-V to MMSZ5267-V
- AEC-Q101 qualified
- Material categorization: For definitions of compliance please see www.vishay.com/doc?99912



RoHS COMPLIANT

PRIMARY CHARACTERISTICS		
PARAMETER	VALUE	UNIT
V _Z range nom.	3 to 75	V
Test current I _{ZT}	1.7 to 20	mA
V _Z specification	Thermal equilibrium	
Int. construction	Single	

ORDERING INFORMATION			
DEVICE NAME	ORDERING CODE	TAPED UNITS PER REEL	MINIMUM ORDER QUANTITY
MMBZ5225-V to MMBZ5267-V	MMBZ5225-V to MMBZ5267-V-series-GS18	10 000 (8 mm tape on 13" reel)	10 000/box
MMBZ5225-V to MMBZ5267-V	MMBZ5225-V to MMBZ5267-V-series-GS08	3000 (8 mm tape on 7" reel)	15 000/box

PACKAGE				
PACKAGE NAME	WEIGHT	MOLDING COMPOUND FLAMMABILITY RATING	MOISTURE SENSITIVITY LEVEL	SOLDERING CONDITIONS
SOT-23	8.8 mg	UL 94 V-0	MSL level 1 (according J-STD-020)	260 °C/10 s at terminals

ABSOLUTE MAXIMUM RATINGS (T _{amb} = 25 °C, unless otherwise specified)				
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Power dissipation	On FR - 5 board using recommended solder pad layout	P _{tot}	225	mW
	On alumina substrate	P _{tot}	300	mW
Zener current	See table "Characteristics"			
Junction to ambient air	On FR - 5 board using recommended solder pad layout	R _{thJA}	556	°C/W
Junction temperature, maximum		T _j	150	°C
Storage temperature range		T _{stg}	- 65 to + 175	°C



ELECTRICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)									
PART NUMBER	MARKING CODE	ZENER VOLTAGE RANGE ⁽¹⁾	TEST CURRENT		REVERSE LEAKAGE CURRENT		DYNAMIC RESISTANCE ⁽²⁾		TEMPERATURE COEFFICIENT
		V_Z at I_{ZT1}	I_{ZT1}	I_{ZT2}	I_R at V_R		Z_Z at I_{ZT1}	Z_{ZK} at I_{ZT2}	α_{VZ}
		V	mA		μA	V	Ω		%/ $^{\circ}\text{C}$
		NOM.			MAX.		MAX.	MAX.	TYP.
MMBZ5225-V	18E	3	20	0.25	50	1	30	1600	- 0.075
MMBZ5226-V	8A	3.3	20	0.25	25	1	28	1600	- 0.07
MMBZ5227-V	8B	3.6	20	0.25	15	1	24	1700	- 0.065
MMBZ5228-V	8C	3.9	20	0.25	10	1	23	1900	- 0.06
MMBZ5229-V	8D	4.3	20	0.25	5	1	22	2000	- 0.055
MMBZ5230-V	8E	4.7	20	0.25	5	2	19	1900	\pm 0.030
MMBZ5231-V	8F	5.1	20	0.25	5	2	17	1600	\pm 0.030
MMBZ5232-V	8G	5.6	20	0.25	5	3	11	1600	0.038
MMBZ5233-V	8H	6	20	0.25	5	3.5	7	1600	0.038
MMBZ5234-V	8J	6.2	20	0.25	5	4	7	1000	0.045
MMBZ5235-V	8K	6.8	20	0.25	3	5	5	750	0.05
MMBZ5236-V	8L	7.5	20	0.25	3	6	6	500	0.058
MMBZ5237-V	8M	8.2	20	0.25	3	6.5	8	500	0.062
MMBZ5238-V	8N	8.7	20	0.25	3	6.5	8	600	0.065
MMBZ5239-V	8P	9.1	20	0.25	3	7	10	600	0.068
MMBZ5240-V	8Q	10	20	0.25	3	8	17	600	0.075
MMBZ5241-V	8R	11	20	0.25	2	8.4	22	600	0.076
MMBZ5242-V	8S	12	20	0.25	1	9.1	30	600	0.077
MMBZ5243-V	8T	13	9.5	0.25	0.5	9.9	13	600	0.079
MMBZ5244-V	8U	14	9	0.25	0.1	10	15	600	0.082
MMBZ5245-V	8V	15	8.5	0.25	0.1	11	16	600	0.082
MMBZ5246-V	8W	16	7.8	0.25	0.1	12	17	600	0.083
MMBZ5247-V	8X	17	7.4	0.25	0.1	13	19	600	0.084
MMBZ5248-V	8Y	18	7	0.25	0.1	14	21	600	0.085
MMBZ5249-V	8Z	19	6.6	0.25	0.1	14	23	600	0.086
MMBZ5250-V	81A	20	6.2	0.25	0.1	15	25	600	0.086
MMBZ5251-V	81B	22	5.6	0.25	0.1	17	29	600	0.087
MMBZ5252-V	81C	24	5.2	0.25	0.1	18	33	600	0.087
MMBZ5253-V	81D	25	5	0.25	0.1	19	35	600	0.089
MMBZ5254-V	81E	27	4.6	0.25	0.1	21	41	600	0.09
MMBZ5255-V	81F	28	4.5	0.25	0.1	21	44	600	0.091
MMBZ5256-V	81G	30	4.2	0.25	0.1	23	49	600	0.091
MMBZ5257-V	81H	33	3.8	0.25	0.1	25	58	700	0.092
MMBZ5258-V	81J	36	3.4	0.25	0.1	27	70	700	0.093
MMBZ5259-V	81K	39	3.2	0.25	0.1	30	80	800	0.094
MMBZ5260-V	18F	43	3	0.25	0.1	33	93	900	0.095
MMBZ5261-V	81M	47	2.7	0.25	0.1	36	105	1000	0.095
MMBZ5262-V	81N	51	2.5	0.25	0.1	39	125	1100	0.096
MMBZ5263-V	81P	56	2.2	0.25	0.1	43	150	1300	0.096
MMBZ5264-V	81Q	60	2.1	0.25	0.1	46	170	1400	0.097
MMBZ5265-V	81R	62	2	0.25	0.1	47	185	1400	0.097
MMBZ5266-V	81S	68	1.8	0.25	0.1	52	230	1600	0.097
MMBZ5267-V	81T	75	1.7	0.25	0.1	56	270	1700	0.098

Notes

- Maximum $V_F = 0.9\text{ V}$, at $I_F = 10\text{ mA}$

(1) Measured at thermal equilibrium

(2) The Zener impedance is derived from the 1 kHz AC voltage which results when an AC current having an RMS value equal to 10 % of the Zener current (I_{ZT1} or I_{ZT2}) is superimposed on I_{ZT1} or I_{ZT2} . Zener Impedance is measured at two points to insure a sharp knee on the breakdown curve and to eliminate unstable units

BASIC CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)

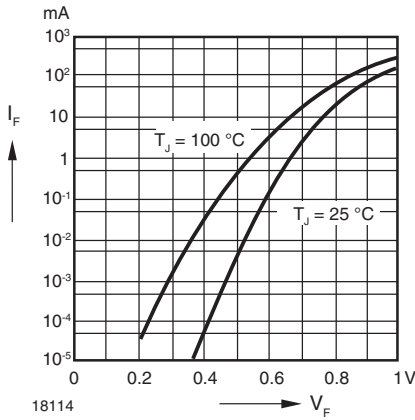


Fig. 1 - Forward Characteristics

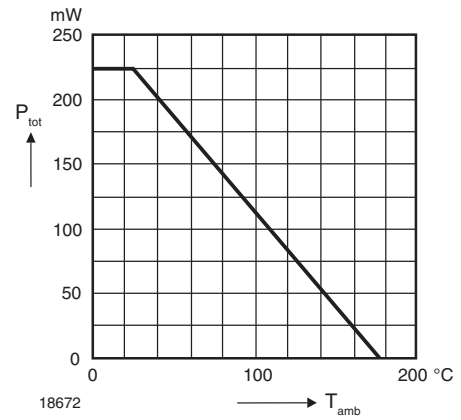
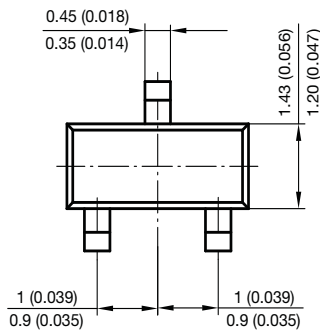
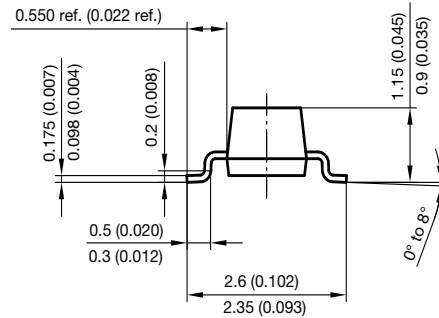
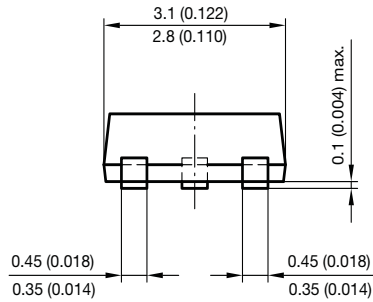
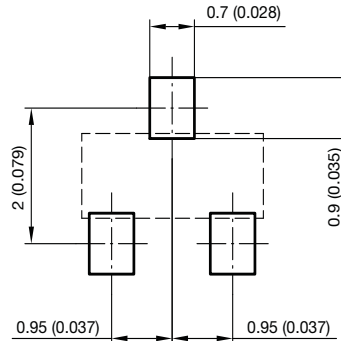


Fig. 2 - Admissible Power Dissipation vs. Ambient Temperature

PACKAGE DIMENSIONS in millimeters (inches): SOT-23



Foot print recommendation:



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