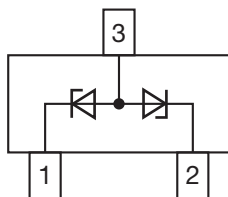


## Small Signal Zener Diodes, Dual



### DESIGN SUPPORT TOOLS


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### PRIMARY CHARACTERISTICS

PARAMETER	VALUE	UNIT
$V_Z$ range nom.	27	V
Test current $I_{ZT}$	1	mA
$V_Z$ specification	Pulse current	
Circuit configuration	Dual common anode	

### FEATURES

- Dual silicon planar Zener diodes with common anode configurations
- Dual package provides for bidirectional or separate unidirectional configurations
- The dual configurations protect two separate lines with only one device
- Peak power: 40 W at 1 ms (bidirectional)
- For bidirectional operation, circuit connected to pins 1 and 2. For unidirectional operation, circuit connected to pins 1 and 3 or pins 2 and 3
- AEC-Q101 qualified available (part number on request)
- ESD capability according to AEC-Q101:  
Human body model > 8 kV  
Machine model > 800 V
- Base P/N-G3 - green, commercial grade
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



### ORDERING INFORMATION

DEVICE NAME	ORDERING CODE	TAPED UNITS PER REEL	MINIMUM ORDER QUANTITY
MMBZ27VDA-G	MMBZ27VDA-G3-08	3000 (8 mm tape on 7" reel)	15 000
	MMBZ27VDA-G3-18	10 000 (8 mm tape on 13" reel)	10 000

### PACKAGE

PACKAGE NAME	WEIGHT	MOLDING COMPOUND FLAMMABILITY RATING	MOISTURE SENSITIVITY LEVEL	SOLDERING CONDITIONS
SOT-23	8.1 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
Peak power dissipation <sup>(1)</sup>		$P_{PK}$	40	W
Power dissipation on FR-5 board <sup>(2)</sup>	$T_{amb} = 25\text{ °C}$ , derate above 25 °C	$P_{tot}$	225	mW
			1.8	mW/K
Power dissipation on alumina substrate <sup>(3)</sup>	$T_{amb} = 25\text{ °C}$ , derate above 25 °C	$P_{tot}$	300	mW
			2.4	mW/K
Thermal resistance junction to ambient air		$R_{thJA}$	556	K/W
Operating temperature range		$T_{op}$	-55 to +150	°C
Storage temperature range		$T_j, T_{stg}$	-55 to +150	°C

#### Notes

- <sup>(1)</sup> Non repetitive current pulse per figure 2 and derate above  $T_{amb} = 25\text{ °C}$  per figure 3
- <sup>(2)</sup> FR-5 = 1" x 0.75" x 0.62"
- <sup>(3)</sup> Alumina = 0.4" x 0.3" x 0.024", 99.5 % alumina.

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

PART NUMBER	MARKING CODE	ZENER VOLTAGE RANGE <sup>(1)</sup>			TEST CURRENT	WORKING PEAK REVERSE VOLTAGE	MAX. REVERSE LEAKAGE CURRENT	MAX. REVERSE SURGE CURRENT	MAX. REVERSE VOLTAGE (CLAMPING VOLTAGE) <sup>(2)</sup>	MAX. TEMPERATURE COEFFICIENT	MAX. FORWARD VOLTAGE	
		$V_Z$ at $I_{ZT1}$			$I_{ZT1}$	$V_{RWM}$	$I_R$ at $V_{RWM}$	$I_{PP}$	$V_C$ at $I_{RSM}$	$V_Z$	$V_F$ at $I_F$	
		V			mA	V	nA	A	V	mV/ $^{\circ}\text{C}$	V	mA
		MIN.	NOM.	MAX.								
MMBZ27VDA-G	TA8	25.65	27	28.35	1	22	80	1	38	30	1.1	200

**Notes**(1)  $V_Z$  measured at pulse test current  $I_{ZT1}$  at an ambient temperature of  $25\text{ }^{\circ}\text{C}$ 

(2) Surge current waveform per figure 2 and derate per figure 3

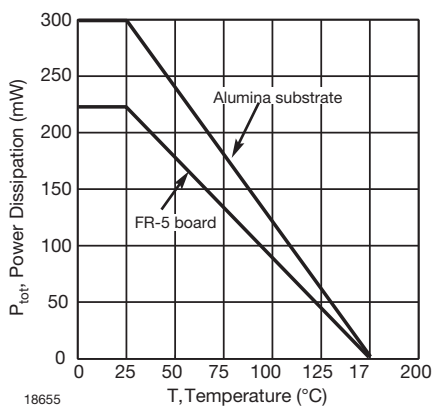
**TYPICAL CHARACTERISTICS** ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)

Fig. 1 - Steady State Power Derating Curve

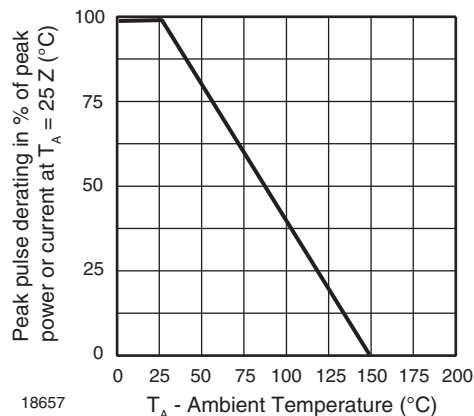


Fig. 3 - Pulse Derating Curve

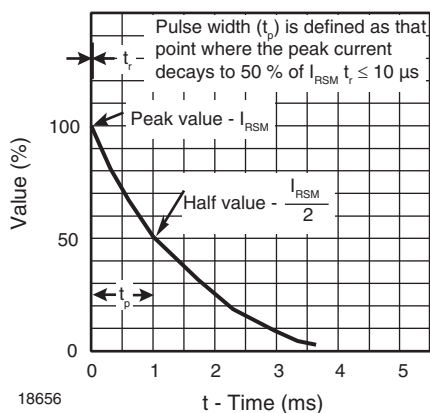
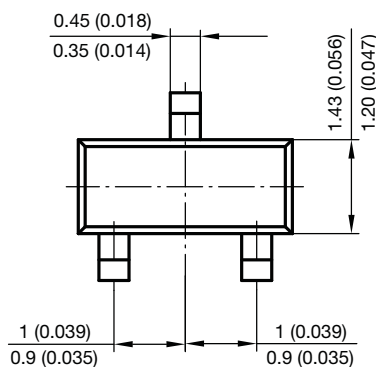
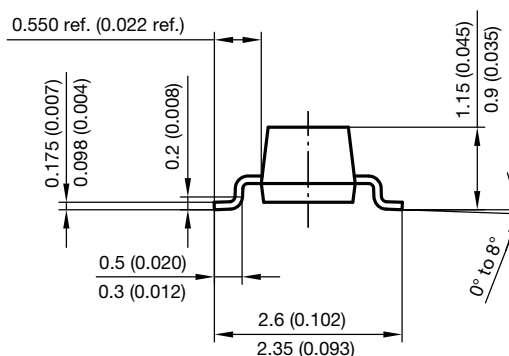
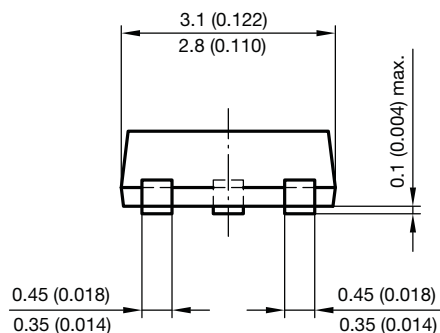
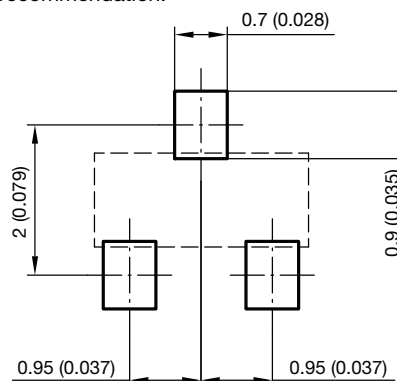


Fig. 2 - Pulse Waveform

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

Foot print recommendation:



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17418



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