

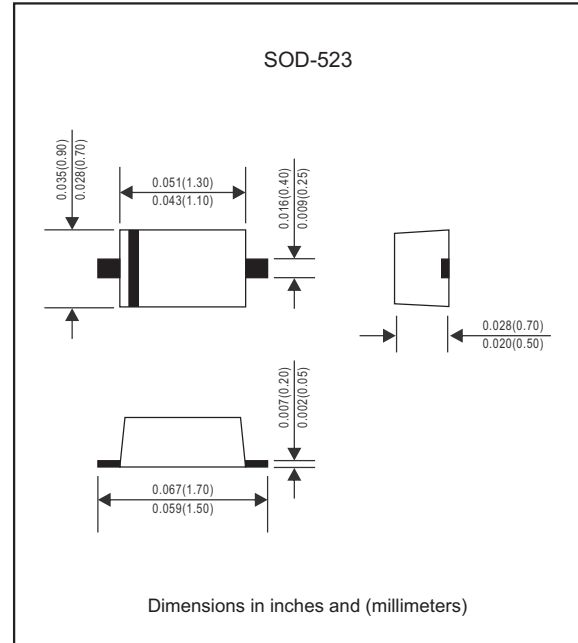
Features

- Silicon epitaxial planar chip structure.
- Wide zener reverse voltage range 2.4V to 75V.
- Tiny package size for high density applications.
- Ideally suited for automated assembly processes.
- ESD Rating of Class 3 per human body model
- Lead-free parts meet RoHS requirements.
- Compliant to Halogen-free.

Mechanical data

- Epoxy : UL94-V0 rated flame retardant
- Case : Molded plastic, SOD-523
- Terminals :Plated terminals, solderable per MIL-STD-750, Method 2026
- Polarity : Indicated by cathode band
- Mounting Position : Any

Package outline



Maximum ratings (at $T_A=25^\circ\text{C}$ unless otherwise noted)

PARAMETER	CONDITIONS	Symbol	MIN.	TYP.	MAX.	UNIT
Forward voltage	$I_F = 10 \text{ mA}$	V_F			0.9	V
Total device dissipation	on FR-5 Board, $T_A = 25^\circ\text{C}$	P_D			150	mW
Thermal resistance	Junction to ambient	$R_{\theta JA}$		625		$^\circ\text{C/W}$
	Junction to case	$R_{\theta JC}$		350		$^\circ\text{C/W}$
Operating junction temperature range		T_J	-55		+150	$^\circ\text{C}$
Storage temperature range		T_{STG}	-55		+150	$^\circ\text{C}$

Electrical characteristics (at T_A=25°C unless otherwise noted)

Part No.	Marking code	Zener voltage			Test current	Zener impedance			Leakage current		θV _z (mV/k) @I _{zT}		C _j @VR=0V f=1MHz
		V _z @ I _{zT}				I _{zT}	Z _{zT} @ I _{zT}	Z _{zK} @ I _{zK}	I _{zK}	I _R			
		Min.(V)	Nom.(V)	Max.(V)	mA	(Ω)Max	(Ω)Max	mA	(uA)Max	Volts	Min.	Max.	
MM5Z2V4C	50/Z11	2.2	2.4	2.6	5	100	1000	1.0	50	1.0	-3.5	0	450
MM5Z2V7C	51/Z12	2.5	2.7	2.9	5	100	1000	1.0	20	1.0	-3.5	0	450
MM5Z3V0C	52/Z13	2.8	3.0	3.2	5	100	1000	1.0	10	1.0	-3.5	0	450
MM5Z3V3C	53/Z14	3.1	3.3	3.5	5	95	1000	1.0	5	1.0	-3.5	0	450
MM5Z3V6C	54/Z15	3.4	3.6	3.8	5	90	1000	1.0	5	1.0	-3.5	0	450
MM5Z3V9C	55/Z16	3.7	3.9	4.1	5	90	1000	1.0	3	1.0	-3.5	-2.5	450
MM5Z4V3C	56/Z17	4.0	4.3	4.6	5	90	1000	1.0	3	1.0	-3.5	0	450
MM5Z4V7C	57/Z1	4.4	4.7	5.0	5	80	800	1.0	3	2.0	-3.5	0.2	260
MM5Z5V1C	58/Z2	4.8	5.1	5.4	5	60	500	1.0	2	2.0	-2.7	1.2	225
MM5Z5V6C	59/Z3	5.2	5.6	6.0	5	40	200	1.0	1	2.0	-2.0	2.5	200
MM5Z6V2C	5A/Z4	5.8	6.2	6.6	5	10	100	1.0	3	4.0	0.4	3.7	185
MM5Z6V8C	5B/Z5	6.4	6.8	7.2	5	15	160	1.0	2	4.0	1.2	4.5	155
MM5Z7V5C	5C/Z6	7.0	7.5	7.9	5	15	160	1.0	1	5.0	2.5	5.3	140
MM5Z8V2C	5D/Z7	7.7	8.2	8.7	5	15	160	1.0	0.7	5.0	3.2	6.2	135
MM5Z9V1C	5E/Z8	8.5	9.1	9.6	5	15	160	1.0	0.2	7.0	3.8	7.0	130
MM5Z10VC	5F/Z9	9.4	10	10.6	5	20	160	1.0	0.1	8.0	4.5	8.0	130
MM5Z11VC	5G/Y1	10.4	11	11.6	5	20	160	1.0	0.1	8.0	5.4	9.0	130
MM5Z12VC	5H/Y2	11.4	12	12.7	5	25	80	1.0	0.1	8.0	6.0	10	130
MM5Z13VC	5J/Y3	12.4	13	14.1	5	30	80	1.0	0.1	8.0	7.0	11	120
MM5Z15VC	5K/Y4	14.3	15	15.8	5	30	80	1.0	0.05	10.5	9.2	13	110
MM5Z16VC	5L/Y5	15.3	16	17.1	5	40	80	1.0	0.05	11.2	10.4	14	105
MM5Z18VC	5M/Y6	16.8	18	19.1	5	45	80	1.0	0.05	12.6	12.4	16	100
MM5Z20VC	5N/Y7	18.8	20	21.2	5	55	100	1.0	0.05	14.0	14.4	18	85
MM5Z22VC	5P/Y8	20.8	22	23.3	5	55	100	1.0	0.05	15.4	16.4	20	85
MM5Z24VC	5R/Y9	22.8	24	25.6	5	70	120	1.0	0.05	16.8	18.4	22	80
MM5Z27VC	5S/Y10	25.1	27	28.9	2	80	300	1.0	0.05	18.9	21.4	25.3	70
MM5Z30VC	5T/Y11	28.0	30	32.0	2	80	300	1.0	0.05	21.0	24.4	29.4	70
MM5Z33VC	5U/Y12	31.0	33	35.0	2	80	300	1.0	0.05	23.2	27.4	33.4	70
MM5Z36VC	5V/Y13	34.0	36	38.0	2	90	500	1.0	0.05	25.2	30.4	37.4	70
MM5Z39VC	5X/Y14	37.0	39	41.0	2	130	500	1.0	0.05	27.3	33.4	41.2	45
MM5Z43VC	5Y/Y15	40.0	43	46.0	2	150	500	1.0	0.05	30.1	37.6	46.6	40
MM5Z47VC	5Z/Y16	44.0	47	50.0	2	170	500	1.0	0.05	32.9	42.0	51.8	40
MM5Z51VC	5-/Y17	48.0	51	54.0	2	180	500	1.0	0.05	35.7	46.6	57.2	40
MM5Z56VC	5=/Y18	52.0	56	60.0	2	200	500	1.0	0.05	39.2	52.2	63.8	40
MM5Z62VC	5≡/Y19	58.0	62	66.0	2	215	500	1.0	0.05	43.4	58.8	71.6	35
MM5Z68VC	5>/Y20	64.0	68	72.0	2	240	500	1.0	0.05	47.6	65.6	79.8	35
MM5Z75VC	5</Y21	70.0	75	79.0	2	255	500	1.0	0.05	52.5	73.4	88.6	35

Note : 5% tolerance of Zener voltage

Rating and characteristic curves (MM5Z2V4C thru MM5Z75VC)

Fig.1 Power dissipation vs ambient temperature

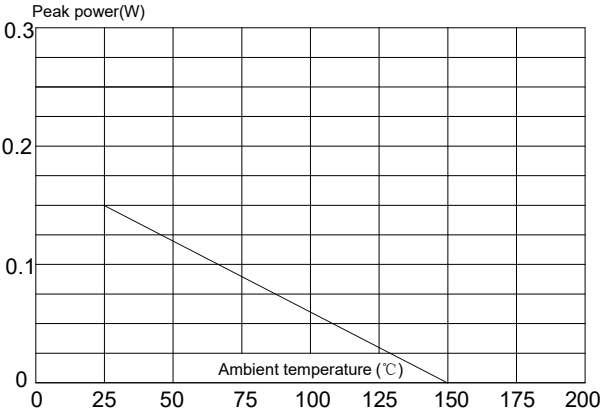


Fig.2 Zener breakdown characteristics

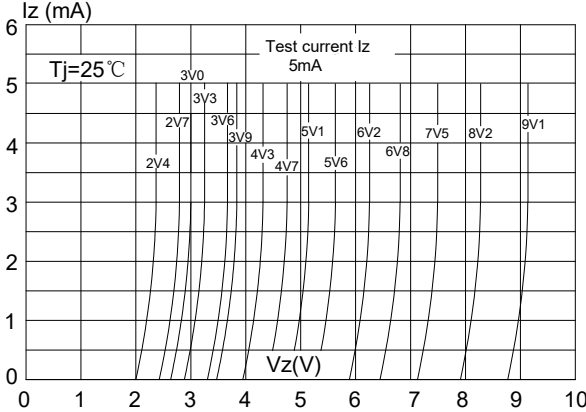


Fig.3 Zener breakdown characteristics

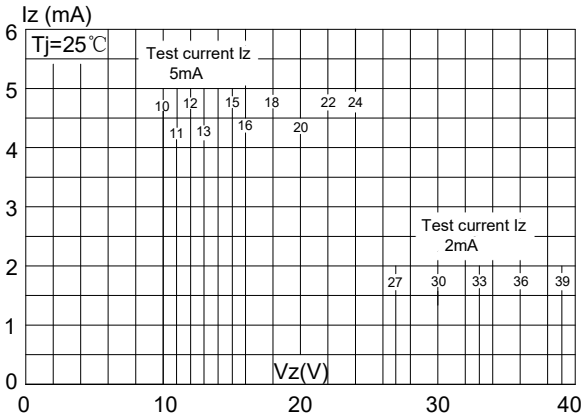
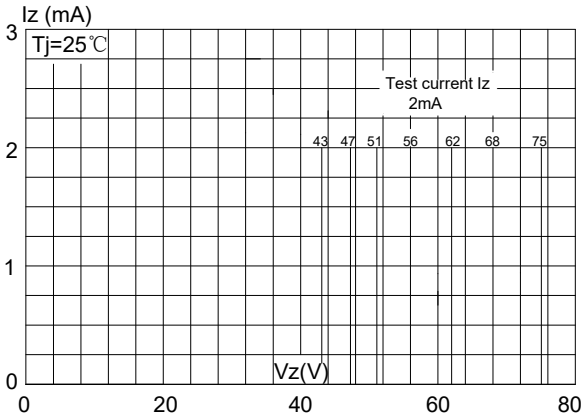


Fig.4 Zener breakdown characteristics



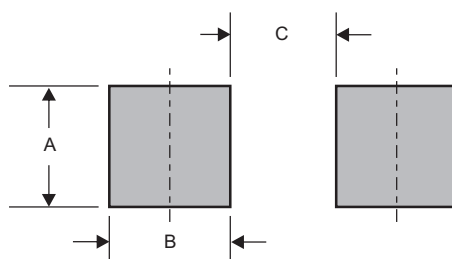
Pinning information

Pin	Simplified outline	Symbol
Pin1 cathode Pin2 anode		

Month code

Type number	Marking
MM5Z Series	Page2

Suggested solder pad layout



Dimensions in inches and (millimeters)

PACKAGE	A	B	C
SOD-523	0.032 (0.80)	0.024 (0.60)	0.044 (1.10)