

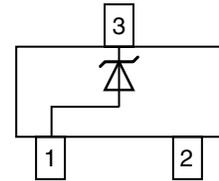
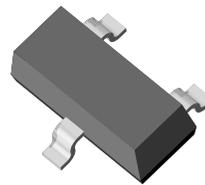
Small Signal Zener Diodes

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/ 4x 10 s at terminals.
- These diodes are also available in MiniMELF case with the type designation ZMM5225...ZMM5267, SOD-123 case with the type designation MMSZ5225-V... MMSZ5267-V.
- Compliant to RoHS directive 2002/95/EC and in accordance to WEEE 2002/96/EC



RoHS
COMPLIANT



18078

Mechanical Data

Case: SOT-23

Weight: approx. 8.8 mg

Packaging codes/options:

GS18/10 k per 13" reel (8 mm tape), 10 k/box

GS08/3 k per 7" reel (8 mm tape), 15 k/box

Absolute Maximum Ratings

$T_{amb} = 25\text{ °C}$, unless otherwise specified

Parameter	Test condition	Symbol	Value	Unit
Zener current (see table "Characteristics")				
Power dissipation	$T_A = 25\text{ °C}$	P_{tot}	225 ¹⁾	mW
		P_{tot}	300 ²⁾	mW

Notes

¹⁾ On FR - 5 board using recommended solder pad layout

²⁾ On alumina substrate

Thermal Characteristics

$T_{amb} = 25\text{ °C}$, unless otherwise specified

Parameter	Test condition	Symbol	Value	Unit
Thermal resistance junction to ambient air		R_{thJA}	556 ¹⁾	°C/W
Maximum junction temperature		T_j	150	°C
Storage temperature range		T_S	- 65 to + 175	°C

Note

¹⁾ On FR - 5 board using recommended solder pad layout

MMBZ5225-V to MMBZ5267-V



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Electrical Characteristics ($T_{amb} = 25^\circ$ unless otherwise noted)

Maximum $V_F = 0.9$ V at $I_F = 10$ mA

Part number	Marking code	Nominal zener voltage	Test current	Maximum dynamic impedance ¹⁾		Typical temp. of coefficient	Maximum reverse leakage current	
		V_Z at I_{ZT1}	I_{ZT1}	Z_{ZT} at I_{ZT}	Z_{ZK} at $I_{ZK} = 0.25$ mA	α_{VZ}	I_R	V_R
		V	mA	Ω	Ω	%/ $^\circ$ C	μ A	V
MMBZ5225-V	18E	3	20	30	1600	-0.075	50	1
MMBZ5226-V	8A	3.3	20	28	1600	-0.07	25	1
MMBZ5227-V	8B	3.6	20	24	1700	-0.065	15	1
MMBZ5228-V	8C	3.9	20	23	1900	-0.06	10	1
MMBZ5229-V	8D	4.3	20	22	2000	-0.055	5	1
MMBZ5230-V	8E	4.7	20	19	1900	± 0.030	5	2
MMBZ5231-V	8F	5.1	20	17	1600	± 0.030	5	2
MMBZ5232-V	8G	5.6	20	11	1600	0.038	5	3
MMBZ5233-V	8H	6	20	7	1600	0.038	5	3.5
MMBZ5234-V	8J	6.2	20	7	1000	0.045	5	4
MMBZ5235-V	8K	6.8	20	5	750	0.05	3	5
MMBZ5236-V	8L	7.5	20	6	500	0.058	3	6
MMBZ5237-V	8M	8.2	20	8	500	0.062	3	6.5
MMBZ5238-V	8N	8.7	20	8	600	0.065	3	6.5
MMBZ5239-V	8P	9.1	20	10	600	0.068	3	7
MMBZ5240-V	8Q	10	20	17	600	0.075	3	8
MMBZ5241-V	8R	11	20	22	600	0.076	2	8.4
MMBZ5242-V	8S	12	20	30	600	0.077	1	9.1
MMBZ5243-V	8T	13	9.5	13	600	0.079	0.5	9.9
MMBZ5244-V	8U	14	9	15	600	0.082	0.1	10
MMBZ5245-V	8V	15	8.5	16	600	0.082	0.1	11
MMBZ5246-V	8W	16	7.8	17	600	0.083	0.1	12
MMBZ5247-V	8X	17	7.4	19	600	0.084	0.1	13
MMBZ5248-V	8Y	18	7	21	600	0.085	0.1	14
MMBZ5249-V	8Z	19	6.6	23	600	0.086	0.1	14
MMBZ5250-V	81A	20	6.2	25	600	0.086	0.1	15
MMBZ5251-V	81B	22	5.6	29	600	0.087	0.1	17
MMBZ5252-V	81C	24	5.2	33	600	0.087	0.1	18
MMBZ5253-V	81D	25	5	35	600	0.089	0.1	19
MMBZ5254-V	81E	27	4.6	41	600	0.090	0.1	21
MMBZ5255-V	81F	28	4.5	44	600	0.091	0.1	21
MMBZ5256-V	81G	30	4.2	49	600	0.091	0.1	23
MMBZ5257-V	81H	33	3.8	58	700	0.092	0.1	25
MMBZ5258-V	81J	36	3.4	70	700	0.093	0.1	27
MMBZ5259-V	81K	39	3.2	80	800	0.094	0.1	30
MMBZ5260-V	18F	43	3	93	900	0.095	0.1	33
MMBZ5261-V	81M	47	2.7	105	1000	0.095	0.1	36
MMBZ5262-V	81N	51	2.5	125	1100	0.096	0.1	39
MMBZ5263-V	81P	56	2.2	150	1300	0.096	0.1	43
MMBZ5264-V	81Q	60	2.1	170	1400	0.097	0.1	46
MMBZ5265-V	81R	62	2	185	1400	0.097	0.1	47
MMBZ5266-V	81S	68	1.8	230	1600	0.097	0.1	52
MMBZ5267-V	81T	75	1.7	270	1700	0.098	0.1	56

¹⁾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_{ZT} or I_{ZK}) is superimposed on I_{ZT} or I_{ZK} . Zener Impedance is measured at two points to insure a sharp knee on the breakdown curve and to eliminate unstable units.

³⁾ Measured at thermal equilibrium.

Typical Characteristics ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)

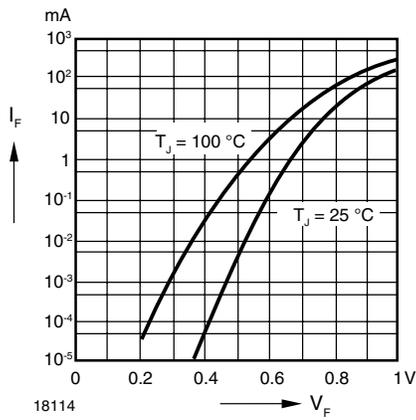


Figure 1. Forward characteristics

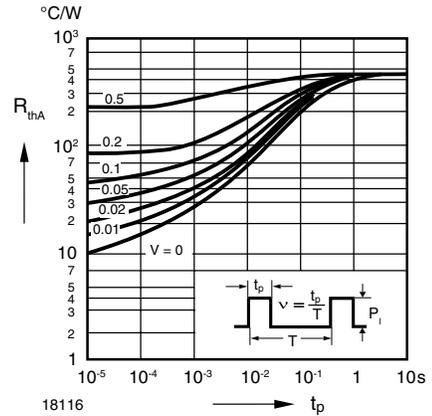


Figure 4. Pulse Thermal Resistance vs. Pulse Duration

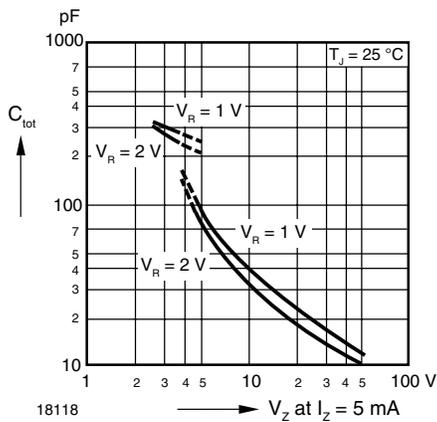


Figure 2. Capacitance vs. Zener Voltage

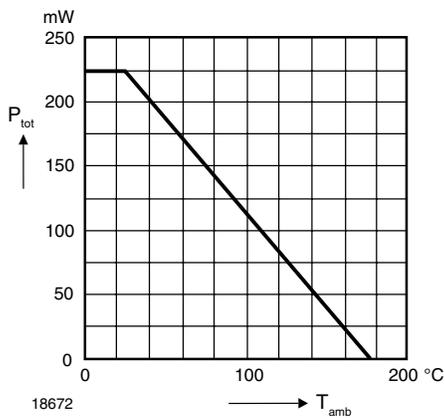


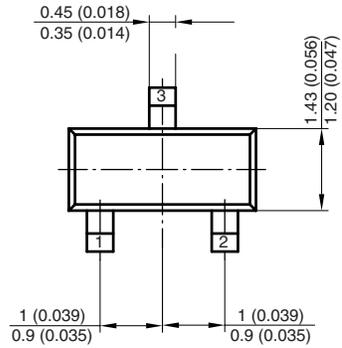
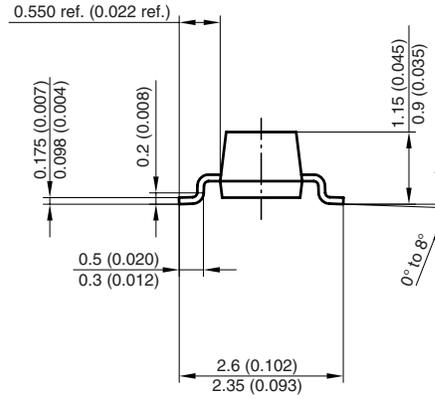
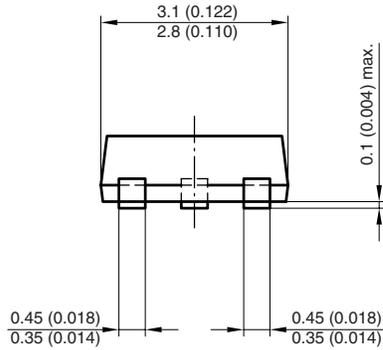
Figure 3. Admissible Power Dissipation vs. Ambient Temperature

MMBZ5225-V to MMBZ5267-V

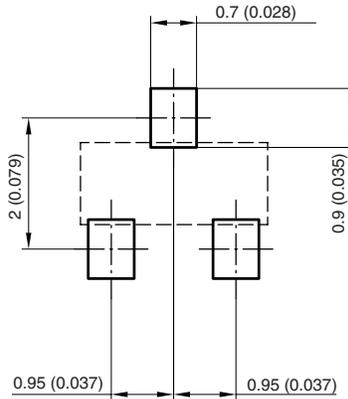


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Package Dimensions in millimeters (inches): SOT-23



Mounting pad layout



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