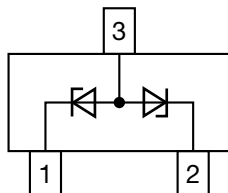
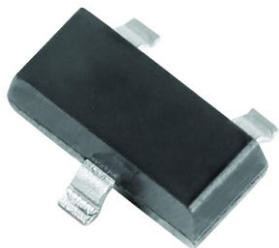


## Small Signal Zener Diodes, Dual



### LINKS TO ADDITIONAL RESOURCES



PRIMARY CHARACTERISTICS		
PARAMETER	VALUE	UNIT
$V_Z$ range nom.	27	V
Test current $I_{ZT}$	1	mA
$V_{BR}$	27	V
$V_{WM}$	22	V
$P_{PPM}$	40	W
$T_J$ max.	150	°C
$V_Z$ specification	Pulse current	
Circuit configuration	Common anode	
Polarity	Unidirectional, bidirectional	

### 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	AEC-Q101 QUALIFIED	TAPED UNITS PER REEL	MINIMUM ORDER QUANTITY
MMBZ27VDA-G	MMBZ27VDA-G3-08	no	3000 (8 mm tape on 7" reel)	15 000
	MMBZ27VDA-G3-18	no	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	9.2 mg	UL 94 V-0	MSL level 1 (according J-STD-020)	Peak temperature max. 260 °C

ABSOLUTE MAXIMUM RATINGS ( $T_{amb} = 25\text{ °C}$ , unless otherwise specified)				
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Peak power dissipation <sup>(1)</sup>	$t_p = 10/1000\text{ }\mu\text{s}$	$P_{PK}$	40	W
Power dissipation on FR-4 board <sup>(2)</sup>	$T_{amb} = 25\text{ °C}$ , derate above 25 °C	$P_{tot}$	300	mW
			2.4	mW/K
Power dissipation on infinite heatsink	$T_{amb} = 25\text{ °C}$ , derate above 25 °C	$P_{tot}$	500	mW
			4	mW/K
Thermal resistance junction to ambient air	According to JEDEC® 51-3 on FR-4 board with recommended soldering footprint	$R_{thJA}$	420	K/W
Thermal resistance junction to lead		$R_{thJL}$	250	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> With recommended soldering footprint

<b>ELECTRICAL CHARACTERISTICS</b> ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , 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
		MIN.	NOM.	MAX.							mA
MMBZ27VDA	TA8	25.65	27	28.35	1	22	80	1	38	30	1.1

**Notes**

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

<sup>(2)</sup> Surge current waveform per figure 2 and derate per figure 3

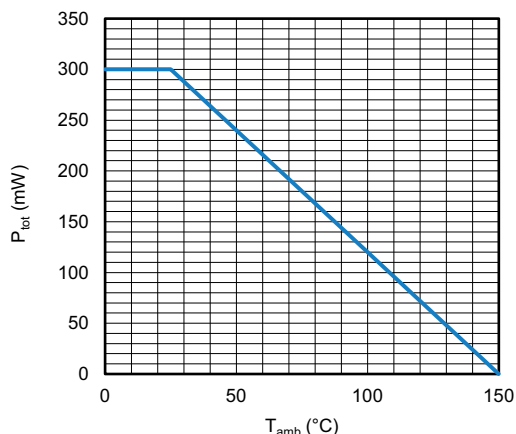
**TYPICAL CHARACTERISTICS** ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)


Fig. 1 - Admissible Power Dissipation vs. Ambient Temperature

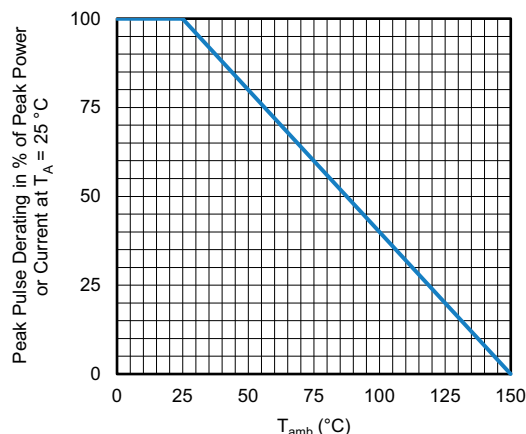


Fig. 3 - Pulse Derating Curve

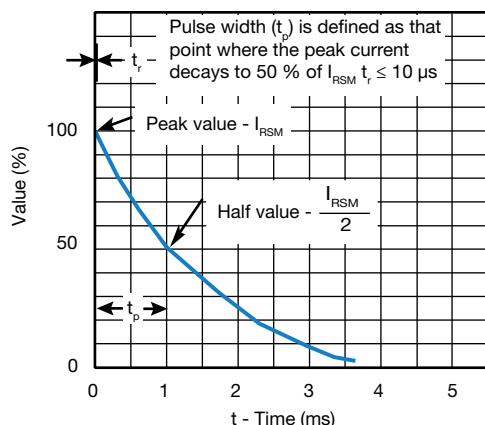
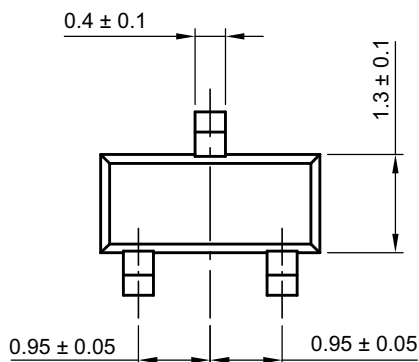
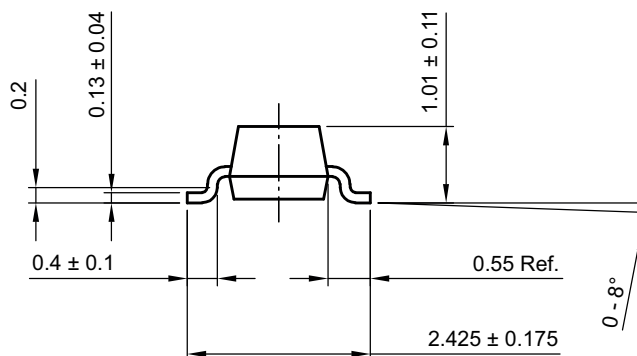
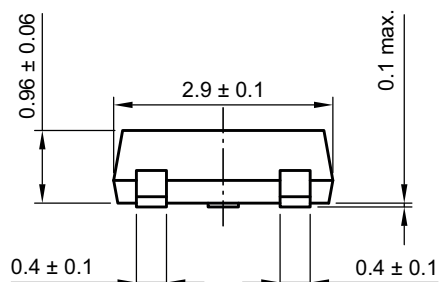


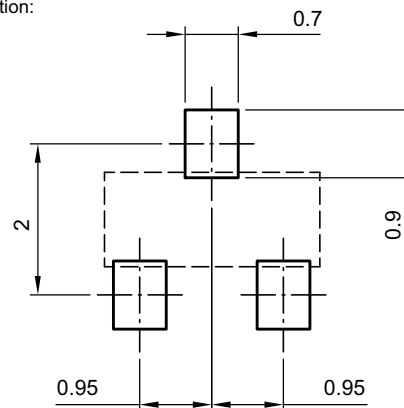
Fig. 2 - Pulse Waveform



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



footprint recommendation:



Document no.: S8-V-3929.01-009 (4)

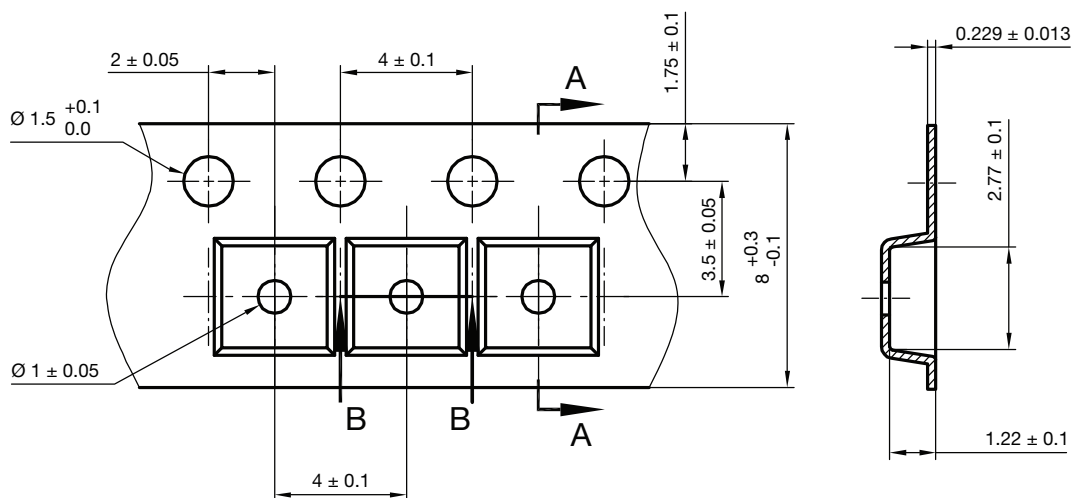
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Rev. 01 - Date: 18 Jan. 2022

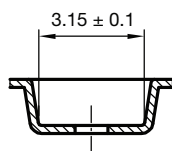
23193



## CARRIER TAPE

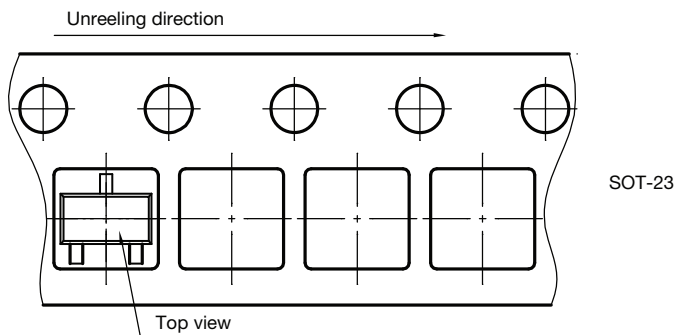


## B-B Section



Carrier tape SOT-23  
Document no.: S8-V-3929.01-005 (4)  
Created - Date: 04. Feb. 2010  
22856

## ORIENTATION IN CARRIER TAPE



Orientation in carrier tape  
SOT-23  
S8-V-3929.01-006 (4)  
04.02.2010  
22607



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