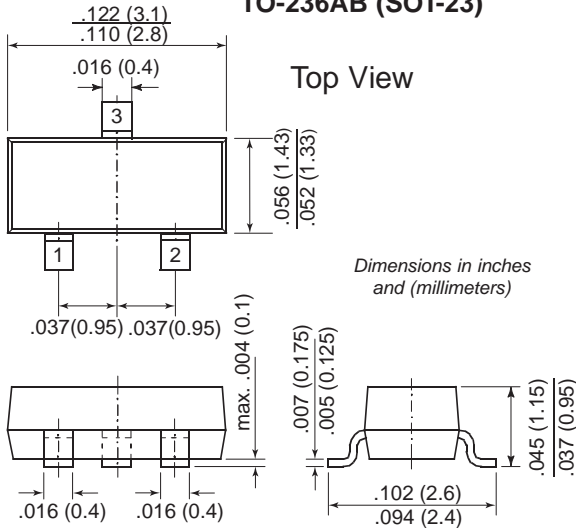


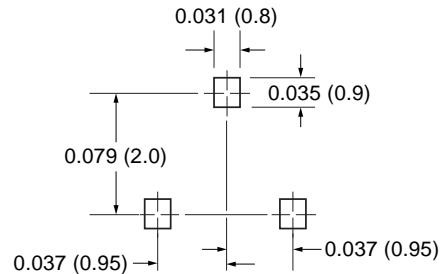


Dual Zener Transient Voltage Suppressor Diodes for ESD Protection

TO-236AB (SOT-23)



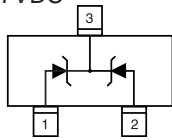
Mounting Pad Layout



Marking:

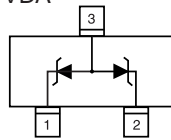
MMBZ15VDC = TC5 MMBZ15VDA = TA5
 MMBZ27VDC = TC7 MMBZ27VDA = TA7
 MMBZ6V8DC = ? MMBZ6V8DA = ?

MMBZ15VDC
MMBZ27VDC



Common Cathode

MMBZ15VDA
MMBZ27VDA



Common Anode

Top View

Mechanical Data

Case: SOT-23 Plastic Package

Weight: approx. 0.008g

Terminals: Solderable per MIL-STD-750, method 2026

Packaging Codes/Options:

- E8/10K per 13" reel (8mm tape)
- E9/3K per 7" reel (8mm tape)

Features

- Dual Silicon Planar Zener Diodes with Common Cathode or 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 watts @ 1ms (Bidirectional) .
- High temperature Soldering Guaranteed: 230°C for 10 seconds.
- Ideal for ESD Protection.
- 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.

Maximum Ratings and Thermal Characteristics (T_A = 25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak Power Dissipation ⁽¹⁾ @ T _A ≤ 25°C	P _{pk}	40 ⁽⁴⁾	W
Total Power Dissipation on FR-5 Board ⁽²⁾	P _D	at T _A = 25°C	225
Derate above 25°C		1.8	
Total Power Dissipation on Alumina Substrate ⁽³⁾	P _D	at T _A = 25°C	300
Derate above 25°C		2.4	
Thermal Resistance Junction to Ambient Air	R _{θJA}	556	°C/W
Operating and Storage Temperature Range	T _J , T _{stg}	-55 to +150	°C

Notes:

- (1) Nonrepetitive current pulse per Figure 2 and derate above T_A = 25°C per Figure 3.
- (2) FR-5 = 1.0 x 0.75 x 0.62 in.
- (3) Alumina = 0.4 x 0.3 x 0.024 in., 99.5% alumina.
- (4) The MMBZ6V8DC/A is rated at 24V

MMBZ6V8DC/A thru MMBZ27VDC/A



Vishay Semiconductors
formerly General Semiconductor

Electrical Characteristics (T_J = 25°C unless otherwise noted)

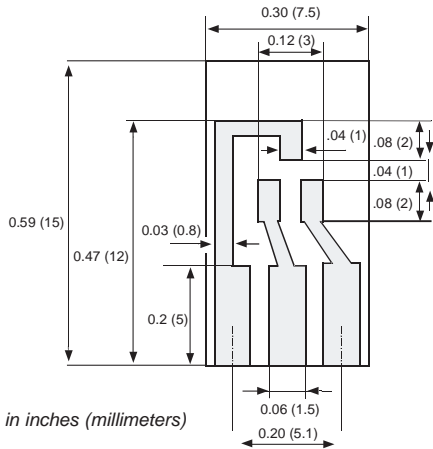
Type	Breakdown Voltage				Working Peak Reverse Voltage V _{RWM} (Volts)	Max Reverse Leakage Current I _R (nA)	Max Reverse Surge Current I _{PP} (Amps)	Max Reverse Voltage @ I _{RSM} ⁽²⁾ (Clamping Voltage) V _C (Volts)	Max Temperature Coefficient of V _{BR} (mV/°C)	Max Forward Voltage	
	V _{BR} (Volts) ⁽¹⁾			@ I _F (mA)						V _F (Volts)	@ I _F (mA)
	Min	Nom	Max								
MMBZ6V8D	6.48	6.8	7.14	1.0	4.5	500	2.5	9.6	3.4	1.1	200
MMBZ15VD	14.30	15.00	15.80	1.0	12.8	100	1.9	21.2	16	0.9	200
MMBZ27VD	25.65	27.00	28.35	1.0	22.0	80	1.0	38.0	30	1.1	200

Notes: (1) V_{BR} measured at pulse test current I_T at an ambient temperature of 25°C
(2) Surge current waveform per Figure 2 and derate per Figure 3

Ratings and Characteristic Curves (T_A = 25°C unless otherwise noted)

Layout for R_{θJA} test

Thickness: Fiberglass 0.059 in (1.5 mm)
Copper leads 0.012 in. (0.3mm)



Dimensions in inches (millimeters)

FIG. 1 - STEADY STATE POWER DERATING CURVE

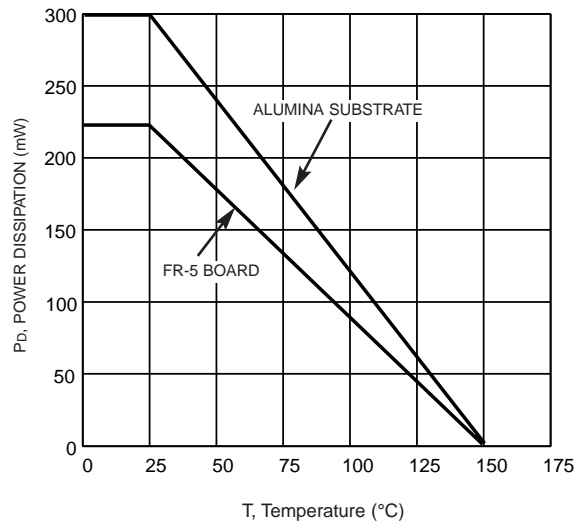


FIG. 2 - PULSE WAVEFORM

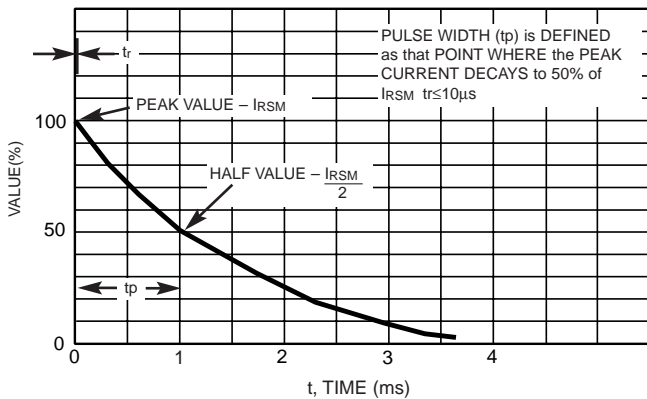


FIG. 3 - PULSE DERATING CURVE

