



## Small Signal Zener Diodes



## FEATURES

- Silicon planar power Zener diodes
- Standard Zener voltage tolerance is  $\pm 5\%$  with a "B" suffix (e.g.: MMBZ5225B), suffix "C" is  $\pm 2\%$  tolerance.
- High temperature soldering guaranteed: 260 °C/4 x 10 s at terminals
- AEC-Q101 qualified available
- ESD capability according to AEC-Q101: Human body model > 8 kV Machine model > 800 V
- Base P/N-E3 - RoHS-compliant, commercial grade
- Base P/N-HE3 - RoHS-compliant, AEC-Q101 qualified
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)

AUTOMOTIVE  
GRADE  
AvailableRoHS  
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 to MMBZ5267	MMBZ5225B-E3-08 to MMBZ5267B-E3-08	3000 (8 mm tape on 7" reel)	15 000/box
	MMBZ5225C-E3-08 to MMBZ5267C-E3-08		
	MMBZ5225B-HE3-08 to MMBZ5267B-HE3-08		
	MMBZ5225C-HE3-08 to MMBZ5267C-HE3-08		
	MMBZ5225B-E3-18 to MMBZ5267B-E3-18	10 000 (8 mm tape on 13" reel)	10 000/box
	MMBZ5225C-E3-18 to MMBZ5267C-E3-18		
	MMBZ5225B-HE3-18 to MMBZ5267B-HE3-18		
	MMBZ5225C-HE3-18 to MMBZ5267C-HE3-18		

## 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 ( $T_{amb} = 25\text{ °C}$ , 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 "Electrical Characteristics"			
Thermal resistance, junction to ambient air	On FR - 5 board using recommended solder pad layout	$R_{thJA}$	556	K/W
Junction temperature		$T_j$	150	°C
Storage temperature range		$T_{stg}$	-65 to +150	°C
Operating temperature range		$T_{op}$	-55 to +150	°C



ELECTRICAL CHARACTERISTICS (T\_amb = 25 °C, unless otherwise specified)

Table with 10 columns: PART NUMBER, MARKING CODE, ZENER VOLTAGE RANGE (1), TEST CURRENT (IZT1, IZT2), REVERSE LEAKAGE CURRENT (IR at VR), DYNAMIC RESISTANCE (2) (ZZ at IZT1, ZZK at IZT2), TEMPERATURE COEFFICIENT (alphaVZ). Rows list part numbers from MMBZ5225 to MMBZ5267 with their respective electrical parameters.

Notes

- Maximum VF = 0.9 V, at IF = 10 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 (IZT1 or IZT2) is superimposed on IZT1 or IZT2. Zener Impedance is measured at two points to insure a sharp knee on the breakdown curve and to eliminate unstable units

**TYPICAL CHARACTERISTICS** ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)

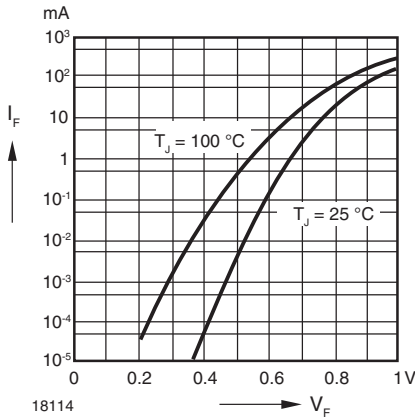


Fig. 1 - Forward Characteristics

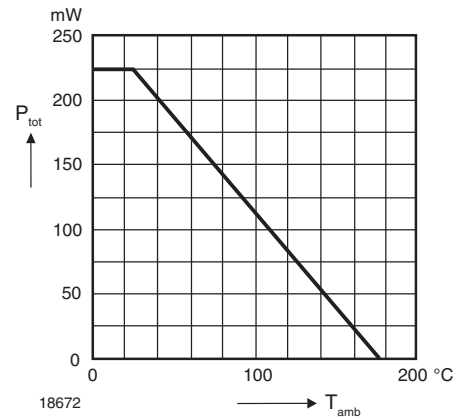
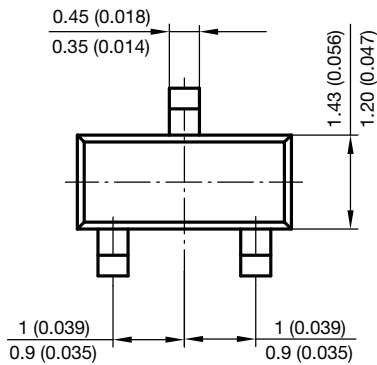
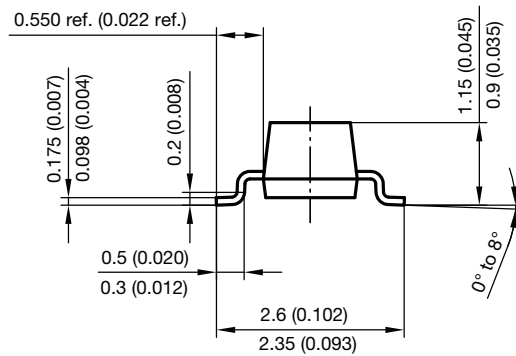
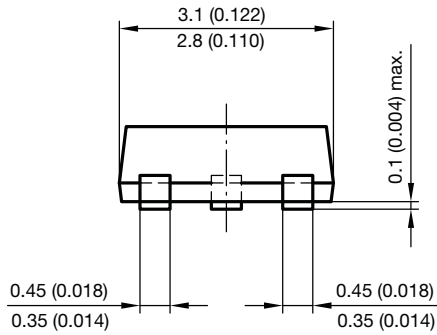
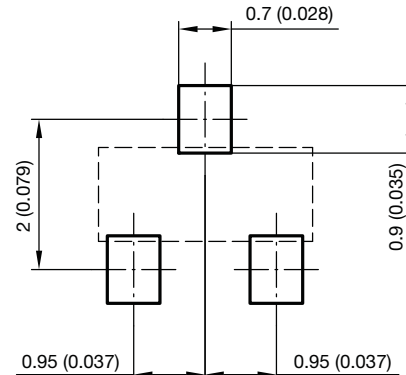


Fig. 2 - Admissible Power Dissipation vs. Ambient Temperature

**PACKAGE DIMENSIONS** in millimeters (inches): **SOT-23**



Foot print recommendation:





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