MMSZ2V4 - MMSZ75

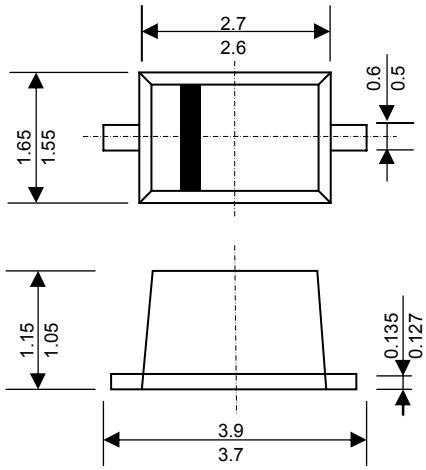
ZENER DIODES

V_Z : 2.4 to 75 V
P_D : 500 mW

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
* Pb / RoHS Free

SOD-123



Dimensions in millimeters

MECHANICAL DATA :

* Case : SOD-123
* Weight : 0.01 gram (approximately)

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

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

TYPE NO.	Marking	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	**4C**	2.28	2.4	2.52	100	1.7	2.1	600	50	1.0
MMSZ2V7	**4D**	2.57	2.7	2.84	100	1.9	2.4	600	20	1.0
MMSZ3V0	**4E**	2.85	3.0	3.15	95	2.1	2.7	600	10	1.0
MMSZ3V3	**4F**	3.14	3.3	3.47	95	2.3	2.9	600	5.0	1.0
MMSZ3V6	**4H**	3.42	3.6	3.78	90	2.7	3.3	600	5.0	1.0
MMSZ3V9	**4J**	3.71	3.9	4.10	90	2.9	3.5	600	3.0	1.0
MMSZ4V3	**4K**	4.09	4.3	4.52	90	3.3	4.0	600	3.0	1.0
MMSZ4V7	**4M**	4.47	4.7	4.94	80	3.7	4.7	500	3.0	2.0
MMSZ5V1	**4N**	4.85	5.1	5.36	60	4.2	5.3	480	2.0	2.0
MMSZ5V6	**4P**	5.32	5.6	5.88	40	4.8	6.0	400	1.0	2.0
MMSZ6V2	**4R**	5.89	6.2	6.51	10	5.6	6.6	150	3.0	4.0
MMSZ6V8	**4X**	6.46	6.8	7.14	15	6.3	7.2	80	2.0	4.0
MMSZ7V5	**4Y**	7.13	7.5	7.88	15	6.9	7.9	80	1.0	5.0
MMSZ8V2	**4Z**	7.79	8.2	8.61	15	7.6	8.7	80	0.7	5.0
MMSZ9V1	**5A**	8.65	9.1	9.56	15	8.4	9.6	100	0.5	6.0
MMSZ10	**5B**	9.50	10	10.50	20	9.3	10.6	150	0.2	7.0
MMSZ11	**5C**	10.45	11	11.55	20	10.2	11.6	150	0.1	8.0
MMSZ12	**5D**	11.40	12	12.60	25	11.2	12.7	150	0.1	8.0
MMSZ13	**5E**	12.35	13	13.65	30	12.3	14.0	170	0.1	8.0
MMSZ15	**5F**	14.25	15	15.75	30	13.7	15.5	200	0.05	10.5
MMSZ16	**5H**	15.20	16	16.80	40	15.2	17.0	200	0.05	11.2
MMSZ18	**5J**	17.10	18	18.90	45	16.7	19.0	225	0.05	12.6
MMSZ20	**5K**	19.00	20	21.00	55	18.7	21.1	225	0.05	14.0
MMSZ22	**5M**	20.90	22	23.10	55	20.7	23.2	250	0.05	15.4
MMSZ24	**5N**	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.

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

TYPE NO.	Marking	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		(μA)	(V)
MMSZ27	**5P**	25.65	27	28.35	80	25.0	28.9	300	0.05	18.9
MMSZ30	**5R**	28.50	30	31.50	80	27.8	32.0	300	0.05	21.0
MMSZ33	**5X**	31.35	33	34.65	80	30.8	35.0	325	0.05	23.1
MMSZ36	**5Y**	34.20	36	37.80	90	33.8	38.0	350	0.05	25.2
MMSZ39	**5Z**	37.05	39	40.95	130	36.7	41.0	350	0.05	27.3
MMSZ43	**6A**	40.85	43	45.15	150	39.7	46.0	375	0.05	30.1
MMSZ47	**6B**	44.65	47	49.35	170	43.7	50.0	375	0.05	32.9
MMSZ51	**6C**	48.45	51	53.55	180	47.6	54.0	400	0.05	35.7
MMSZ56	**6D**	53.20	56	58.80	200	51.5	60.0	425	0.05	39.2
MMSZ62	**6E**	58.00	62	66.00	200	-	-	-	0.2	47
MMSZ68	**6F**	64.00	68	72.00	250	-	-	-	0.2	52
MMSZ75	**6H**	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.