

## FEATURES

- Total power dissipation: Max. 300mW.
- Wide zener reverse voltage range 2.0V to 75V.
- Small plastic package suitable for surface mounted design.
- Tolerance approximately  $\pm 5\%$

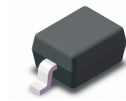
## VOLTAGE RANGE

1.8 to 75 Volts

300mW

## MECHANICAL DATA

- Case: SOD-323
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 5.48mg / 0.00019oz



SOD-323



## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Parameter	Symbol	Value	Unit
Power Dissipation	$P_{tot}$	300	mW
Forward Voltage at $I_F = 10\text{ mA}$	$V_F$	0.9	V
Typical thermal resistance junction to ambient <sup>(1)</sup>	$R_{\theta JA}$	417	$^{\circ}\text{C}/\text{W}$
Operating and Storage Temperature Range	$T_j, T_{stg}$	-55 ~ +150	$^{\circ}\text{C}$

(1) Thermal resistance from junction to ambient at P.C.B. mounted with 2.0" X 2.0" (5 X 5 cm) copper areas pads.

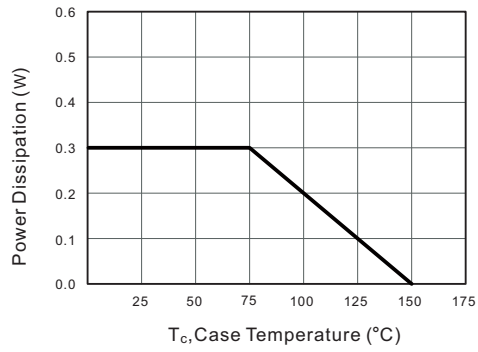
## Electrical Characteristics

Type	Marking	Zener Voltage Range (1)			$I_{ZT}$ (mA)	Dynamic Impedance $Z_{ZT}$ (at $I_{ZT}$ ) Max ( $\Omega$ )	Reverse Current	
		$V_{ZT}$ (at $I_{ZT}$ )					$I_R$	at $V_R$
		Min (V)	Nom (V)	Max (V)			Max ( $\mu A$ )	(V)
MM3Z2V0	B0	1.8	2.0	2.15	5	100	120	0.5
MM3Z2V2	C0	2.08	2.2	2.33	5	100	120	0.7
MM3Z2V4	1C	2.28	2.4	2.56	5	100	120	1
MM3Z2V7	1D	2.5	2.7	2.9	5	110	120	1
MM3Z3V0	1E	2.8	3.0	3.2	5	120	50	1
MM3Z3V3	1F	3.1	3.3	3.5	5	130	20	1
MM3Z3V6	1H	3.4	3.6	3.8	5	130	10	1
MM3Z3V9	1J	3.7	3.9	4.1	5	130	5	1
MM3Z4V3	1K	4	4.3	4.6	5	130	5	1
MM3Z4V7	1M	4.4	4.7	5	5	130	2	1
MM3Z5V1	1N	4.8	5.1	5.4	5	130	2	1.5
MM3Z5V6	1P	5.2	5.6	6	5	80	1	2.5
MM3Z6V2	1R	5.8	6.2	6.6	5	50	1	3
MM3Z6V8	1X	6.4	6.8	7.2	5	30	0.5	3.5
MM3Z7V5	1Y	7	7.5	7.9	5	30	0.5	4
MM3Z8V2	1Z	7.7	8.2	8.7	5	30	0.5	5
MM3Z9V1	2A	8.5	9.1	9.6	5	30	0.5	6
MM3Z10	2B	9.4	10	10.6	5	30	0.1	7
MM3Z11	2C	10.4	11	11.6	5	30	0.1	8
MM3Z12	2D	11.4	12	12.7	5	35	0.1	9
MM3Z13	2E	12.4	13	14.1	5	35	0.1	10
MM3Z15	2F	13.8	15	15.6	5	40	0.1	11
MM3Z16	2H	15.3	16	17.1	5	40	0.1	12
MM3Z18	2J	16.8	18	19.1	5	45	0.1	13
MM3Z20	2K	18.8	20	21.2	5	50	0.1	15
MM3Z22	2M	20.8	22	23.3	5	55	0.1	17
MM3Z24	2N	22.8	24	25.6	5	60	0.1	19
MM3Z27	2P	25.1	27	28.9	2	70	0.1	21
MM3Z30	2R	28	30	32	2	80	0.1	23
MM3Z33	2X	31	33	35	2	80	0.1	25
MM3Z36	2Y	34	36	38	2	90	0.1	27
MM3Z39	2Z	37	39	41	2	100	0.1	30
MM3Z43	3A	40	43	46	2	130	0.1	33
MM3Z47	3B	44	47	50	2	150	0.1	36
MM3Z51	3C	48	51	54	2	180	0.1	39
MM3Z56	3D	52	56	60	2	200	0.1	43
MM3Z62	3E	58	62	66	2	215	0.1	47
MM3Z68	3F	64	68	72	2	240	0.1	52
MM3Z75	3H	70	75	79	2	265	0.1	56

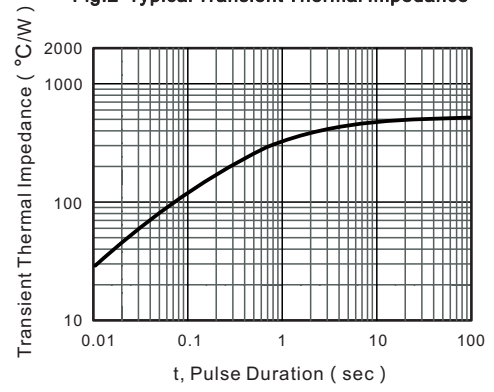
(1)  $V_{ZT}$  is tested with pulses (20 ms)

**RATING AND CHARACTERISTIC CURVES**

**Fig.1 Maximum Continuous Power Derating**



**Fig.2 Typical Transient Thermal Impedance**



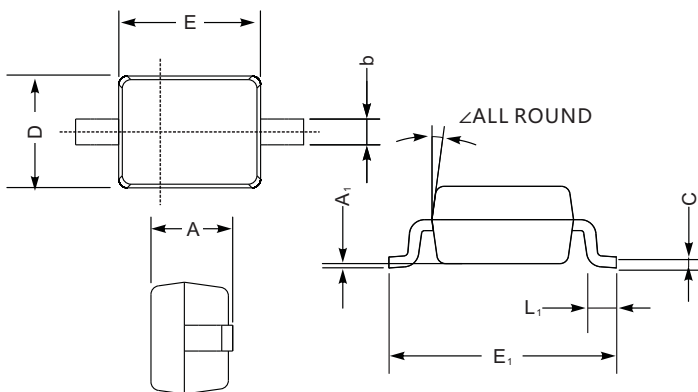
**Soldering parameters**

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



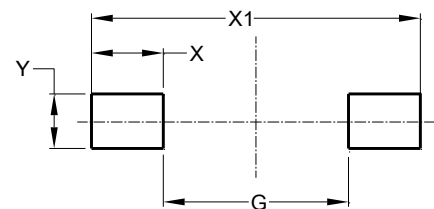
**Package Dimensions & Suggested Pad Layout**

**SOD323**



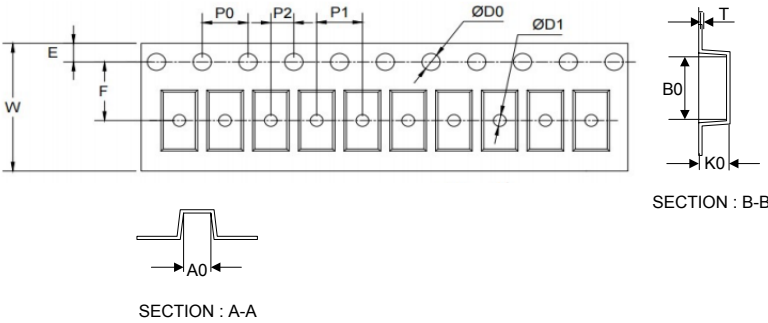
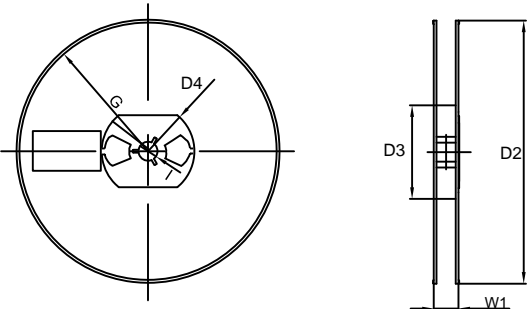
SOD-323 mechanical data

UNIT		A	C	D	E	E <sub>1</sub>	b	L <sub>1</sub>	A <sub>1</sub>	z
mm	max	1.1	0.15	1.4	1.8	2.75	0.4	0.45	0.2	9°
	min	0.8	0.08	1.2	1.4	2.55	0.25	0.2	—	
mil	max	43	5.9	55	70	108	16	16	8	
	min	32	3.1	47	63	100	9.8	7.9	—	



Dimensions	Value (in mm)
<b>G</b>	1.40
<b>X</b>	1.20
<b>X1</b>	3.80
<b>Y</b>	1.00

Tape & reel specification

Tape	Symbol	Dimension (mm)	
	P0	4.00±0.20	
	P1	4.00±0.20	
	P2	2.00±0.20	
	D0	1.55±0.20	
	D1	1.00±0.20	
	E	1.55±0.25	
	F	3.60±0.20	
	W	8.00±0.20	
	A0	2.00±0.20	
	B0	3.25±0.20	
	K0	1.35±0.20	
	T	0.23±0.10	
	7" Reel	D2	177.0±5.0
		D3	55Min.
		D4	R24.6±2.0
		G	R82.0±2.0
I		13.0±2.0	
W1		10.20±3.0	
Quantity: 3000PCS			