AUTOMOTIVE GRADE

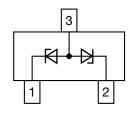


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Vishay Semiconductors

Small Signal Zener Diodes, Dual



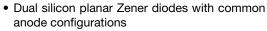


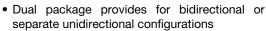
LINKS TO ADDITIONAL RESOURCES

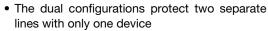


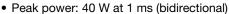
PRIMARY CHARACTERISTICS							
PARAMETER	VALUE	UNIT					
V _Z range nom.	27	V					
Test current I _{ZT}	1	mA					
V_{BR}	27	V					
V _{WM}	22	V					
P _{PPM}	40	W					
T _J max.	150	°C					
V _Z specification	Pulse current						
Circuit configuration	Common anode						
Polarity	Uni-directional, bi-directional						

FEATURES









• 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
- 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

ORDERING INFORMATION							
DEVICE NAME	ORDERING CODE	TAPED UNITS PER REEL	MINIMUM ORDER QUANTITY				
MMBZ27VDA	MMBZ27VDA-E3-08	3000 (8 mm tape on 7" reel)	15 000				
	MMBZ27VDA-HE3-08	3000 (6 mm tape on 7 reel)	15 000				
	MMBZ27VDA-E3-18	10 000 (8 mm tape on 13" reel)	10 000				
	MMBZ27VDA-HE3-18	10 000 (6 mm tape on 13 reel)					

PACKAGE					
PACKAGE NAME	CKAGE 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 °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,	В	225	mW					
Power dissipation on Fn-5 board (4)	derate above 25 °C	P _{tot}	1.8	mW/K					
Power dissipation on alumina substrate (3)	T _{amb} = 25 °C,	В	300	mW					
Power dissipation on alumina substrate	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 $^{\circ}$ 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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ELECTRICAL CHARACTERISTICS (T _{amb} = 25 °C, unless otherwise specified)												
PART NUMBER CODE	MARKING CODE	ZENER VOLTAGE RANGE ⁽¹⁾ V _Z at I _{ZT1}		TEST CURRENT	WORKING PEAK REVERSE VOLTAGE	MAX. REVERSE LEAKAGE CURRENT	MAX. REVERSE SURGE CURRENT	MAX. REVERSE VOLTAGE (CLAMPING VOLTAGE) ⁽²⁾	MAX. TEMPERATURE COEFFICIENT	FORV	AX. VARD FAGE	
				1	I _{ZT1}	V _{RWM}	I _R at V _{RWM}	I _{PP}	V _C at I _{RSM}	V_Z	V _F a	at I _F
	V		mA	٧	nA	Α	V	mV/°C	٧	mA		
		MIN.	NOM.	MAX.								
MMBZ27VDA	TA7	25.65	27	28.35	1	22	80	1	38	30	1.1	200

Notes

TYPICAL CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)

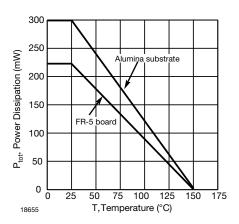


Fig. 1 - Steady State Power Derating Curve

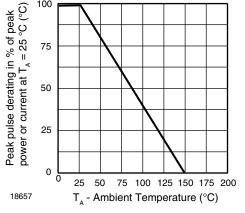


Fig. 3 - Pulse Derating Curve

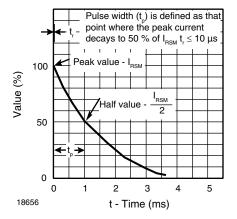


Fig. 2 - Pulse Waveform

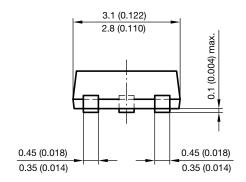
 $^{^{(1)}}$ V_Z measured at pulse test current I_{ZT1} at an ambient temperature of 25 $^{\circ}$ C

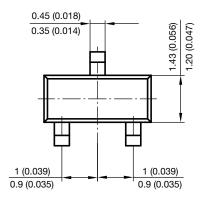
⁽²⁾ Surge current waveform per figure 2 and derate per figure 3



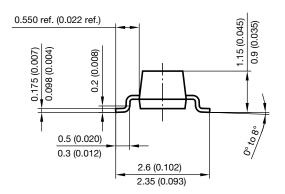
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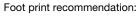
PACKAGE DIMENSIONS in millimeters (inches): SOT-23

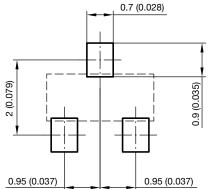




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