MM1Z2V0B THRU MM1Z75B
Silicon Zener Diodes

VOLTAGE RANGE
2.0 to 75 Volts
500 mW

FEATURES

* Ideal for surface mount applications
* Easy pick and place
* High temperature soldering guaranteed: 260°C / 10 seconds at terminals

MECHANICAL DATA

* Case: Molded plastic
* Epoxy: UL 94V-0 rate flame retardant
* Metallurgically bonded construction
* Polarity: Color band denotes cathode end
* Mounting position: Any



SOD-123

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MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating 25°C ambient temperature unless otherwise specified.
Single phase half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

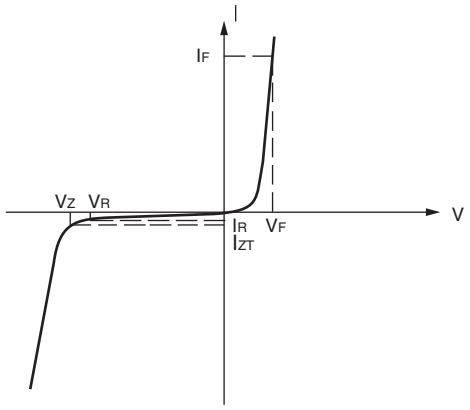
Absolute Maximum Ratings (T_a = 25°C)

Parameter	Symbol	Value	Unit
Power Dissipation	P_{tot}	500	mW
Junction Temperature	T_J	150	°C
Storage Temperature Range	T_{stg}	- 65 to + 150	°C

Characteristics at T_a = 25°C

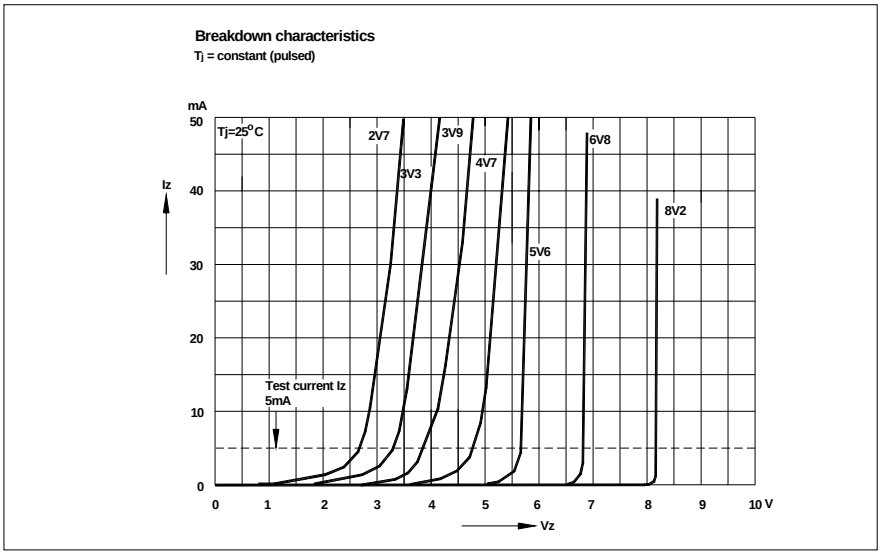
Parameter	Symbol	Max.	Unit
Thermal Resistance Junction to Ambient Air	R_{thA}	340	°C/W
Forward Voltage at I_F = 10 mA	V_F	0.9	V

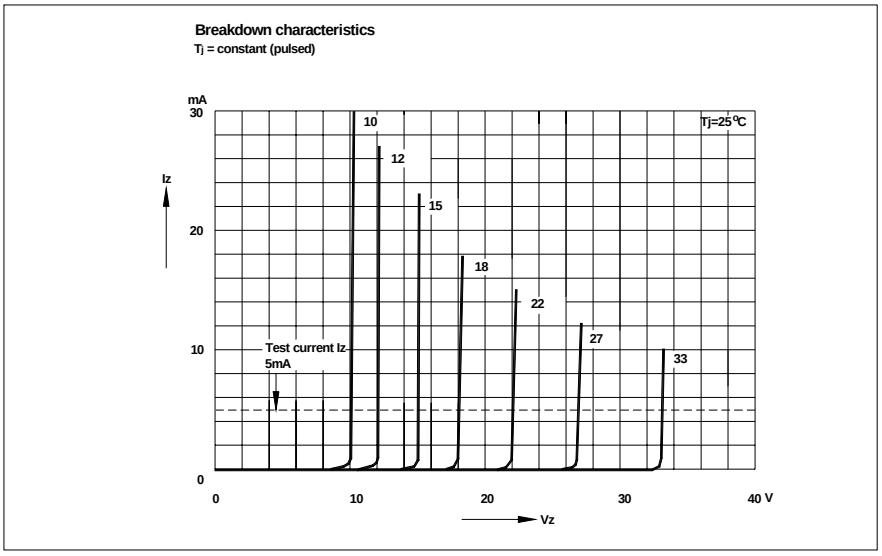
ELECTRICAL CHARACTERISTICS	
SYMBOL	**PARAMETER**
V_Z	Reverse Zener voltage at I_{ZT}
I_{ZT}	Reverse current
Z_{ZT}	Maximum Zener impedance at I_{ZT}
I_{ZK}	Reverse current
Z_{ZK}	Maximum Zener impedance at I_{ZK}
I_R	Reverse leakage current at V_R
VR	Reverse voltage
I_F	Forward current
V_F	Forward voltage at I_F
I_{ZM}	Maximum DC Zener current

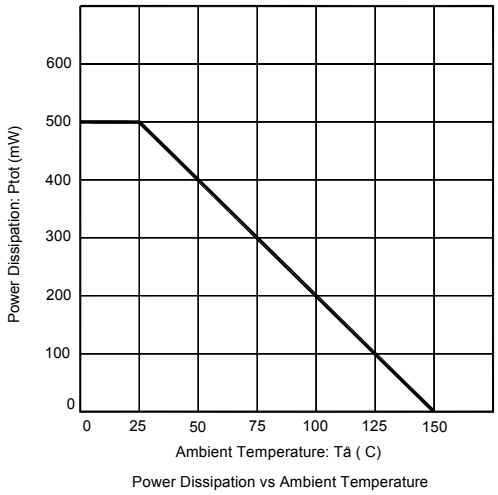


Zener Voltage Regulator

RATING AND CHARACTERISTIC CURVES







Power Dissipation vs Ambient Temperature

Characteristics at Ta = 25℃

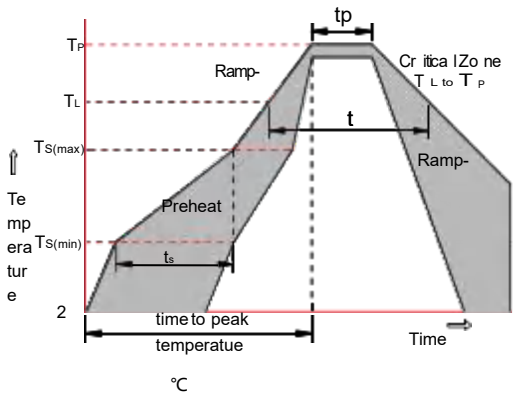
Type	Marking	Zener Voltage Range (1)			I_{ZT}	Dynamic Impedance	Reverse Current	
		V_{ZT} (at I_{ZT})				Z_{ZT} (at I_{ZT})	I_R	at V_R
		Min (V)	Nom (V)	Max (V)	(mA)	Max (Ω)	Max (μA)	(V)
MM1Z2V0B	A4	1.96	2	2.04	5	100	120	0.5
MM1Z2V2B	B4	2.16	2.2	2.24	5	100	120	0.7
MM1Z2V4B	C4	2.35	2.4	2.45	5	100	120	1
MM1Z2V7B	D4	2.65	2.7	2.75	5	110	120	1
MM1Z3V0B	E4	2.94	3	3.06	5	120	50	1
MM1Z3V3B	F4	3.23	3.3	3.37	5	130	20	1
MM1Z3V6B	H4	3.53	3.6	3.67	5	130	10	1
MM1Z3V9B	J4	3.82	3.9	3.98	5	130	5	1
MM1Z4V3B	K4	4.21	4.3	4.39	5	130	5	1
MM1Z4V7B	M4	4.61	4.7	4.79	5	130	2	1
MM1Z5V1B	N4	5	5.1	5.20	5	130	2	1.5
MM1Z5V6B	P4	5.49	5.6	5.71	5	80	1	2.5
MM1Z6V2B	R4	6.08	6.2	6.32	5	50	1	3
MM1Z6V8B	X4	6.66	6.8	6.94	5	30	0.5	3.5
MM1Z7V5B	Y4	7.35	7.5	7.65	5	30	0.5	4
MM1Z8V2B	Z4	8.04	8.2	8.36	5	30	0.5	5
MM1Z9V1B	A5	8.92	9.1	9.28	5	30	0.5	6
MM1Z10B	B5	9.8	10	10.2	5	30	0.1	7
MM1Z11B	C5	10.78	11	11.22	5	30	0.1	8
MM1Z12B	D5	11.76	12	12.24	5	35	0.1	9
MM1Z13B	E5	12.74	13	13.26	5	35	0.1	10
MM1Z15B	F5	14.7	15	15.3	5	40	0.1	11
MM1Z16B	H5	15.68	16	16.32	5	40	0.1	12
MM1Z18B	J5	17.64	18	18.36	5	45	0.1	13
MM1Z20B	K5	19.6	20	20.4	5	50	0.1	15
MM1Z22B	M5	21.56	22	22.44	5	55	0.1	17
MM1Z24B	N5	23.52	24	24.48	5	60	0.1	19
MM1Z27B	P5	26.46	27	27.54	5	70	0.1	21
MM1Z30B	R5	29.4	30	30.6	5	80	0.1	23
MM1Z33B	X5	32.34	33	33.66	5	80	0.1	25
MM1Z36B	Y5	35.28	36	36.72	5	90	0.1	27
MM1Z39B	Z5	38.22	39	39.78	2.5	100	2	30
MM1Z43B	A6	42.14	43	43.86	2.5	130	2	33
MM1Z47B	B6	46.06	47	47.94	2.5	150	2	36
MM1Z51B	C6	49.98	51	52.02	2.5	180	1	39
MM1Z56B	D6	54.88	56	57.12	2.5	180	1	43
MM1Z62B	E6	60.76	62	63.24	2.5	200	0.2	47
MM1Z68B	F6	66.64	68	69.36	2.5	250	0.2	52
MM1Z75B	H6	73.5	75	76.5	2.5	300	0.2	57

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

Soldering parameters

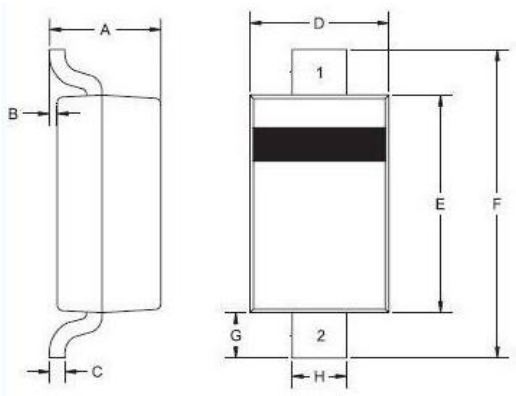
Reflow Condition		Pb-Free assembly (see as bellow)
Pre Heat	-Temperature Min ($T_{s(min)}$)	+150℃
	-Temperature Max($T_{s(max)}$)	+200℃
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquid us Temp (T_L) to peak)		3℃/sec. Max
$T_{s(max)}$ to T_L - Ramp-up Rate		3℃/sec. Max
Reflow	-Temperature(T_L)(Liquid us)	+217℃
	-Temperature(t_L)	60-150 secs.
Peak Temp (T_p)		+260(+0/-5)℃
Time within 5℃ of actual Peak Temp (t_p)		30 secs. Max
Ramp-down Rate		6℃/sec. Max
Time 25℃ to Peak Temp (T_P)		8 min. Max
Do not exceed		+260℃

FIG5: Reflow condition

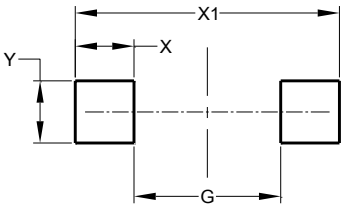


Package Dimensions & Suggested Pad Layout

SOD123



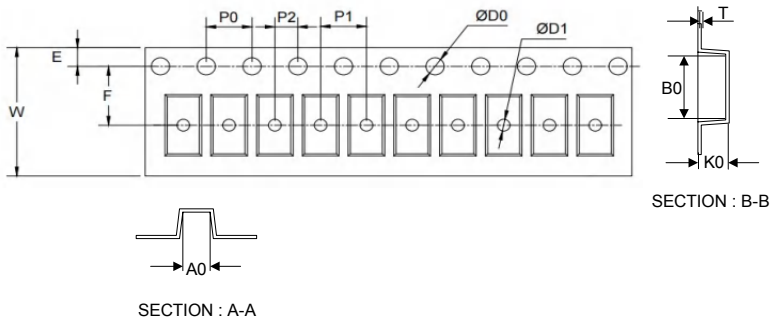
SOD123		
Dim	**Min**	**Max**
A	0.95	1.35
B	0.00	0.12
C	-	0.20
D	1.40	1.80
E	2.50	2.80
F	3.60	3.90
G	0.40	-
H	0.50	0.70
All Dimensions in mm		



Dimensions	Value (in mm)
G	2.20
X	1.20
X1	4.60
Y	1.20

Tape & rell specification

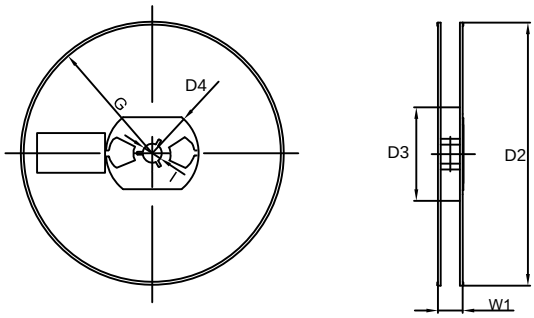
Tape



SECTION : A-A

SECTION : B-B

7" Reel



Symbol	Dimension (mm)
P0	4.00±0.20
P1	4.00±0.20
P2	2.00±0.20
D0	1.55±0.10
D1	1.00±0.20
E	1.75±0.20
F	3.60±0.20
W	8.00±0.40
A0	2.30±0.40
B0	4.00±0.40
K0	1.50±0.40
T	0.23±0.10
D2	177.0±3.0
D3	55Min.
D4	R24.0±3.0
G	R82.0±3.0
I	13.0±2.0
W1	11.0±3.0
Quantity: 3000PCS	