

■ Features

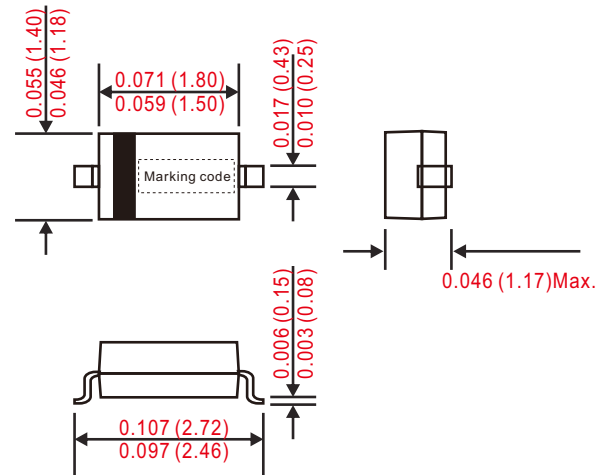
- Silicon epitaxial planar chip structure.
- Wide zener reverse voltage range 2.0V to 75V.
- Small package size for high density applications.
- Suffix "G" indicates Halogen-free part, ex.MM3Z2V0G.
- Lead-free parts meet environmental standards of MIL-STD-19500 /228

■ Mechanical data

- Epoxy:UL94-V0 rated flame retardant
- Case : Molded plastic, SOD-323
- Terminals : Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity : Indicated by cathode band
- Weight : 0.0002 ounce, 0.005 gram

■ Outline

SOD-323



■ Maximum ratings and electrical characteristics

Rating at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Parameter	Conditions	Symbol	MIN.	TYP.	MAX.	UNIT
Forward voltage	$I_F = 10\text{mA DC}$	V_F			0.9	V
Total power dissipation on FR-5 board	@ $T_A = 25^\circ\text{C}$	P_D			200	mW
	Derate above 25°C				1.5	mW/°C
Storage temperature		T_{STG}	-55		+150	°C
Operating Junction temperature		T_J	-55		+150	°C

Note : 1.FR-4 minimum pad.

■ Electrical characteristics

Part No.	Device code	Zener voltage			Test current	Zener impedance			Leakage current		V _z (mV/k) @ I _{zT}		C @ V _R =0 f=1MHz
		V _z @ I _{zT}				I _{zT}	Z _{zT} @ I _{zT}	Z _{zK} @ I _{zK}	I _{zK}	I _R	V _R	Min.	
		Min.(V)	Nom.(V)	Max.(V)	mA	OHMs	OHMs	mA	μA	Volts			pF
MM3Z2V0	WY	1.91	2.0	2.09	5	100	600	1.0	150	1.0	-3.5	0	450
MM3Z2V4	00	2.2	2.4	2.6	5	100	1000	0.5	50	1.0	-3.5	0	450
MM3Z2V7	01	2.5	2.7	2.9	5	100	1000	0.5	20	1.0	-3.5	0	450
MM3Z3V0	02	2.8	3.0	3.2	5	100	1000	0.5	10	1.0	-3.5	0	450
MM3Z3V3	05	3.1	3.3	3.5	5	95	1000	0.5	5	1.0	-3.5	0	450
MM3Z3V6	06	3.4	3.6	3.8	5	90	1000	0.5	5	1.0	-3.5	0	450
MM3Z3V9	07	3.7	3.9	4.1	5	90	1000	0.5	3	1.0	-3.5	-2.5	450
MM3Z4V3	08	4.0	4.3	4.6	5	90	1000	0.5	3	1.0	-3.5	0	450
MM3Z4V7	09	4.4	4.7	5.0	5	80	800	0.5	3	2.0	-3.5	0.2	260
MM3Z5V1	0A	4.8	5.1	5.4	5	60	800	0.5	2	2.0	-2.7	1.2	225
MM3Z5V6	0C	5.2	5.6	6.0	5	40	700	0.5	1	2.0	-2.0	2.5	200
MM3Z6V2	0E	5.8	6.2	6.6	5	10	100	0.5	3	4.0	0.4	3.7	185
MM3Z6V8	0F	6.4	6.8	7.2	5	15	160	0.5	2	4.0	1.2	4.5	155
MM3Z7V5	0G	7.0	7.5	7.9	5	15	160	0.5	1	5.0	2.5	5.3	140
MM3Z8V2	0H	7.7	8.2	8.7	5	15	160	0.5	0.7	5.0	3.2	6.2	135
MM3Z9V1	0K	8.5	9.1	9.6	5	15	160	0.5	0.2	7.0	3.8	7.0	130
MM3Z10V	0L	9.4	10	10.6	5	20	160	0.5	0.1	8.0	4.5	8.0	130
MM3Z11V	0M	10.4	11	11.6	5	20	160	0.5	0.1	8.0	5.4	9.0	130
MM3Z12V	0N	11.4	12	12.7	5	25	80	0.5	0.1	8.0	6.0	10	130
MM3Z13V	0P	12.4	13.25	14.1	5	30	80	0.5	0.1	8.0	7.0	11	120
MM3Z15V	0T	14.3	15	15.8	5	30	400	0.5	0.05	10.5	9.2	13	110
MM3Z16V	0U	15.3	16.2	17.1	5	40	400	0.5	0.05	11.2	10.4	14	105
MM3Z18V	0W	16.8	18	19.1	5	45	400	0.5	0.05	12.6	12.4	16	100
MM3Z20V	0Z	18.8	20	21.2	5	55	500	0.5	0.05	14.0	14.4	18	85
MM3Z22V	10	20.8	22	23.3	5	55	500	0.5	0.05	15.4	16.4	20	85
MM3Z24V	11	22.8	24.2	25.6	5	70	120	0.5	0.05	16.8	18.4	22	80
MM3Z27V	12	25.1	27	28.9	2	80	300	0.5	0.05	18.9	21.4	25.3	70
MM3Z30V	14	28.0	30	32.0	2	80	300	0.5	0.05	21.0	24.4	29.4	70
MM3Z33V	18	31.0	33	35.0	2	80	300	0.5	0.05	23.2	27.4	33.4	70
MM3Z36V	19	34.0	36	38.0	2	90	500	0.5	0.05	25.2	30.4	37.4	70
MM3Z39V	20	37.0	39	41.0	2	130	500	0.5	0.05	27.3	33.4	41.2	45
MM3Z43V	21	40.0	43	46.0	2	150	500	0.5	0.05	30.1	37.6	46.6	40
MM3Z47V	1A	44.0	47	50.0	2	170	500	0.5	0.05	32.9	42.0	51.8	40
MM3Z51V	1C	48.0	51	54.0	2	180	500	0.5	0.05	35.7	46.6	57.2	40
MM3Z56V	1D	52.0	56	60.0	2	200	500	0.5	0.05	39.2	52.2	63.8	40
MM3Z62V	1E	58.0	62	66.0	2	215	500	0.5	0.05	43.4	58.8	71.6	35
MM3Z68V	1F	64.0	68	72.0	2	240	500	0.5	0.05	47.6	65.6	79.8	35
MM3Z75V	1G	70.0	75	79.0	2	255	500	0.5	0.05	52.5	73.4	88.6	35

■ Rating and characteristic curves

FIG. 1-TOTAL POWER DISSIPATION VS. AMBIENT TEMPERATURE

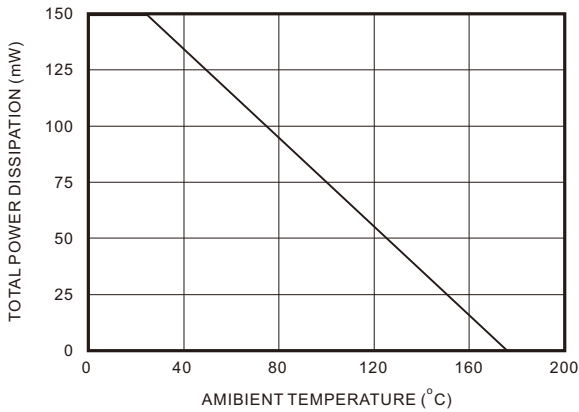


FIG. 2-TYPICAL CHANGE OF WORKING VOLTAGE UNDER OPERATING CONDITIONS AT $T_A = 25^\circ\text{C}$

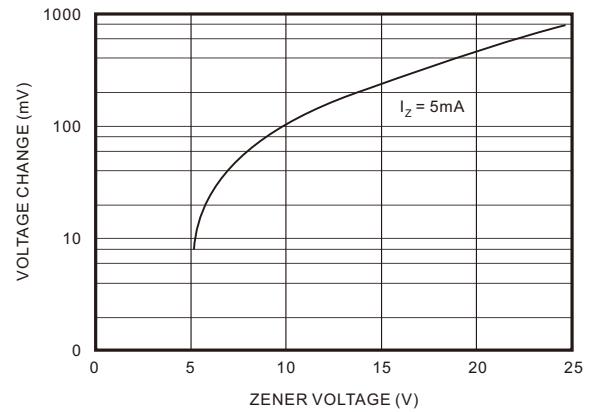


FIG. 3-TYPICAL CHANGE OF WORKING VOLTAGE VS. JUNCTION TEMPERATURE

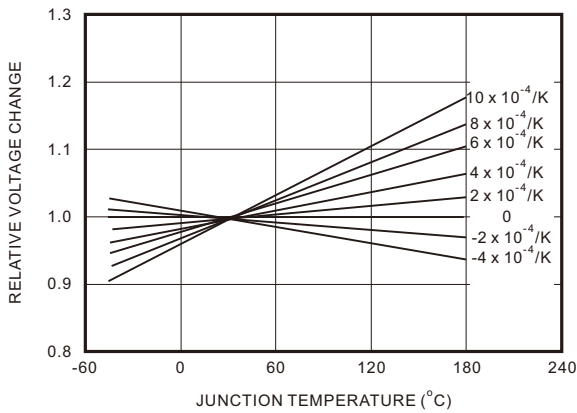


FIG. 4-TEMPERATURE COEFFICIENT OF V_Z VS. Z-VOLTAGE

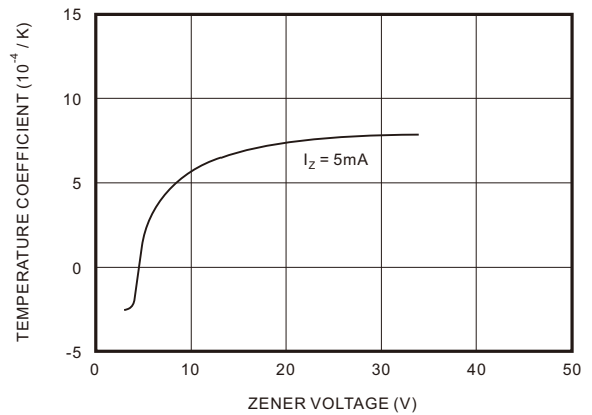
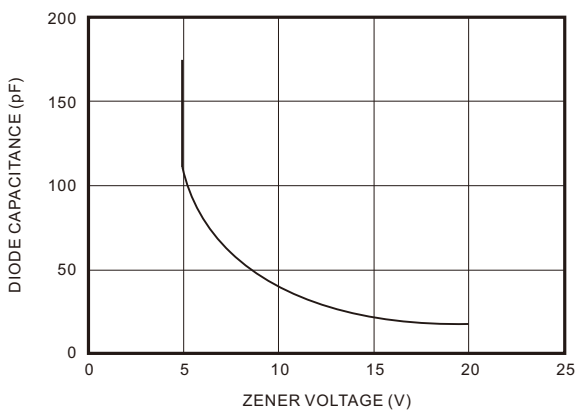
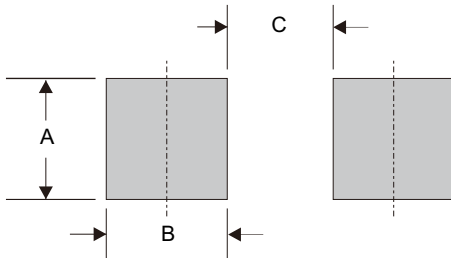


FIG. 5-DIODE CAPACITANCE VS. Z-VOLTAGE



■ SOD-323 foot print



A	B	C
0.059 (1.50)	0.039 (1.00)	0.051 (1.30)

Dimensions in inches and (millimeters)

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