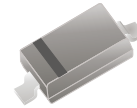


MMSZ5221B-P2-HF Thru. MMSZ5267B-P2-HF

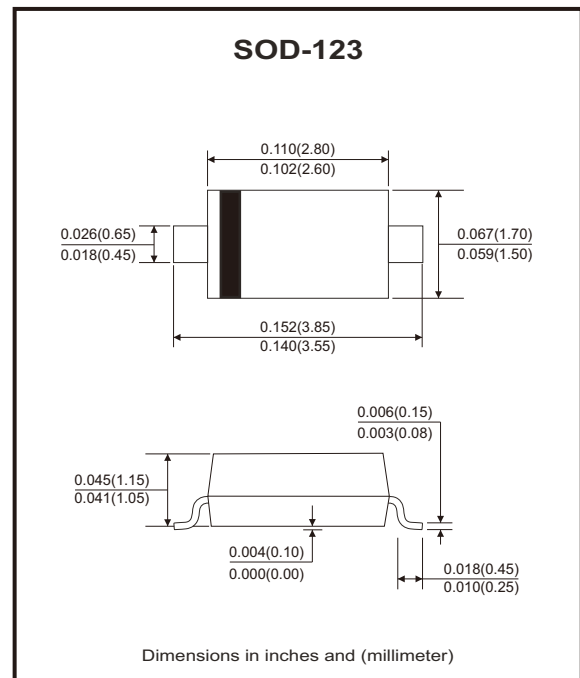
RoHS Device
Halogen Free

**Features**

- Wide voltage range selection: 2.4V~75V.
- Tight voltage tolerance: $\pm 5\%$.
- Constant voltage control.

Mechanical data

- Case: SOD-123, molded plastic.
- Terminals: Solderable per MIL-STD-750, method 2026.
- Polarity: Indicated by cathode band.
- Mounting position: Any.

**Circuit Diagram****Maximum Ratings** ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Power dissipation	P_D	350	mW
Junction temperature	T_J	150	$^{\circ}\text{C}$
Storage temperature range	T_{STG}	-55 to +150	$^{\circ}\text{C}$
Maximum regulator current	I_{ZM}	P_D/V_Z	mA
Forward voltage @ $I_F=10\text{mA}$	V_F	0.9	V

Electrical Characteristics (TA=25°C unless otherwise noted)

Part Number	Zener Voltage (Pulse width =10ms)				Maximum Zener Impedance			Maximum Reverse Current		Marking Code
	V _z @ I _{zT}			I _{zT}	Z _{zT} @I _{zT}	Z _{zK} @I _{zK}	I _{zK}	I _R @ V _R		
	Min(V)	Typ(V)	Max(V)	(mA)	(Ω)	(Ω)	(mA)	(μA)	(V)	
MMSZ5221B-P2-HF	2.28	2.4	2.52	20	30	1200	0.25	100	1.0	C1
MMSZ5222B-P2-HF	2.38	2.5	2.63	20	30	1200	0.25	100	1.0	C2
MMSZ5223B-P2-HF	2.57	2.7	2.84	20	30	1300	0.25	75	1.0	C3
MMSZ5225B-P2-HF	2.85	3.0	3.15	20	30	1600	0.25	50	1.0	C5
MMSZ5226B-P2-HF	3.14	3.3	3.47	20	28	1600	0.25	25	1.0	G1
MMSZ5227B-P2-HF	3.42	3.6	3.78	20	24	1700	0.25	15	1.0	G2
MMSZ5228B-P2-HF	3.71	3.9	4.10	20	23	1900	0.25	10	1.0	G3
MMSZ5229B-P2-HF	4.09	4.3	4.52	20	22	2000	0.25	5	1.0	G4
MMSZ5230B-P2-HF	4.47	4.7	4.94	20	19	1900	0.25	5	2.0	G5
MMSZ5231B-P2-HF	4.85	5.1	5.36	20	17	1600	0.25	5	2.0	E1
MMSZ5232B-P2-HF	5.32	5.6	5.88	20	11	1600	0.25	5	3.0	E2
MMSZ5233B-P2-HF	5.70	6.0	6.30	20	7	1600	0.25	5	3.5	E3
MMSZ5234B-P2-HF	5.89	6.2	6.51	20	7	1000	0.25	5	4.0	E4
MMSZ5235B-P2-HF	6.46	6.8	7.14	20	5	750	0.25	3	5.0	E5
MMSZ5236B-P2-HF	7.13	7.5	7.88	20	6	500	0.25	3	6.0	F1
MMSZ5237B-P2-HF	7.79	8.2	8.61	20	8	500	0.25	3	6.5	F2
MMSZ5238B-P2-HF	8.27	8.7	9.14	20	8	600	0.25	3	6.5	F3
MMSZ5239B-P2-HF	8.65	9.1	9.56	20	10	600	0.25	3	7.0	F4
MMSZ5240B-P2-HF	9.50	10	10.50	20	17	600	0.25	3	8.0	F5
MMSZ5241B-P2-HF	10.45	11	11.55	20	22	600	0.25	2	8.4	H1
MMSZ5242B-P2-HF	11.40	12	12.60	20	30	600	0.25	1	9.1	H2
MMSZ5243B-P2-HF	12.35	13	13.65	9.5	13	600	0.25	0.5	9.9	H3
MMSZ5244B-P2-HF	13.30	14	14.70	9.0	15	600	0.25	0.1	10	H4
MMSZ5245B-P2-HF	14.25	15	15.75	8.5	16	600	0.25	0.1	11	H5
MMSZ5246B-P2-HF	15.20	16	16.80	7.8	17	600	0.25	0.1	12	J1
MMSZ5247B-P2-HF	16.15	17	17.85	7.4	19	600	0.25	0.1	13	J2
MMSZ5248B-P2-HF	17.10	18	18.90	7.0	21	600	0.25	0.1	14	J3
MMSZ5250B-P2-HF	19.00	20	21.00	6.2	25	600	0.25	0.1	15	J5
MMSZ5251B-P2-HF	20.90	22	23.10	5.6	29	600	0.25	0.1	17	K1

Electrical Characteristics (TA=25°C unless otherwise noted)

Part Number	Zener Voltage (Pulse width =10ms)				Maximum Zener Impedance			Maximum Reverse Current		Marking Code
	V _Z @ I _{ZT}			I _{ZT}	Z _{ZT} @I _{ZT}	Z _{ZK} @I _{ZK}	I _{ZK}	I _R @ V _R		
	Min(V)	Typ(V)	Max(V)	(mA)	(Ω)	(Ω)	(mA)	(μA)	(V)	
MMSZ5252B-P2-HF	22.80	24	25.20	5.2	33	600	0.25	0.1	18	K2
MMSZ5253B-P2-HF	23.75	25	26.25	5.0	35	600	0.25	0.1	19	K3
MMSZ5254B-P2-HF	25.65	27	28.35	5.0	41	600	0.25	0.1	21	K4
MMSZ5255B-P2-HF	26.60	28	29.40	4.5	44	600	0.25	0.1	21	K5
MMSZ5256B-P2-HF	28.50	30	31.50	4.2	49	600	0.25	0.1	23	M1
MMSZ5257B-P2-HF	31.35	33	34.65	3.8	58	700	0.25	0.1	25	M2
MMSZ5258B-P2-HF	34.20	36	37.80	3.4	70	700	0.25	0.1	27	M3
MMSZ5259B-P2-HF	37.05	39	40.95	3.2	80	800	0.25	0.1	30	M4
MMSZ5260B-P2-HF	40.85	43	45.15	3.0	93	900	0.25	0.1	33	M5
MMSZ5261B-P2-HF	44.65	47	49.35	2.7	105	1000	0.25	0.1	36	N1
MMSZ5262B-P2-HF	48.45	51	53.55	2.5	125	1100	0.25	0.1	39	N2
MMSZ5263B-P2-HF	53.20	56	58.80	2.2	150	1300	0.25	0.1	43	M8
MMSZ5265B-P2-HF	58.90	62	65.10	2.0	185	1400	0.25	0.1	47	N5
MMSZ5267B-P2-HF	71.25	75	78.75	1.7	270	1700	0.25	0.1	56	P2

Typical Rating and Characteristic Curves (MMSZ52xxB-P2-HF Series)

Fig.1 - Typical Forward Voltage

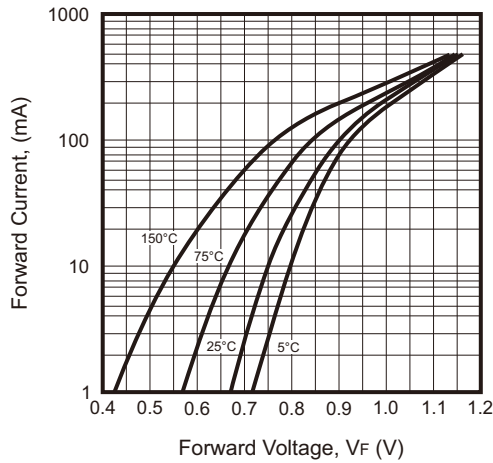


Fig.2 - Effect of Zener Voltage on Zener Impedance

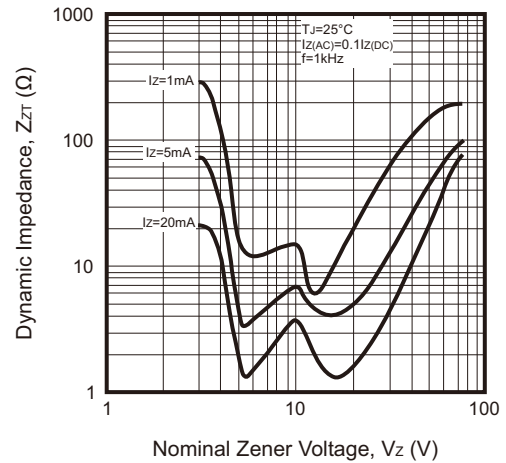


Fig.3 - Power Dissipation vs Ambient Temperature

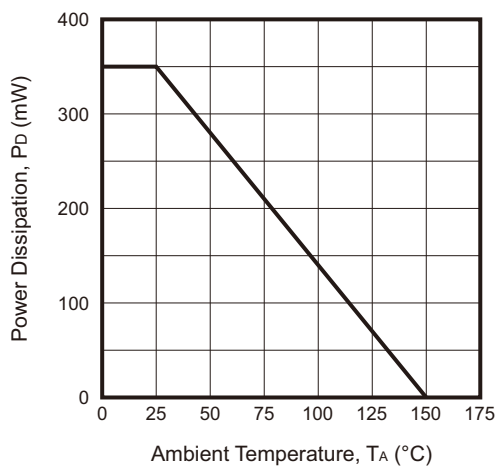


Fig.4 - Typical Capacitance

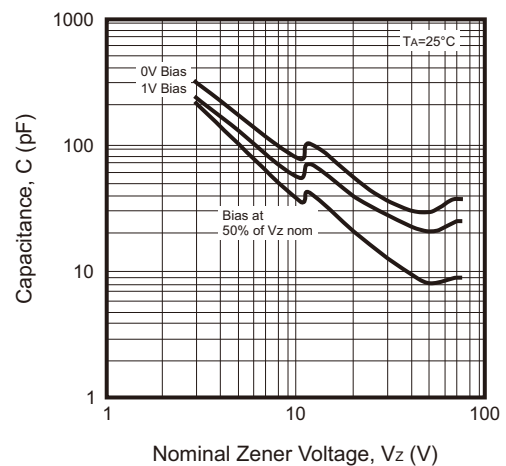


Fig.5 - Zener Breakdown Characteristic

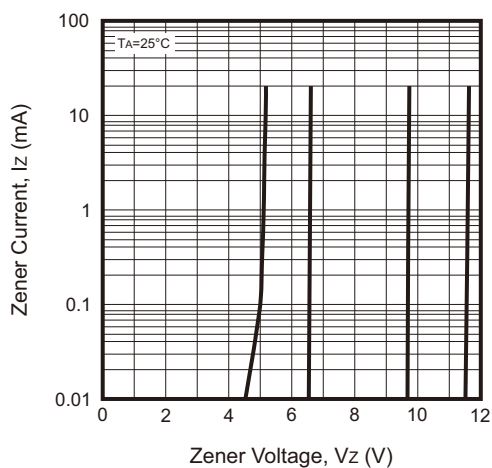
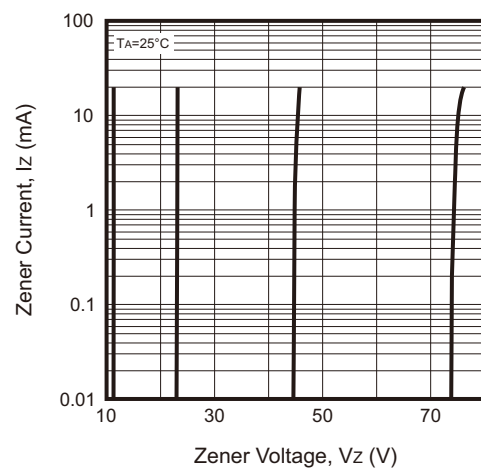
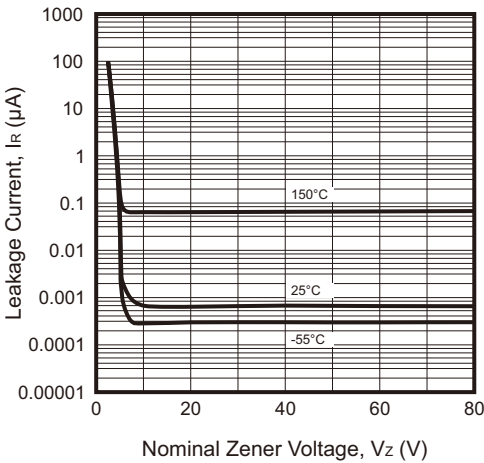


Fig.6 - Zener Breakdown Characteristic

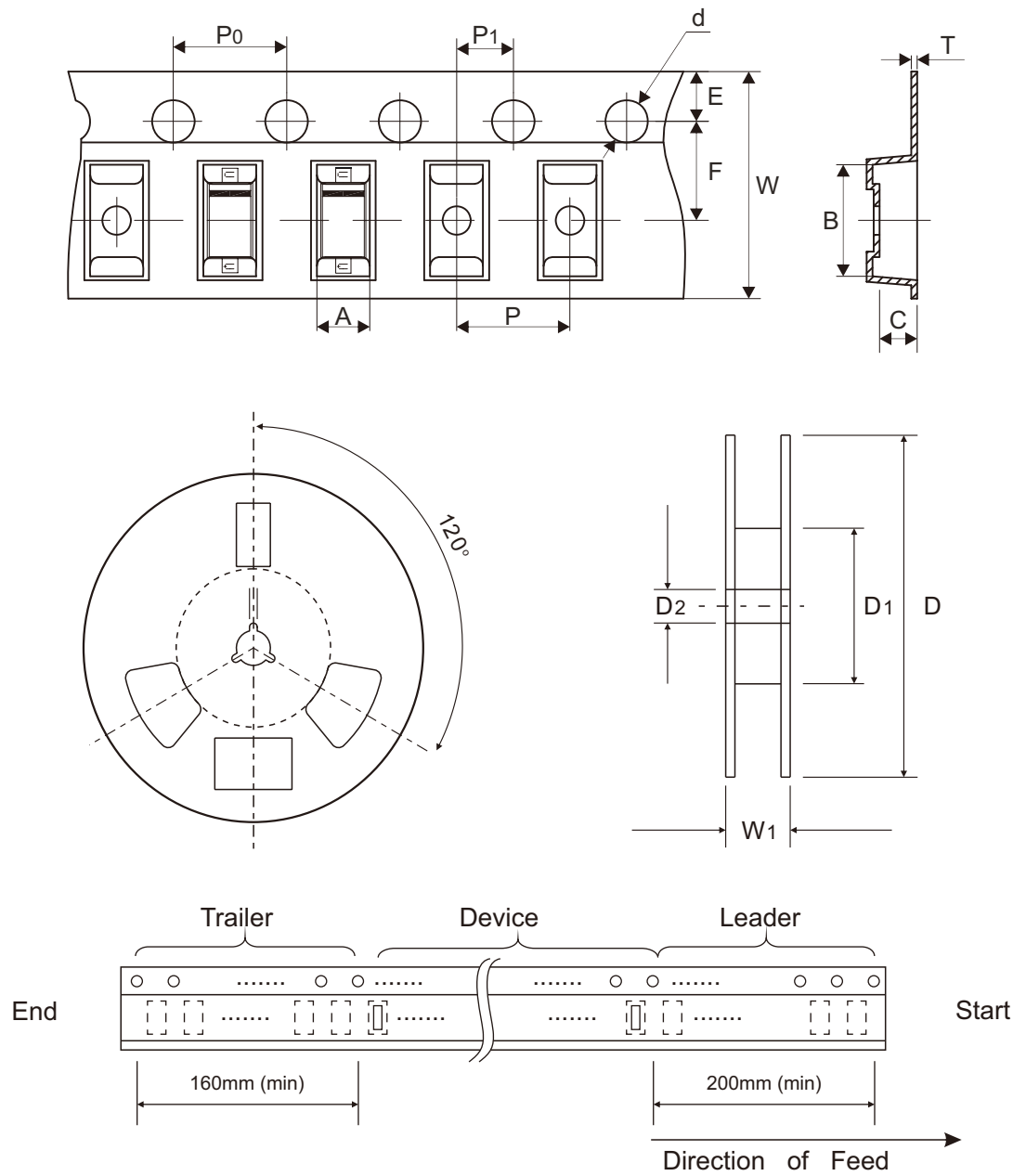


Typical Rating and Characteristic Curves (MMSZ52xxB-P2-HF Series)

Fig.7 - Typical Leakage Current



Reel Taping Specification



SOD-123	SYMBOL	A	B	C	d	D	D1	D2
	(mm)	1.85 ± 0.10	3.94 ± 0.10	1.57 ± 0.10	1.55 ± 0.05	178.00 ± 2.00	50.00 ± 0.50	13.00 ± 0.25
	(inch)	0.073 ± 0.004	0.155 ± 0.004	0.062 ± 0.004	0.061 ± 0.002	7.008 ± 0.079	1.969 ± 0.020	0.512 ± 0.010

SOD-123	SYMBOL	E	F	P	P1	P0	T	W	W1
	(mm)	1.75 ± 0.10	3.50 ± 0.10	4.00 ± 0.10	2.00 ± 0.05	4.00 ± 0.10	0.20 ± 0.02	$8.00 + 0.30 - 0.10$	11.50 ± 1.50
	(inch)	0.069 ± 0.004	0.138 ± 0.004	0.157 ± 0.004	0.079 ± 0.002	0.157 ± 0.004	0.008 ± 0.001	$0.315 + 0.012 - 0.004$	0.453 ± 0.059

Marking Code

Part Number	Marking Code
MMSZ52xxB-P2-HF Series	See Page 2~3

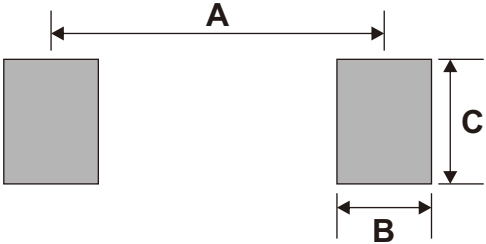


XX = Product type marking code

 = Cathode band

Suggested P.C.B. PAD Layout

SIZE	SOD-123	
	(mm)	(inch)
A	3.24	0.128
B	0.80	0.031
C	1.00	0.039



Standard Packaging

Case Type	REEL PACK	
	REEL (pcs)	Reel Size (inch)
SOD-123	3,000	7