



MMSZS5221BH THRU MMSZS5259BH

SILICON ZENER DIODES

REVERSE VOLTAGE: 2.4 TO 39 VOLTS
POWER DISSIPATION: 500 mWATTS

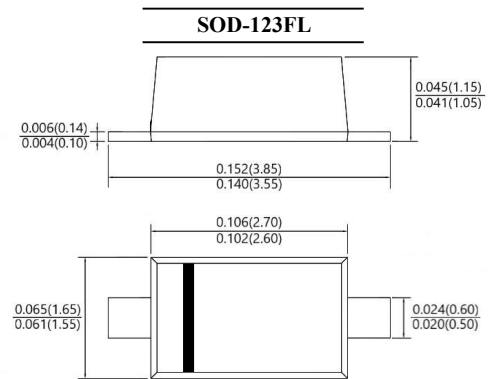
FEATURES

- Planar Die construction
- Zener Voltages from 2.4V - 39V and 500mW Power Dissipation
- Suffix "H" indicates Halogen-free parts, ex. MMSZS5221BH

MECHANICAL DATA

Case : SOD-123FL

Mounting Position: Any



Dimensions in inch and (millimeters)

Maximum Ratings @ 25 °C Unless Otherwise Specified

Tamb = 25 °C, unless otherwise specified

Parameter	Symbol	Value	Unit
Power Dissipation	P _{tot}	500	mW
Maximum Forward Voltage@I _F =10mA	V _F	0.9	V
Thermal Resistance Junction to Ambient Air	R _{θJA}	350	°C/W
Junction Temperature	T _J	150	°C
Storage Temperature Range	T _{stg}	-55 to +150	°C



MMSZS5221BH THRU MMSZS5259BH

SILICON ZENER DIODES

Electrical Characteristics

Tamb = 25 °C, unless otherwise specified

Type	Marking Code	Zener Voltage Range ¹⁾			Test Current	Dynamic Impedance ²⁾				Reverse Current	
		V _{ZT}				at I _{ZT}	Z _{ZT}	I _{ZT}	Z _{ZK}	at I _{ZK}	I _R
		Min.(V)	Nom.(V)	Max.(V)	mA	Max.(Ω)	mA	Max.(Ω)	mA	Max.(μA)	V
MMSZS5221BH	A4	2.28	2.4	2.52	20	30	20	1200	0.25	100	1.0
MMSZS5223BH	B4	2.57	2.7	2.84	20	30	20	1300	0.25	75	1.0
MMSZS5225BH	C4	2.85	3.0	3.15	20	29	20	1600	0.25	50	1.0
MMSZS5226BH	D4	3.14	3.3	3.47	20	28	20	1600	0.25	25	1.0
MMSZS5227BH	E4	3.42	3.6	3.78	20	24	20	1700	0.25	15	1.0
MMSZS5228BH	F4	3.71	3.9	4.10	20	23	20	1900	0.25	10	1.0
MMSZS5229BH	H4	4.09	4.3	4.52	20	22	20	2000	0.25	5.0	1.0
MMSZS5230BH	J4	4.47	4.7	4.94	20	19	20	1900	0.25	5.0	2.0
MMSZS5231BH	K4	4.85	5.1	5.36	20	17	20	1600	0.25	5.0	2.0
MMSZS5232BH	M4	5.32	5.6	5.88	20	11	20	1600	0.25	5.0	3.0
MMSZS5234BH	N4	5.89	6.2	6.51	20	7	20	1000	0.25	5.0	4.0
MMSZS5235BH	P4	6.46	6.8	7.14	20	5	20	750	0.25	3.0	5.0
MMSZS5236BH	R4	7.13	7.5	7.88	20	6	20	500	0.25	3.0	6.0
MMSZS5237BH	X4	7.79	8.2	8.61	20	8	20	500	0.25	3.0	6.5
MMSZS5239BH	Y4	8.65	9.1	9.56	20	10	20	600	0.25	3.0	7.0
MMSZS5240BH	Z4	9.50	10.0	10.50	20	17	20	600	0.25	3.0	8.0
MMSZS5241BH	A5	10.45	11.0	11.55	20	22	20	600	0.25	2.0	8.4
MMSZS5242BH	B5	11.40	12.0	12.60	20	30	20	600	0.25	1.0	9.1
MMSZS5243BH	C5	12.35	13.0	13.65	9.5	13	9.5	600	0.25	0.5	9.9
MMSZS5245BH	D5	14.25	15.0	15.75	8.5	16	8.5	600	0.25	0.1	11.0
MMSZS5246BH	E5	15.20	16.0	16.80	7.8	17	7.8	600	0.25	0.1	12.0
MMSZS5247BH	G5	16.15	17.0	17.85	7.4	19	7.4	600	0.25	0.1	13.0
MMSZS5248BH	F5	17.10	18.0	18.90	7.0	21	7.0	600	0.25	0.1	14.0
MMSZS5249BH	K9	18.05	19.0	19.95	6.6	23	6.6	600	0.25	0.1	14.0
MMSZS5250BH	H5	19.00	20.0	21.00	6.2	25	6.2	600	0.25	0.1	15.0
MMSZS5251BH	J5	20.90	22.0	23.10	5.6	29	5.6	600	0.25	0.1	17.0
MMSZS5252BH	K5	22.80	24.0	25.20	5.2	33	5.2	600	0.25	0.1	18.0
MMSZS5253BH	M9	23.75	25.0	26.25	5.0	35	5.0	600	0.25	0.1	19.0
MMSZS5254BH	M5	25.65	27.0	28.35	4.6	41	4.6	600	0.25	0.1	21.0
MMSZS5256BH	N5	28.50	30.0	31.50	4.2	49	4.2	600	0.25	0.1	23.0
MMSZS5257BH	P5	31.35	33.0	34.65	3.8	58	3.8	700	0.25	0.1	25.0
MMSZS5258BH	R5	34.20	36.0	37.80	3.4	70	3.4	700	0.25	0.1	27.0
MMSZS5259BH	X5	37.05	39.0	40.95	3.2	80	3.2	800	0.25	0.1	30.0

NOTES:

1. V_{ZT} is tested with pulses (20 ms)

2. Z_{ZT} and Z_{ZK} are measured by dividing the AC voltage drop across the device by the AC current applied. The specified limits are for I_{Z(AC)} = 0.1 I_{Z(DC)} with the AC f=1 KHz.



MMSZS5221BH THRU MMSZS5259BH

SILICON ZENER DIODES

RATINGS AND CHARACTERISTIC CURVES

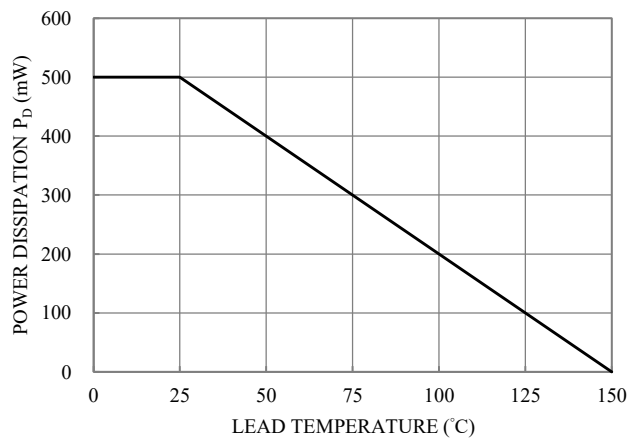


Fig 1. Power Derating Curve

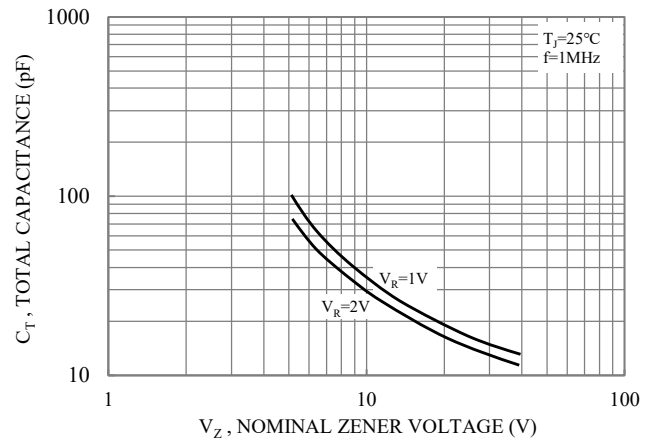


Fig 2. Typical Total Capacitance vs. Nominal Zener Voltage

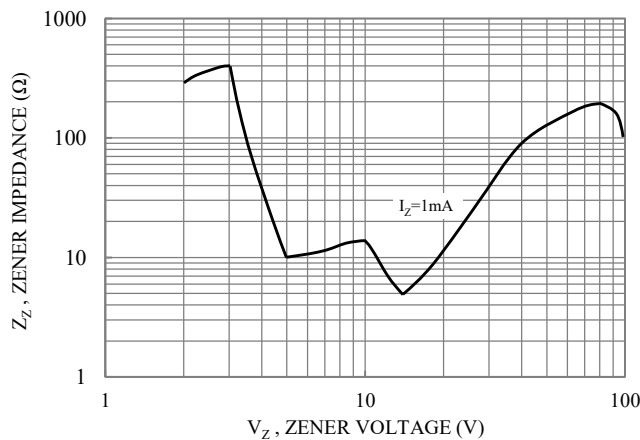


Fig 3. Typical Zener Impedance Characteristics

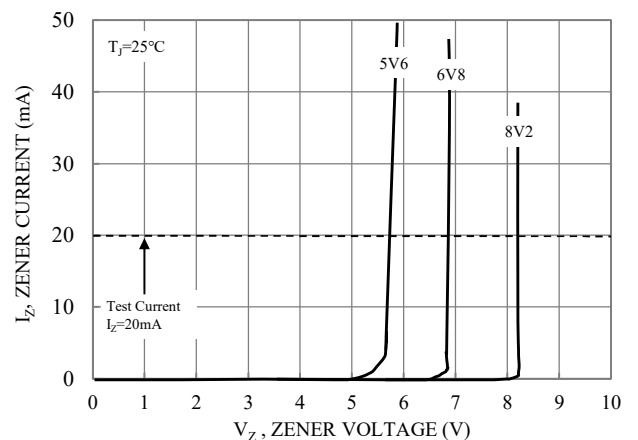


Fig 4. Typical Zener Breakdown Characteristics

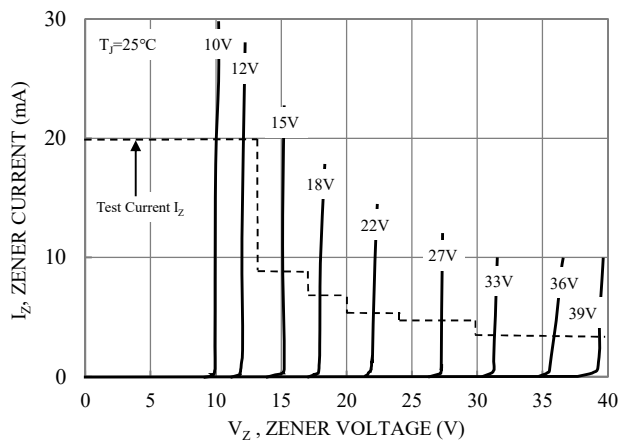
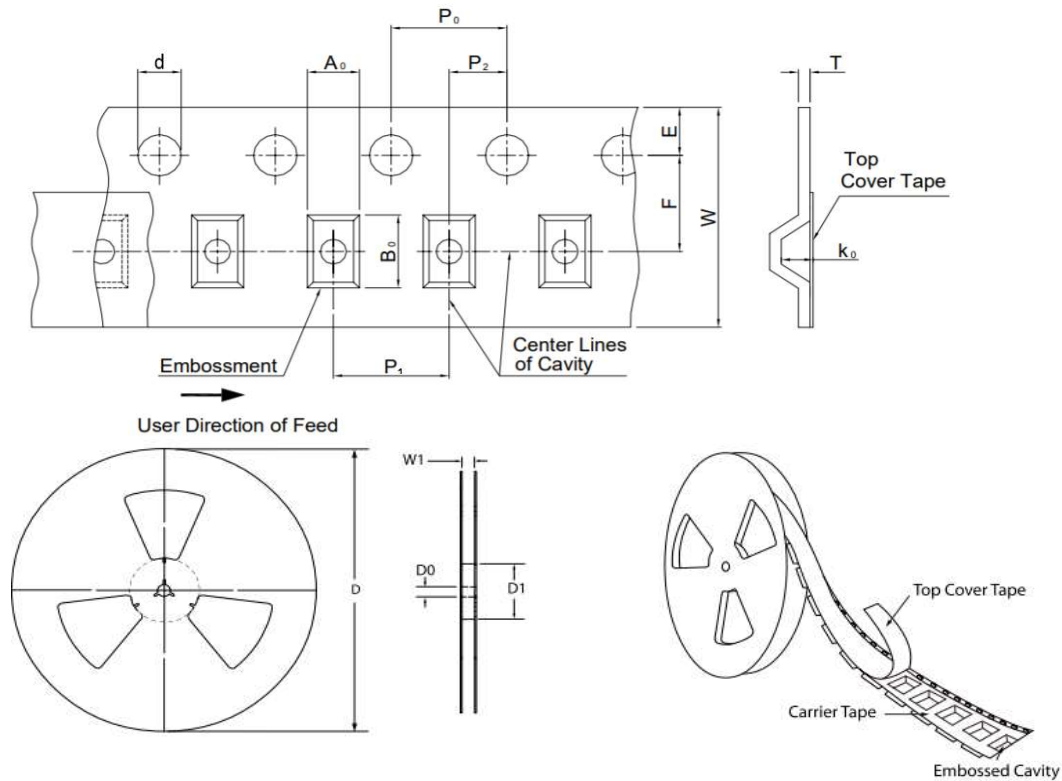


Fig 5. Typical Zener Breakdown Characteristics



MMSZS5221BH THRU MMSZS5259BH SILICON ZENER DIODES

TAPE & REEL SPECIFICATION



Item	Symbol	SOD-123FL
Carrier width	A ₀	1.80 ± 0.10
Carrier length	B ₀	4.00 ± 0.10
Carrier depth	K ₀	1.30 ± 0.10
Sprocket hole	d	1.50 ± 0.10
Reel outside diameter	D	178.00 ± 2.00
Feed hole width	D ₀	13.00 ± 0.50
Reel inner diameter	D ₁	MIN. 50.00
Sprocket hole position	E	1.75 ± 0.10
Punch hole position	F	3.50 ± 0.10
Sprocket hole pitch	P ₀	4.00 ± 0.10
Punch hole pitch	P ₁	4.00 ± 0.10
Embossment center	P ₂	2.00 ± 0.10
Overall tape thickness	T	MAX. 0.60
Tape width	W	8.00 ± 0.30
Reel width	W1	MAX. 10.00

ORDER INFORMATION

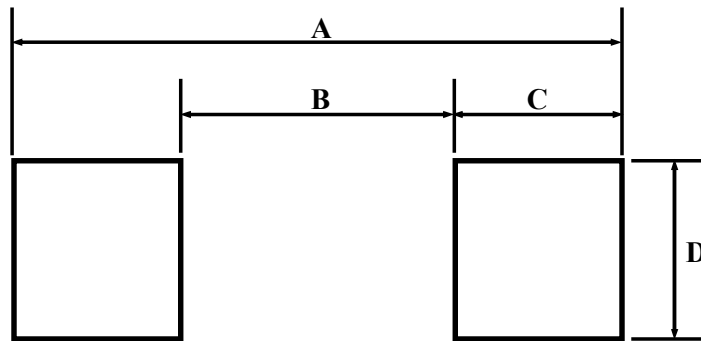
Package	Reel Size	Quantity
SOD-123FL	7"	3,000



MMSZS5221BH THRU MMSZS5259BH

SILICON ZENER DIODES

SUGGESTED SOLDER PAD LAYOUT



Unit :mm

PACKAGE	A	B	C	D
SOD-123FL	3.90	2.20	0.85	1.20