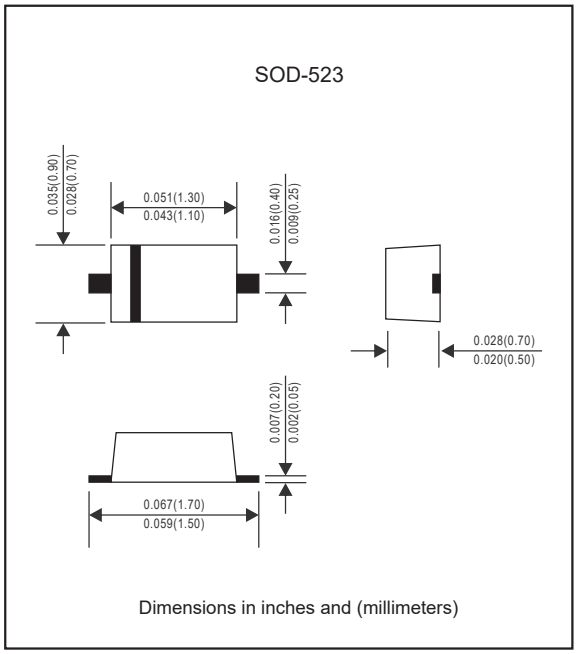
MM5ZxxxB-Q1 Series

150mW Surface Mount Zener Diodes-2.4V-75V

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
- Lead-free parts meet RoHS requirments
- Compliant to Halogen-free.
- Suffix "-Q1" for AEC-Q101

Package outline



Dimensions in inches and (millimeters)

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

Maximum ratings (at T_A=25°C unless otherwise noted)

PARAMETER	CONDITIONS	Symbol	MIN.	TYP.	MAX.	UNIT
Total device dissipation	T_A =25°C	P_D			150	mW
Operating junction temperature range		T_J	-55		+150	°C
Storage temperature range		T_{STG}	-55		+150	°C

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

Part No.	Marking code	Zener voltage			Test current	Zener impedance			Leakage current	
		V_Z @ I_{ZT}			I_{ZT}	Z_{ZT} @ I_{ZT}	Z_{ZK} @ I_{ZK}	I_{ZK}	I_R	V_R
		Min.(V)	Nom.(V)	Max.(V)	mA	(Ω)Max	(Ω)Max	mA	(uA)Max	Volts
MM5Z2V4B-Q1	Z1./05	2.35	2.4	2.45	5	100	600	1.0	50	1.0
MM5Z2V7B-Q1	Z2./15	2.65	2.7	2.75	5	100	600	1.0	20	1.0
MM5Z3V0B-Q1	Z3./25	2.94	3.0	3.06	5	100	600	1.0	10	1.0
MM5Z3V3B-Q1	Z4./35	3.23	3.3	3.37	5	95	600	1.0	5	1.0
MM5Z3V6B-Q1	Z5./45	3.53	3.6	3.67	5	90	600	1.0	5	1.0
MM5Z3V9B-Q1	Z6./+5	3.82	3.9	3.98	5	90	600	1.0	3	1.0
MM5Z4V3B-Q1	Z7./65	4.21	4.3	4.39	5	90	600	1.0	3	1.0
MM5Z4V7B-Q1	X1./75	4.61	4.7	4.79	5	80	500	1.0	3	2.0
MM5Z5V1B-Q1	2Z2/85	5.00	5.1	5.20	5	60	480	1.0	2	2.0
MM5Z5V6B-Q1	2Z3/95	5.49	5.6	5.71	5	40	400	1.0	1	2.0
MM5Z6V2B-Q1	2Z4/A5	6.08	6.2	6.32	5	10	150	1.0	3	4.0
MM5Z6V8B-Q1	2Z5/B5	6.66	6.8	6.94	5	15	80	1.0	2	4.0
MM5Z7V5B-Q1	2Z6/C5	7.35	7.5	7.65	5	15	80	1.0	1	5.0
MM5Z8V2B-Q1	2Z7/D5	8.04	8.2	8.36	5	15	80	1.0	0.7	5.0
MM5Z9V1B-Q1	2Z8/E5	8.92	9.1	9.28	5	15	100	1.0	0.5	6.0
MM5Z10VB-Q1	2Z9/F5	9.80	10	10.20	5	20	150	1.0	0.2	7.0
MM5Z11VB-Q1	2Y1/G5	10.78	11	11.22	5	20	150	1.0	0.1	8.0
MM5Z12VB-Q1	2Y2/H5	11.76	12	12.24	5	25	150	1.0	0.1	8.0
MM5Z13VB-Q1	2Y3/J5	12.74	13	13.26	5	30	170	1.0	0.1	8.0
MM5Z15VB-Q1	2Y4/K5	14.70	15	15.30	5	30	200	1.0	0.1	10.5
MM5Z16VB-Q1	2Y5/L5	15.68	16	16.32	5	40	200	1.0	0.1	11.2
MM5Z18VB-Q1	2Y6/M5	17.64	18	18.36	5	45	225	1.0	0.1	12.6
MM5Z20VB-Q1	2Y7/N5	19.60	20	20.40	5	55	225	1.0	0.1	14.0
MM5Z22VB-Q1	W8./P5	21.56	22	22.44	5	55	250	1.0	0.1	15.4
MM5Z24VB-Q1	W9./R5	23.52	24	24.48	5	70	250	1.0	0.1	16.8
MM5Z27VB-Q1	Y1./S5	26.46	27	27.54	2	80	300	0.5	0.1	18.9
MM5Z30VB-Q1	Y2./T5	29.40	30	30.60	2	80	300	0.5	0.1	21.0
MM5Z33VB-Q1	Y3./U5	32.34	33	33.66	2	80	325	0.5	0.1	23.0
MM5Z36VB-Q1	Y4./V5	35.28	36	36.72	2	90	350	0.5	0.1	25.2
MM5Z39VB-Q1	Y5./X5	38.22	39	39.78	2	130	350	0.5	0.1	27.3
MM5Z43VB-Q1	Y6./Y5	42.14	43	43.86	2	150	353	0.5	0.1	29.4
MM5Z47VB-Q1	V1./Z5	45.83	47	48.17	2	170	1000	0.5	0.1	33.0
MM5Z51VB-Q1	V2./-5	49.73	51	52.27	2	180	1300	0.5	0.1	35.7
MM5Z56VB-Q1	V3./=5	54.60	56	57.40	2	200	1400	0.5	0.1	39.2
MM5Z62VB-Q1	V4./≡5	60.45	62	63.55	2	225	1400	0.5	0.1	43.4
MM5Z68VB-Q1	V5./>5	66.30	68	69.70	2	240	1600	0.5	0.1	47.6
MM5Z75VB-Q1	V6./<5	73.13	75	76.87	2	265	1700	0.5	0.1	52.5

Rating and characteristic curves

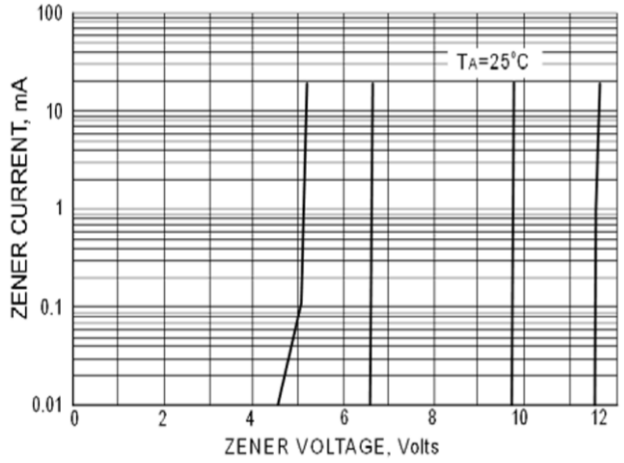


Figure 1. Zener Break Down Characteristic

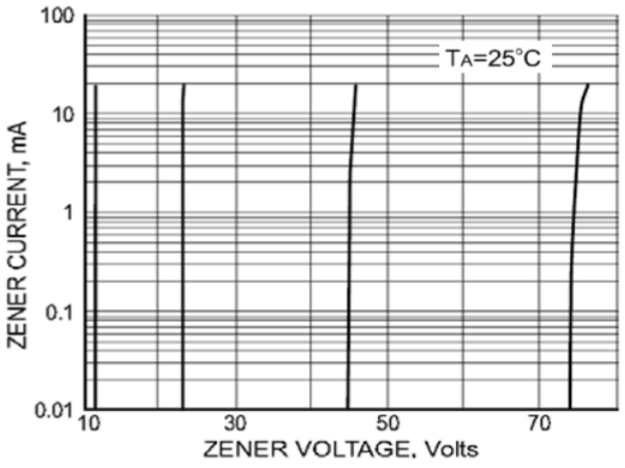


Figure 2. Zener Break Down Characteristic

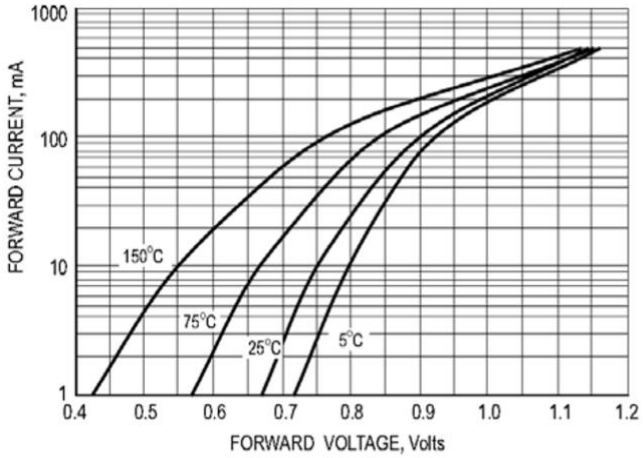


Figure 3. Typical Forward Voltage

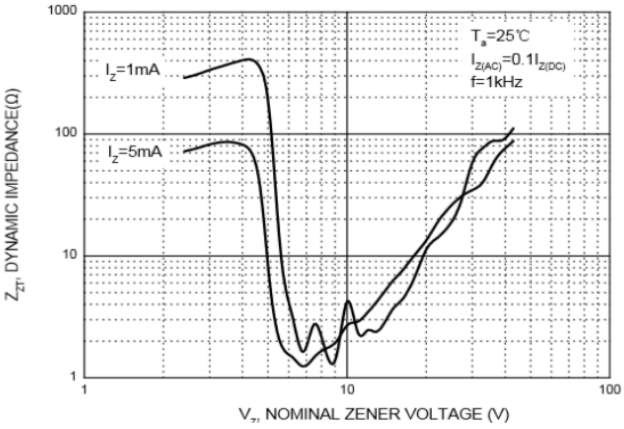


Figure 4. Effect of Zener Voltage on Zener Impedance

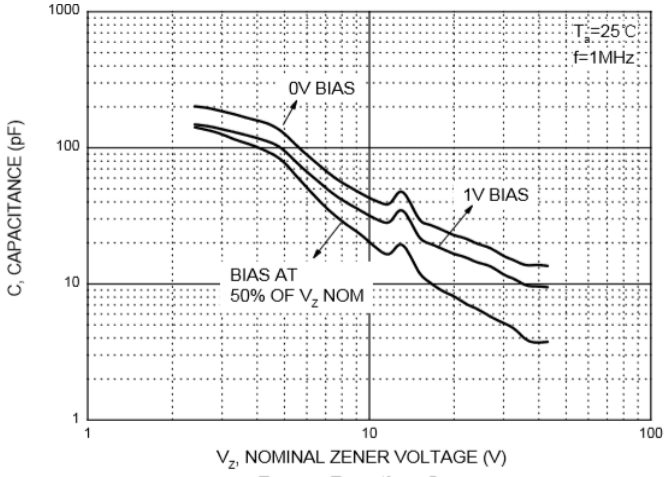


Figure 5. Typical Capacitance

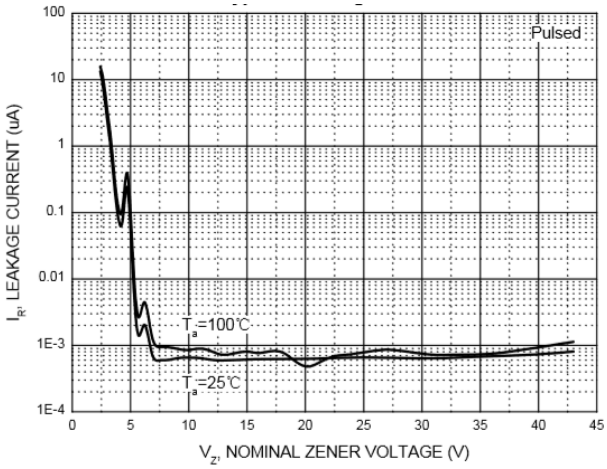
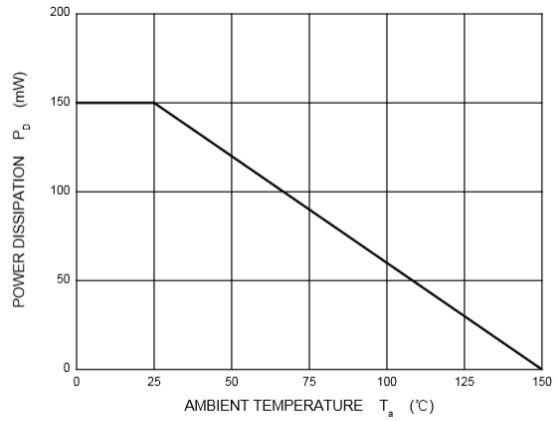


Figure 6. Typical Leakage Current

Rating and characteristic curves



Power Derating Curve

Figure 7. Power Derating Curve

Pinning information

Pin	Simplified outline	Symbol
Pin1 cathode Pin2 anode		

Month code

Type number	Marking
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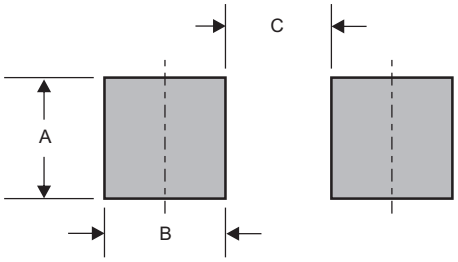
Suggested solder pad layout



Dimensions in inches and (millimeters)

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