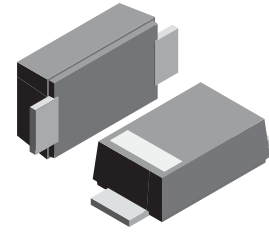


**VOLTAGE RANGE: 2.4 - 75V**  
**POWER: 0.5 Watts**

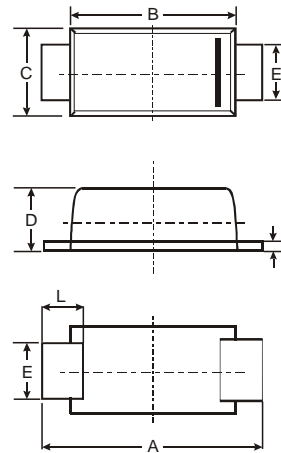


### Features

- 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

### 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



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			

### Maximum Ratings $T_A = 25^\circ\text{C}$ unless otherwise specified

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

**Note :**

(1) FR-5 = 3.5 x 1.5 inches



## ELECTRICAL CHARACTERISTICS (Ta = 25 °C unless otherwise note, $\Psi = 0.9$ Vmax. @ $f = 10$ 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)
<b>MMSZ2V4</b>	2.28	2.4	2.52	100	1.7	2.1	600	50	1.0
<b>MMSZ2V7</b>	2.57	2.7	2.84	100	1.9	2.4	600	20	1.0
<b>MMSZ3V0</b>	2.85	3.0	3.15	95	2.1	2.7	600	10	1.0
<b>MMSZ3V3</b>	3.14	3.3	3.47	95	2.3	2.9	600	5.0	1.0
<b>MMSZ3V6</b>	3.42	3.6	3.78	90	2.7	3.3	600	5.0	1.0
<b>MMSZ3V9</b>	3.71	3.9	4.10	90	2.9	3.5	600	3.0	1.0
<b>MMSZ4V3</b>	4.09	4.3	4.52	90	3.3	4.0	600	3.0	1.0
<b>MMSZ4V7</b>	4.47	4.7	4.94	80	3.7	4.7	500	3.0	2.0
<b>MMSZ5V1</b>	4.85	5.1	5.36	60	4.2	5.3	480	2.0	2.0
<b>MMSZ5V6</b>	5.32	5.6	5.88	40	4.8	6.0	400	1.0	2.0
<b>MMSZ6V2</b>	5.89	6.2	6.51	10	5.6	6.6	150	3.0	4.0
<b>MMSZ6V8</b>	6.46	6.8	7.14	15	6.3	7.2	80	2.0	4.0
<b>MMSZ7V5</b>	7.13	7.5	7.88	15	6.9	7.9	80	1.0	5.0
<b>MMSZ8V2</b>	7.79	8.2	8.61	15	7.6	8.7	80	0.7	5.0
<b>MMSZ9V1</b>	8.65	9.1	9.56	15	8.4	9.6	100	0.5	6.0
<b>MMSZ10</b>	9.50	10	10.50	20	9.3	10.6	150	0.2	7.0
<b>MMSZ11</b>	10.45	11	11.55	20	10.2	11.6	150	0.1	8.0
<b>MMSZ12</b>	11.40	12	12.60	25	11.2	12.7	150	0.1	8.0
<b>MMSZ13</b>	12.35	13	13.65	30	12.3	14.0	170	0.1	8.0
<b>MMSZ15</b>	14.25	15	15.75	30	13.7	15.5	200	0.05	10.5
<b>MMSZ16</b>	15.20	16	16.80	40	15.2	17.0	200	0.05	11.2
<b>MMSZ18</b>	17.10	18	18.90	45	16.7	19.0	225	0.05	12.6
<b>MMSZ20</b>	19.00	20	21.00	55	18.7	21.1	225	0.05	14.0
<b>MMSZ22</b>	20.90	22	23.10	55	20.7	23.2	250	0.05	15.4
<b>MMSZ24</b>	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  $\pm 5\%$  on the nominal Zener Voltage.
- (2) Tolerance and Voltage Designation: Zener Voltage ( $V_Z$ ) is measured with the Zener Current applied for  $PW = 1$ ms.
- (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.



## ELECTRICAL CHARACTERISTICS (Ta = 25 °C unless otherwise note, $\Psi = 0.9 V_{max}$ . @ $f = 10 \text{ mA}$ )

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

### Notes :

- (1) The type number shown have a standard tolerance of  $\pm 5\%$  on the nominal Zener Voltage.
- (2) Tolerance and Voltage Designation: Zener Voltage ( $V_Z$ ) is measured with the Zener Current applied for  $PW = 1 \text{ ms}$ .
- (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.