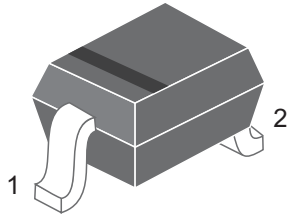
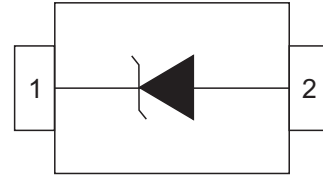


## ZENER VOLTAGE REGULATORS

### SOD-323



### Pin Configuration



### Features

- Planar die construction
- 200mW power dissipation on ceramic PCB
- General purpose, medium current
- Ideally suited for automated assembly processes
- Available in lead free version

### Mechanical Data

- **Case:** Void-free, transfer-molded plastic
- **Finish:** All external surfaces are corrosion resistant
- **Maximum Case Temperature For Soldering Purposes:** 260°C for 10 Seconds
- **Polarity:** Cathode indicated by polarity band
- **Flammability Rating:** UL94 V-0
- **Mounting Position:** Any

### Device Marking And Ordering Information

Device	Package	Shipping
MM3ZxxC Series	SOD-323	3000pcs/Tape&Reel

### Maximum Ratings

Characteristic	Symbol	Value	Unit
Forward Voltage (Note 2) @ $I_F = 10\text{mA}$	$V_F$	0.9	V
Power Dissipation (Note 1)	$P_D$	200	mW
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	625	°C/W
Junction Temperature	$T_j$	150	°C
Storage Temperature Range	$T_{stg}$	-55~+150	°C

Electrical Characteristics(T<sub>A</sub>=25°C unless otherwise specified)

TYPE	Marking	Zener Voltage Range (Note 2)				Maximum Zener Impedance (Note 3)			Maximum Reverse Current (Note 2)		Typical Temperature Coefficient @I <sub>ZTC</sub> mV/°C		Test Current I <sub>ZTC</sub>
		V <sub>Z</sub> @I <sub>ZT</sub>			I <sub>ZT</sub>	Z <sub>ZT</sub> @I <sub>ZT</sub>	Z <sub>ZK</sub> @I <sub>ZK</sub>	I <sub>ZK</sub>	I <sub>R</sub>	V <sub>R</sub>	Min	Max	
		Nom(V)	Min(V)	Max(V)	(mA)	Ω		(mA)	μA	V			mA
MM3Z2V4C	W0	2.4	2.20	2.60	5	100	600	1.0	50	1.0	-3.5	0	5
MM3Z2V7C	W1	2.7	2.5	2.9	5	100	600	1.0	20	1.0	-3.5	0	5
MM3Z3V0C	W2	3.0	2.8	3.2	5	95	600	1.0	10	1.0	-3.5	0	5
MM3Z3V3C	W3	3.3	3.1	3.5	5	95	600	1.0	5	1.0	-3.5	0	5
MM3Z3V6C	W4	3.6	3.4	3.8	5	90	600	1.0	5	1.0	-3.5	0	5
MM3Z3V9C	W5	3.9	3.7	4.1	5	90	600	1.0	3	1.0	-3.5	0	5
MM3Z4V3C	W6	4.3	4.0	4.6	5	90	600	1.0	3	1.0	-3.5	0	5
MM3Z4V7C	W7	4.7	4.4	5.0	5	80	500	1.0	3	2.0	-3.5	0.2	5
MM3Z5V1C	W8	5.1	4.8	5.4	5	60	480	1.0	2	2.0	-2.7	1.2	5
MM3Z5V6C	W9	5.6	5.2	6.0	5	40	400	1.0	1	2.0	-2	2.5	5
MM3Z6V2C	WA	6.2	5.8	6.6	5	10	150	1.0	3	4.0	0.4	3.7	5
MM3Z6V8C	WB	6.8	6.4	7.2	5	15	80	1.0	2	4.0	1.2	4.5	5
MM3Z7V5C	WC	7.5	7.0	7.9	5	15	80	1.0	1	5.0	2.5	5.3	5
MM3Z8V2C	WD	8.2	7.7	8.7	5	15	80	1.0	0.7	5.0	3.2	6.2	5
MM3Z9V1C	WE	9.1	8.5	9.6	5	15	100	1.0	0.5	6.0	3.8	7.0	5
MM3Z10C	WF	10	9.4	10.6	5	20	150	1.0	0.2	7.0	4.5	8.0	5
MM3Z11C	WG	11	10.4	11.6	5	20	150	1.0	0.1	8.0	5.4	9.0	5
MM3Z12C	WH	12	11.4	12.7	5	25	150	1.0	0.1	8.0	6.0	10.0	5
MM3Z13C	WI	13	12.4	14.1	5	30	170	1.0	0.1	8.0	7.0	11.0	5
MM3Z15C	WJ	15	13.8	15.6	5	30	200	1.0	0.1	10.5	9.2	13	5
MM3Z16C	WK	16	15.3	17.1	5	40	200	1.0	0.1	11.2	10.4	14	5
MM3Z18C	WL	18	16.8	19.1	5	45	225	1.0	0.1	12.6	12.4	16	5
MM3Z20C	WM	20	18.8	21.2	5	55	225	1.0	0.1	14.0	14.4	18.0	5
MM3Z22C	WN	22	20.8	23.3	5	55	250	1.0	0.1	15.4	16.4	20.0	5
MM3Z24C	WO	24	22.8	25.6	5	70	250	1.0	0.1	16.8	18.4	22.0	5
MM3Z27C	WP	27	25.1	28.9	2	80	300	0.5	0.1	18.9	21.4	25.3	2
MM3Z30C	WQ	30	28.0	32.0	2	80	300	0.5	0.1	21.0	24.4	29.4	2
MM3Z33C	WR	33	31.0	35.0	2	80	325	0.5	0.1	23.1	27.4	33.4	2
MM3Z36C	WS	36	34.0	38.0	2	90	350	0.5	0.1	25.2	30.4	37.4	2
MM3Z39C	WT	39	37.0	41.0	2	130	350	0.5	0.1	27.3	33.4	41.2	2
MM3Z43C	WU	43	40.0	46.0	2.5	130	500	1.0	2.0	33.0	10.0	12.0	2.5
MM3Z47C	WV	47	44.0	50.0	2.5	150	500	1.0	2.0	36.0	10.0	12.0	2.5
MM3Z51C	WW	51	48.0	54.0	2.5	180	500	1.0	1.0	39.0	10.0	12.0	2.5
MM3Z56C	WX	56	52.0	60.0	2.5	180	500	1.0	1.0	43.0	10.0	12.0	2.5
MM3Z62C	WY	62	58.0	66.0	2.5	200	500	1.0	0.2	47.0	10.0	12.0	2.5
MM3Z68C	WZ	68	64.0	72.0	2.5	250	500	1.0	0.2	52.0	10.0	12.0	2.5
MM3Z75C	ZA	75	70.0	79.0	2.5	300	500	1.0	0.2	57.0	10.0	12.0	2.5

Notes: 1. Device mounted on ceramic PCB: 7.6mm x 9.4mm x 0.87mm with pad areas 25mm<sup>2</sup>.  
 2. Short duration test pulse used to minimize self-heating effect.  
 3. f = 1kHz.

Characteristic Curves ( $T_A=25^\circ\text{C}$  unless otherwise noted)

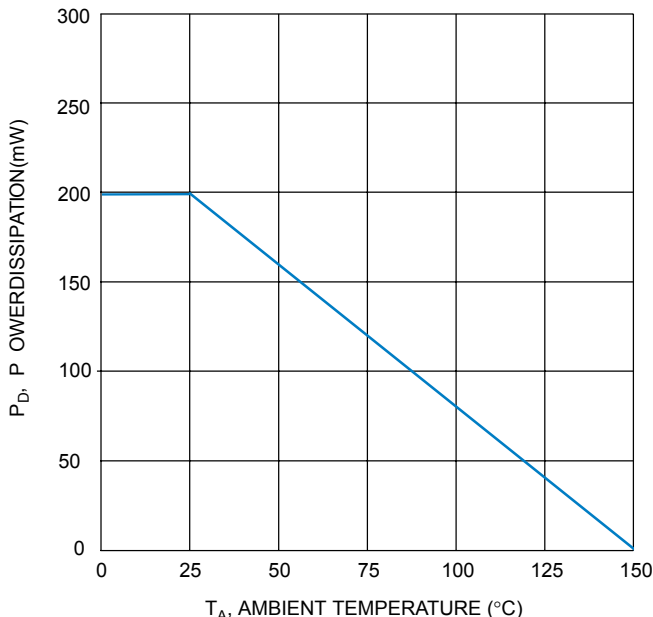


Fig. 1 Power Dissipation vs Ambient Temperature

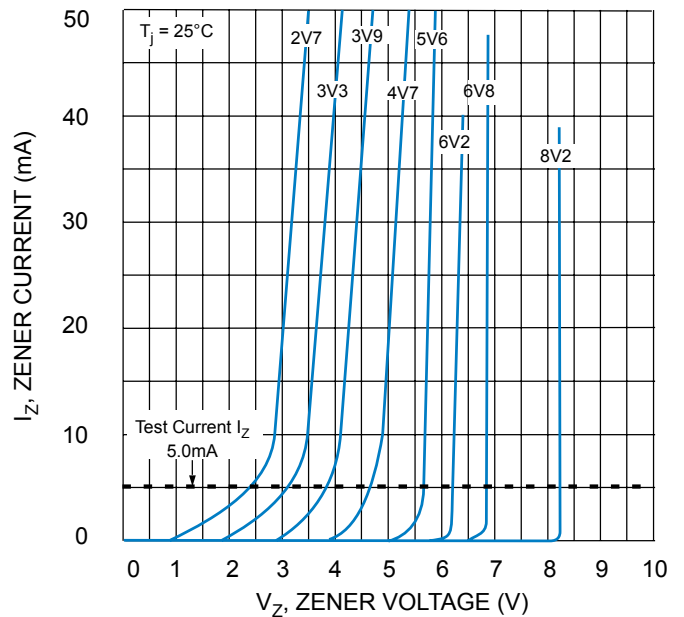


Fig. 2 Zener Breakdown Characteristics

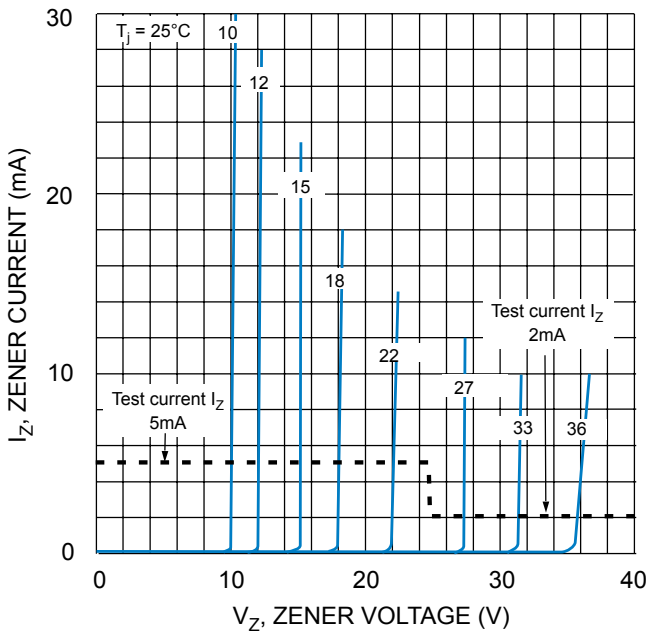


Fig. 3 Zener Breakdown Characteristics

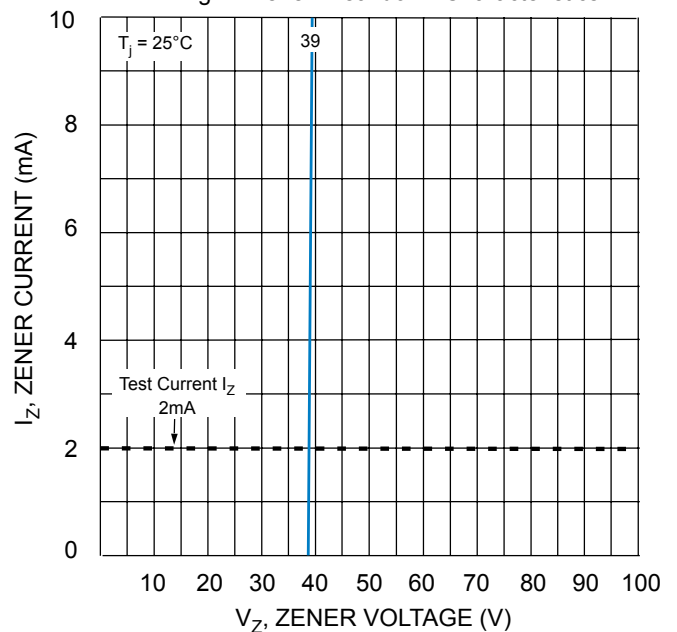


Fig. 4 Zener Breakdown Characteristics

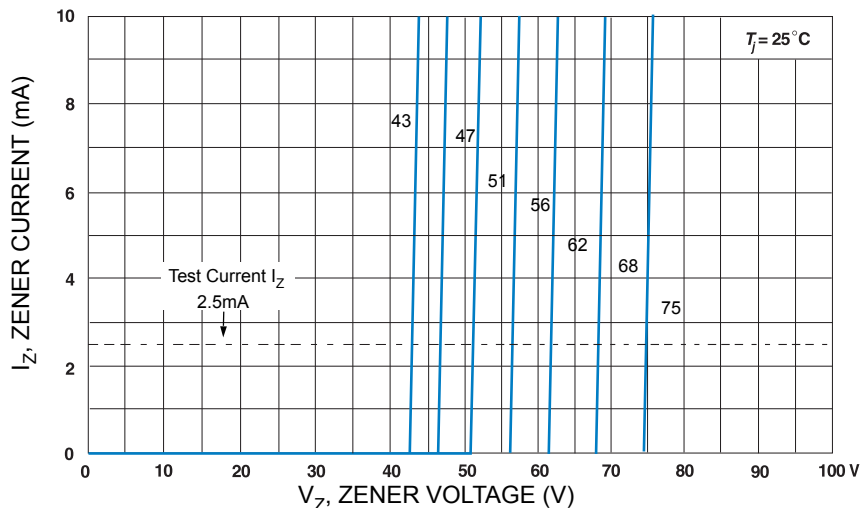
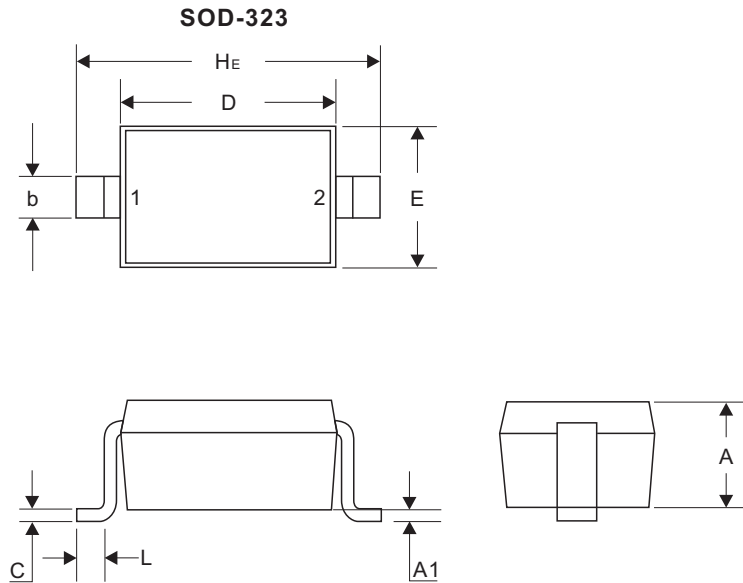


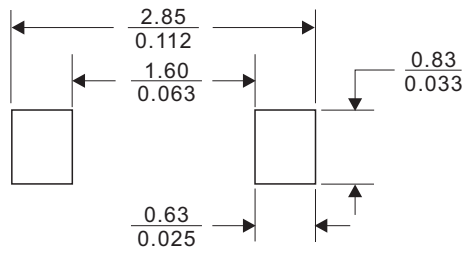
Fig. 5 Zener Breakdown Characteristics

Dimensions(SOD-323)



DIM	Millimeters		Inches	
	Min	Max	Min	Max
A	0.80	1.20	0.031	0.047
A1	0.00	0.10	0.000	0.004
b	0.25	0.40	0.010	0.016
C	0.089	0.177	0.003	0.007
D	1.60	1.80	0.062	0.070
E	1.15	1.35	0.045	0.053
L	0.08		0.003	
$H_E$	2.30	2.80	0.090	0.110

Recommended Mounting Pad Layout



Dimensions in (  $\frac{\text{millimeters}}{\text{inches}}$  )