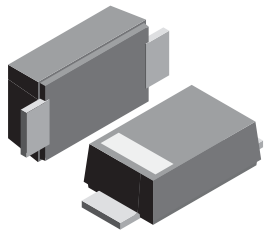
SUNMATE SEMICONDUCTORCO · LIMITED

MMSZ2V4 - MMSZ75

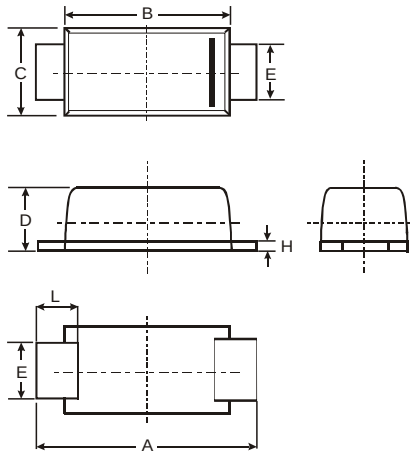
SURFACE MOUNT SILICON ZENER DIODES

VOLTAGE RANGE: 2.4 - 75V
POWER: 0.5 Watts



Features

- Total Power Dissipation 500 mW on FR-4 or FR-5 Board
- Wide Zener Reverse Voltage Range 2.4 V to 75 V
- Package Designed for Optimal Automated Board Assembly
- Small Package Size for High Density Applications



SOD-123FL			
Dim	Min	Max	Typ
A	3.58	3.72	3.65
B	2.72	2.78	2.75
C	1.77	1.83	1.80
D	1.02	1.08	1.05
E	0.097	1.03	1.00
H	0.13	0.17	0.15
L	0.53	0.57	0.55
All Dimensions in mm			

Mechanical Data

- Case: SOD-123FL plastic body over passivated junction
- Terminals : Plated axial leads,
- solderable per MIL-STD-750, Method 2026
- Polarity : Color band denotes cathode end
- Mounting Position : Any
- Weight:0.0007 ounce, 0.02 grams

RoHS COMPLIANT

Maximum Ratings and Thermal Characteristics

Rating at 25 °C ambient temperature unless otherwise specifie.

Parameter	Symbol	Value	Unit
Total Power Dissipation on FR-5 Board, (Note 1), at T_L = 75 °C	P_D	500	mW
Derated above 75 °C		6.7	mW/°C
Thermal Resistance Junction to Ambient	$R_{\Theta JA}$	340	°C/W
Thermal Resistance Junction to Lead	$R_{\Theta JL}$	150	°C/W
Junction Temperature Range	T_J	-55 to + 150	°C
Storage Temperature Range	T_{STG}	-55 to + 150	°C

Note :
(1) FR-5 = 3.5 x 1.5 inches

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ELECTRICAL CHARACTERISTICS (Ta = 25 °C unless otherwise note, V_F = 0.9 Vmax. @ I_F = 10 mA)

TYPE	V_{Z1} (1, 2) @ I_{ZT1} = 5 mA			Z_{ZT1} (3) @ I_{ZT1} = 5 mA	V_{Z2} (1, 2) @ I_{ZT2} = 1 mA		Z_{ZT2} (3) @ I_{ZT2} = 1 mA	Max. Reverse Leakage Current	
	(V)			(Ω)	(V)		(Ω)	I_R @ V_R	
	Min	Nom	Max		Min	Max		(μA)	(V)
MMSZ2V4	2.28	2.4	2.52	100	1.7	2.1	600	50	1.0
MMSZ2V7	2.57	2.7	2.84	100	1.9	2.4	600	20	1.0
MMSZ3V0	2.85	3.0	3.15	95	2.1	2.7	600	10	1.0
MMSZ3V3	3.14	3.3	3.47	95	2.3	2.9	600	5.0	1.0
MMSZ3V6	3.42	3.6	3.78	90	2.7	3.3	600	5.0	1.0
MMSZ3V9	3.71	3.9	4.10	90	2.9	3.5	600	3.0	1.0
MMSZ4V3	4.09	4.3	4.52	90	3.3	4.0	600	3.0	1.0
MMSZ4V7	4.47	4.7	4.94	80	3.7	4.7	500	3.0	2.0
MMSZ5V1	4.85	5.1	5.36	60	4.2	5.3	480	2.0	2.0
MMSZ5V6	5.32	5.6	5.88	40	4.8	6.0	400	1.0	2.0
MMSZ6V2	5.89	6.2	6.51	10	5.6	6.6	150	3.0	4.0
MMSZ6V8	6.46	6.8	7.14	15	6.3	7.2	80	2.0	4.0
MMSZ7V5	7.13	7.5	7.88	15	6.9	7.9	80	1.0	5.0
MMSZ8V2	7.79	8.2	8.61	15	7.6	8.7	80	0.7	5.0
MMSZ9V1	8.65	9.1	9.56	15	8.4	9.6	100	0.5	6.0
MMSZ10	9.50	10	10.50	20	9.3	10.6	150	0.2	7.0
MMSZ11	10.45	11	11.55	20	10.2	11.6	150	0.1	8.0
MMSZ12	11.40	12	12.60	25	11.2	12.7	150	0.1	8.0
MMSZ13	12.35	13	13.65	30	12.3	14.0	170	0.1	8.0
MMSZ15	14.25	15	15.75	30	13.7	15.5	200	0.05	10.5
MMSZ16	15.20	16	16.80	40	15.2	17.0	200	0.05	11.2
MMSZ18	17.10	18	18.90	45	16.7	19.0	225	0.05	12.6
MMSZ20	19.00	20	21.00	55	18.7	21.1	225	0.05	14.0
MMSZ22	20.90	22	23.10	55	20.7	23.2	250	0.05	15.4
MMSZ24	22.80	24	25.20	70	22.7	25.5	250	0.05	16.8

Notes :

(1) The type number shown have a standard tolerance of ±5% on the nominal Zener Voltage.

(2) Tolerance and Voltage Designation: Zener Voltage (V_Z) is measured with the Zener Current applied for PW = 1ms.

(3) 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 frequency = 1 kHz.

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ELECTRICAL CHARACTERISTICS (Ta = 25 °C unless otherwise note, V_F = 0.9 Vmax. @ I_F = 10 mA)

TYPE NO.	V_{Z1} (1, 2) @ I_{ZT1} = 2 mA			Z_{ZT1} (3) @ I_{ZT1} = 2 mA	V_{Z2} (1, 2) @ I_{ZT2} = 0.1 mA		Z_{ZT2} (3) @ I_{ZT2} = 0.5 mA	Max. Reverse Leakage Current	
	(V)			(Ω)	(V)		(Ω)	I_R @ V_R	
	Min	Nom	Max		Min	Max		(μ	
MMSZ27	25.65	27	28.35	80	25.0	28.9	300	0.05	18.9
MMSZ30	28.50	30	31.50	80	27.8	32.0	300	0.05	21.0
MMSZ33	31.35	33	34.65	80	30.8	35.0	325	0.05	23.1
MMSZ36	34.20	36	37.80	90	33.8	38.0	350	0.05	25.2
MMSZ39	37.05	39	40.95	130	36.7	41.0	350	0.05	27.3
MMSZ43	40.85	43	45.15	150	39.7	46.0	375	0.05	30.1
MMSZ47	44.65	47	49.35	170	43.7	50.0	375	0.05	32.9
MMSZ51	48.45	51	53.55	180	47.6	54.0	400	0.05	35.7
MMSZ56	53.20	56	58.80	200	51.5	60.0	425	0.05	39.2
MMSZ62	58.00	62	66.00	200	-	-	-	0.2	47
MMSZ68	64.00	68	72.00	250	-	-	-	0.2	52
MMSZ75	70.00	75	79.00	300	-	-	-	0.2	57

Notes :

(1) The type number shown have a standard tolerance of ±5% on the nominal Zener Voltage.

(2) Tolerance and Voltage Designation: Zener Voltage (V_Z) is measured with the Zener Current applied for PW = 1ms.

(3) 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 frequency = 1 kHz.