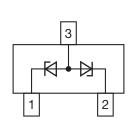
Vishay Semiconductors

Small Signal Zener Diodes, Dual



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DESIGN SUPPORT TOOLS



PRIMARY CHARACTERISTICS							
PARAMETER	VALUE	UNIT					
V _Z range nom.	27	V					
Test current IZT	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 <u>www.vishay.com/doc?99912</u>

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 °C, unless otherwise specified)									
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT					
Peak power dissipation ⁽¹⁾		P _{PK}	40	W					
Power dissipation on FR-5 board ⁽²⁾	T _{amb} = 25 °C,	D	225	mW					
	derate above 25 °C	P _{tot}	1.8	mW/K					
Power dissipation on alumina substrate ⁽³⁾	T _{amb} = 25 °C,	D	300	mW					
	derate above 25 °C	P _{tot}	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

 $^{(1)}$ Non repetitive current pulse per figure 2 and derate above T_{amb} = 25 °C per figure 3

⁽²⁾ FR-5 = 1" x 0.75" x 0.62"

⁽³⁾ Alumina = 0.4" x 0.3" x 0.024", 99.5 % alumina.

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RoHS

COMPLIANT HALOGEN

FREE





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ELECTRICAL CHARACTERISTICS (T _{amb} = 25 °C, unless otherwise specified)												
PART NUMBER	MARKING CODE	ZENER VOLTAGE RANGE ⁽¹⁾		TEST CURRENT	WORKING PEAK REVERSE VOLTAGE	MAX. REVERSE LEAKAGE CURRENT	MAX. REVERSE SURGE CURRENT	MAX. REVERSE VOLTAGE (CLAMPING VOLTAGE) ⁽²⁾	MAX. TEMPERATURE COEFFICIENT	MAX. FORWARD VOLTAGE		
		Vz at I _{ZT1}		I _{ZT1}	V _{RWM}	$\rm I_{\rm R}$ at $\rm V_{\rm RWM}$	IPP	V _C at I _{RSM}	Vz	۷ _F a	at I _F	
				mA	V	nA	Α	v	mV/°C	v	mA	
		MIN.	NOM.	MAX.								
MMBZ27VDA-G	TA8	25.65	27	28.35	1	22	80	1	38	30	1.1	200

Notes

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

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

TYPICAL CHARACTERISTICS (Tamb = 25 °C, unless otherwise specified)

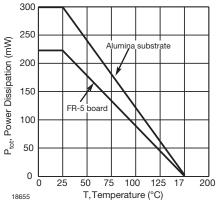
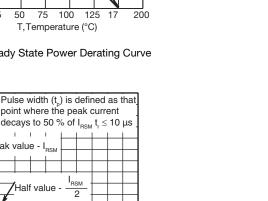
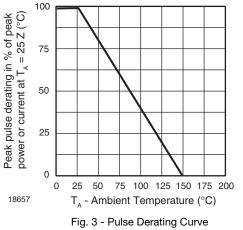


Fig. 1 - Steady State Power Derating Curve





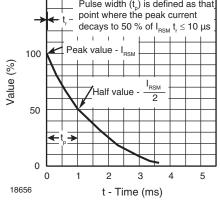


Fig. 2 - Pulse Waveform

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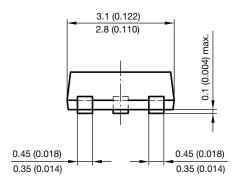
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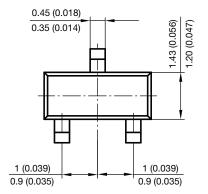
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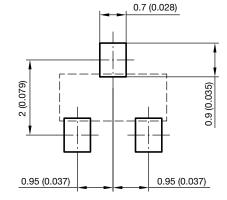
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PACKAGE DIMENSIONS in millimeters (inches): SOT-23





Foot print recommendation:



Document no.: 6.541-5014.01-4 Rev. 8 - Date: 23.Sept.2009 17418

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