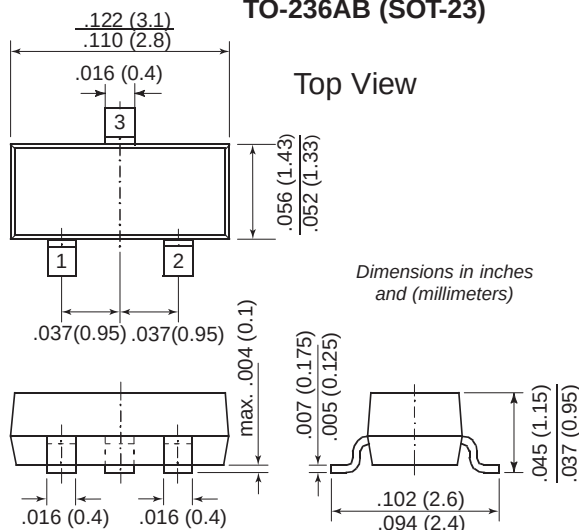


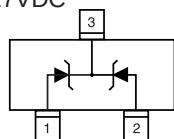


Dual Zener Transient Voltage Suppressor Diodes for ESD Protection

TO-236AB (SOT-23)

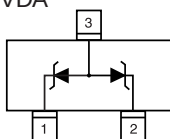


MMBZ15VDC
MMBZ27VDC



Common Cathode

MMBZ15VDA
MMBZ27VDA



Common Anode

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)

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 at T _A = 25°C on FR-5 Board ⁽²⁾ Derate above 25°C	P _D	225 1.8	mW mW/°C
Total Power Dissipation at T _A = 25°C on Alumina Substrate ⁽³⁾ Derate above 25°C	P _D	300 2.4	mW mW/°C
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:

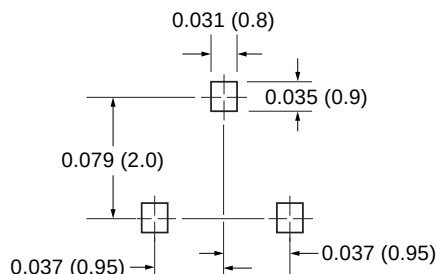
(1) Nonrepetitive current pulse per Figure 2 and derate above $T_A = 25^\circ\text{C}$ per Figure 3.

(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

Mounting Pad Layout



Marking:

MMB715VDC = TC5

MMBZ15VDA = TA5

MMB727VDC = TC7

MMBZ27VDA = TA7

MMB76V8DC = ?

MMBZ6V8DA = ?

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.

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

Type	Breakdown Voltage			@I _T mA	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⁾									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)

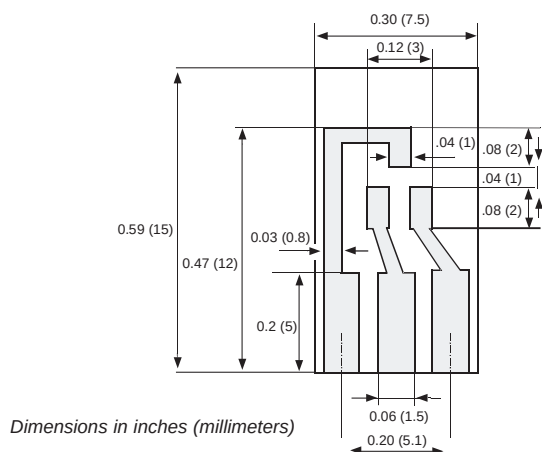


FIG. 1 - STEADY STATE POWER DERATING CURVE

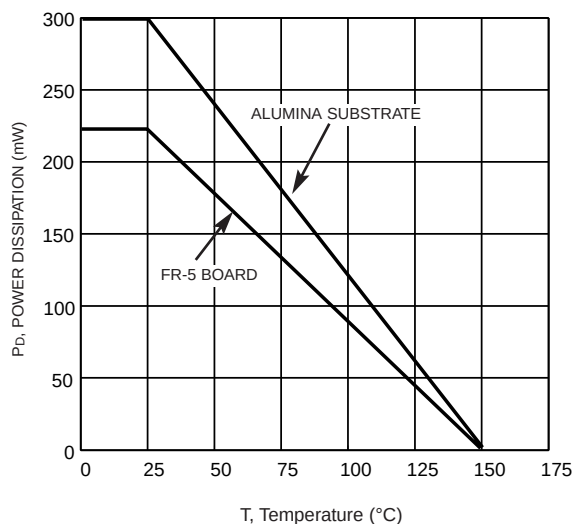


FIG. 2 - PULSE WAVEFORM

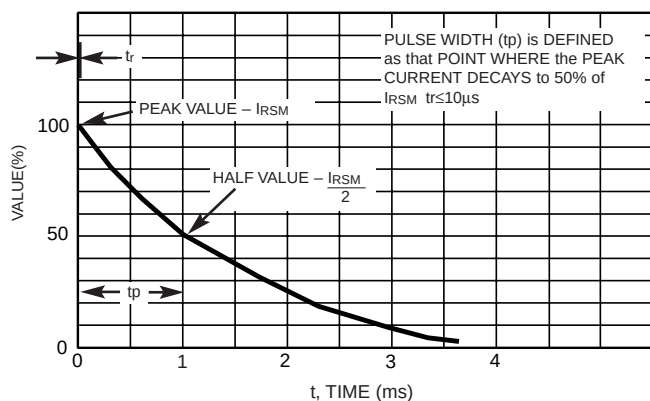


FIG. 3 - PULSE DERATING CURVE

