

Zener Diodes

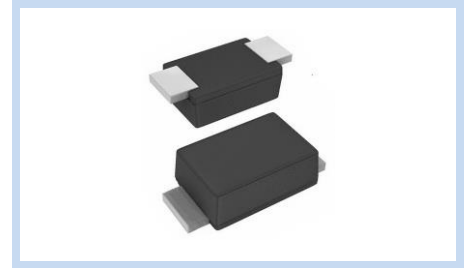
SOD-123F, AEC-Q101

MMSZS52-B-A Series

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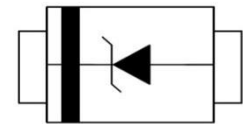
FEATURE

- Zener Voltage Range: 3.6~75V
- Zener Voltage Tolerance: $\pm 5\%$
- Power Dissipation: 1W
- Silicon Planar Zener Diode
- Application: Power Management Systems, Voltage Regulation
- AEC-Q101 Qualified



MECHANICAL DATA

- Case: SOD-123F, Molded Plastic
- Terminals: Solderable per MIL-STD-750, Method 2026
- Polarity: Band Marking Denotes Cathode End



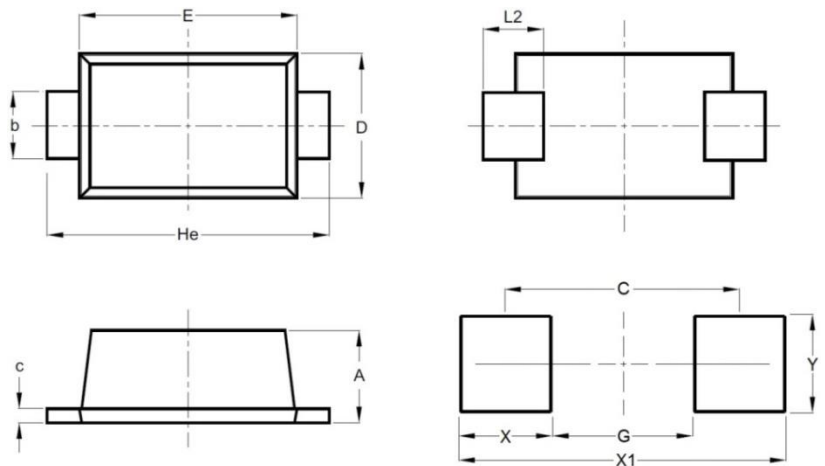
ABSOLUTE MAXIMUM RATINGS

Parameter	Symbols	Value	Unit
Peak Pulse Power Dissipation	P_D	1	W
ESD Voltage per IEC61000-4-2 (Air)	V_{ESD}	± 30	KV
ESD Voltage per IEC61000-4-2 (Contact)	V_{ESD}	± 30	KV
Resistance Junction to Ambient	$R_{\theta JA}$	185	$^{\circ}C/W$
Junction Temperature	T_J	-55~+150	$^{\circ}C$
Storage Temperature Range	T_{STG}	-55~+150	$^{\circ}C$

Note: $T_A = 25^{\circ}C$ unless otherwise noted

DIMENSIONS AND RECOMMENDED LAND PATTERN

Item	Min (mm)	Max (mm)
A	0.90	1.10
b	0.80	1.10
c	0.10	0.20
D	1.70	1.90
E	2.70	2.90
He	3.50	3.70
L2	0.45	0.75
C	3.10	3.10
G	1.95	1.95
X	1.15	1.15
X1	4.25	4.25
Y	1.22	1.22



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ELECTRICAL CHARACTERISTICS

Part Number	Nominal Zener Voltage V_Z at I_{ZT}			Nominal Zener Impedance Z_{ZT} at I_{ZT} , Z_{ZK} at I_{ZK}				Reverse Leakage Current I_R at V_R	
	Nom	Min	Max	Z_{ZT}	I_{ZT}	Z_{ZK}	I_{ZK}	I_R max	V_R
	(V)	(V)	(V)	(Ω)	(mA)	(Ω)	(mA)	(μ A)	(V)
MMSZS52L3V6B-A	3.6	3.42	3.78	8	100	400	1.0	100	1.0
MMSZS52L3V9B-A	3.9	3.71	4.10	8	100	400	1.0	50	1.0
MMSZS52L4V3B-A	4.3	4.09	4.52	7	100	400	1.0	25	1.0
MMSZS52L4V7B-A	4.7	4.47	4.94	7	100	500	1.0	10	1.0
MMSZS52L5V1B-A	5.1	4.85	5.36	6	100	550	1.0	5	1.0
MMSZS52L5V6B-A	5.6	5.32	5.88	4	100	600	1.0	10	2.0
MMSZS52L6V0B-A	6.0	5.70	6.30	3	100	650	1.0	8	2.0
MMSZS52L6V2B-A	6.2	5.89	6.51	3	100	700	1.0	5	2.0
MMSZS52L6V8B-A	6.8	6.46	7.14	3	100	700	1.0	10	3.0
MMSZS52L7V5B-A	7.5	7.13	7.88	2	100	700	0.5	10	3.0
MMSZS52L8V2B-A	8.2	7.79	8.61	2	100	700	0.5	10	3.0
MMSZS52L8V7B-A	8.7	8.27	9.14	3	50	700	0.5	10	4.0
MMSZS52L9V1B-A	9.1	8.65	9.56	4	50	700	0.5	10	5.0
MMSZS52L10B-A	10	9.50	10.50	4	50	700	0.25	7	7.5
MMSZS52L11B-A	11	10.45	11.55	7	50	700	0.25	4	8.2
MMSZS52L12B-A	12	11.40	12.60	7	50	700	0.25	3	9.1
MMSZS52L13B-A	13	12.35	13.65	10	50	700	0.25	2	10
MMSZS52L14B-A	14	13.30	14.70	10	50	700	0.25	2	11
MMSZS52L15B-A	15	14.25	15.75	12	50	700	0.25	1	11
MMSZS52L16B-A	16	15.20	16.80	15	25	700	0.25	1	12
MMSZS52L17B-A	17	16.15	17.85	15	25	750	0.25	1	13
MMSZS52L18B-A	18	17.10	18.90	15	25	750	0.25	1	13
MMSZS52L19B-A	19	18.05	19.95	15	25	750	0.25	1	14
MMSZS52L20B-A	20	19.00	21.00	15	25	750	0.25	1	15
MMSZS52L22B-A	22	20.90	23.10	15	25	750	0.25	1	16
MMSZS52L24B-A	24	22.80	25.20	15	25	750	0.25	1	18
MMSZS52L25B-A	25	23.75	26.25	15	25	750	0.25	1	19
MMSZS52L27B-A	27	25.65	28.35	15	25	750	0.25	1	20
MMSZS52L28B-A	28	26.60	29.40	15	25	850	0.25	1	21
MMSZS52L30B-A	30	28.50	31.50	15	25	1000	0.25	1	22
MMSZS52L33B-A	33	31.35	34.65	15	25	1000	0.25	1	24
MMSZS52L36B-A	36	34.20	37.80	40	10	1000	0.25	1	27
MMSZS52L39B-A	39	37.05	40.95	40	10	1000	0.25	1	30
MMSZS52L43B-A	43	40.85	45.15	45	10	1500	0.25	1	33
MMSZS52L47B-A	47	44.65	49.35	45	10	1500	0.25	1	36
MMSZS52L51B-A	51	48.45	53.55	60	10	1500	0.25	1	39
MMSZS52L56B-A	56	53.20	58.80	60	10	2000	0.25	1	43
MMSZS52L62B-A	62	58.90	65.10	80	10	2000	0.25	1	47

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ELECTRICAL CHARACTERISTICS

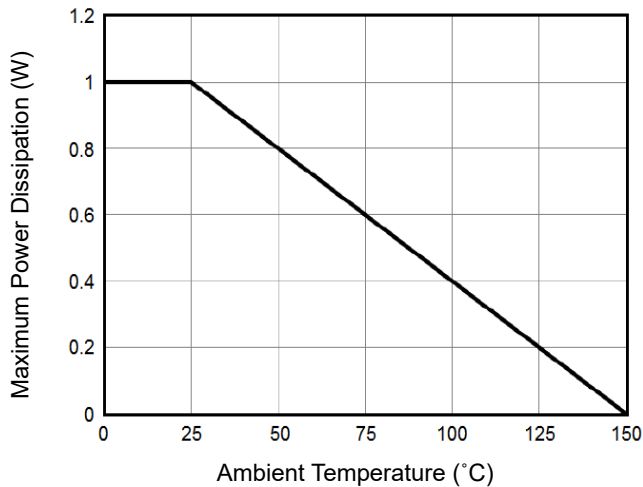
Part Number	Nominal Zener Voltage V_Z at I_{ZT}			Nominal Zener Impedance Z_{ZT} at I_{ZT} , Z_{ZK} at I_{ZK}				Reverse Leakage Current I_R at V_R	
	Nom	Min	Max	Z_{ZT}	I_{ZT}	Z_{ZK}	I_{ZK}	I_R max	V_R
	(V)	(V)	(V)	(Ω)	(mA)	(Ω)	(mA)	(μ A)	(V)
MMSZS52L68B-A	68	64.60	71.40	80	10	2000	0.25	1	51
MMSZS52L75B-A	75	71.25	78.75	100	10	2000	0.25	1	56

Note:

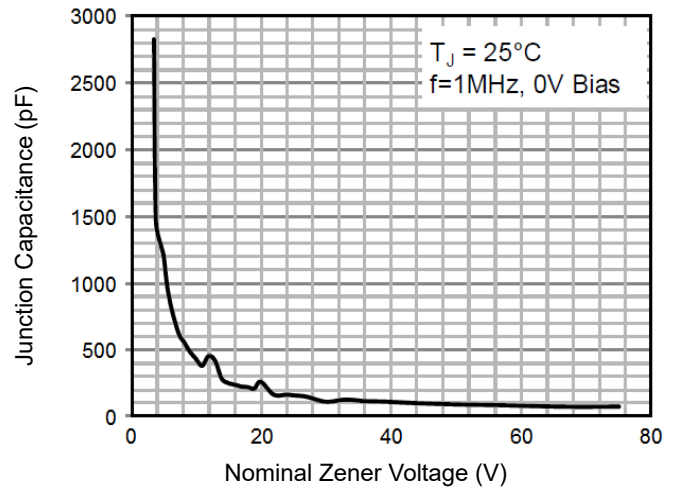
1. $T_A=25^\circ\text{C}$ unless otherwise noted
2. Mounted on a 5mm^2 copper pads to each terminal
3. Mounted on a FR-4 PCB, single sided copper, mini pad

CHARACTERISTIC CURVES

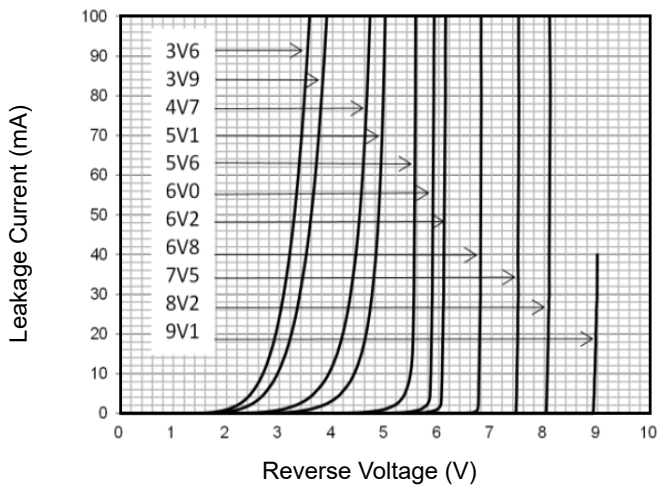
Steady-State Power Derating



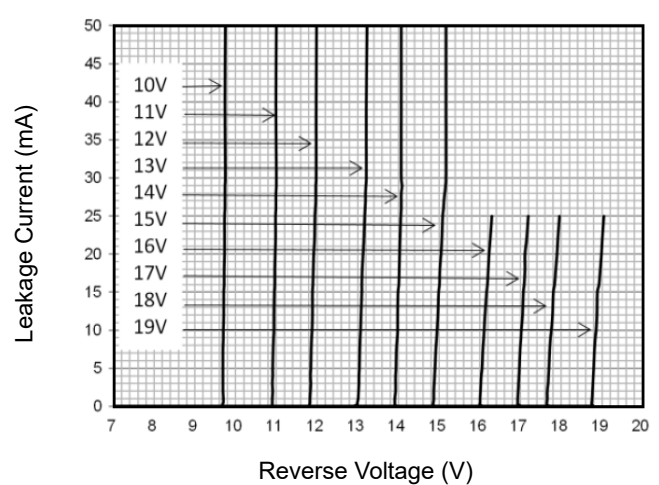
Typical Capacitance vs V_Z



Typical Zener Breakdown Characteristics



Typical Zener Breakdown Characteristics



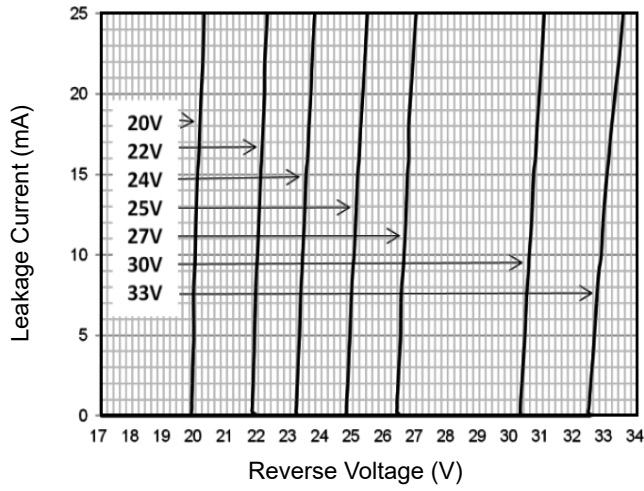
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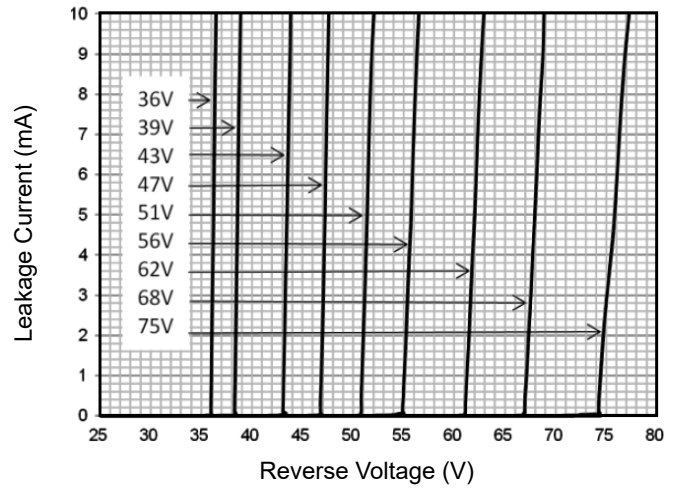
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CHARACTERISTIC CURVES

Typical Zener Breakdown Characteristics



Typical Zener Breakdown Characteristics



*Specifications subject to change without notice.