BAT54WT
SCHOTTKY BARRIER DIODE

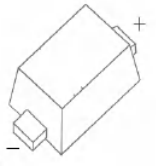
VOLTAGE RANGE
30 Volts
CURRENT
0.2 A

FEATURES

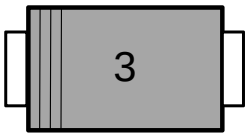
- Low forward voltage
- Guard ring protected
- Small plastic SMD SOD-523 package

APPLICAITONS

- Ultra high-speed switching
- Voltage clamping
- Protection circuits



SOD-523



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Parameter	Symbol	Value	Unit
Reverse Voltage	V_R	30	V
Forward Current	I_F	200	mA
Repetitive Peak Forward Current	I_{FRM}	300	mA
Peak Forward Surge Current (t_p = 10 ms)	I_{FSM}	600	mA
Power Dissipation	P_D	230	mW
Thermal Resistance from Junction Ambient	R_{thJA}	500	K/W
Junction Temperature	T_J	125	°C
Storage Temperature Range	T_{stg}	- 65 to + 150	°C

Characteristics at Ta = 25℃

Parameter	Symbol	Min.	Typ.	Max.	Unit
Reverse Breakdown Voltage at I_R=10uA	$V_{(BR)R}$	40	- - -	- - -	V
Reverse Leakage Current at V_R =30V	I_R	- -	- -	5	μA
Forward Voltage at I_F = 20 mA at I_F = 200 mA	V_F	- -	- -	0.37 0.6	V
Total Capacitance at V_R = 0 V, f = 1 MHz	C_T	-	50	-	pF
Reverse Recovery Time at I_F = I_R = 200 mA, I_{rr} = 0.1 I_R, R_L = 100 Ω	t_{rr}	-	10	-	ns

RATING AND CHARACTERISTIC CURVES

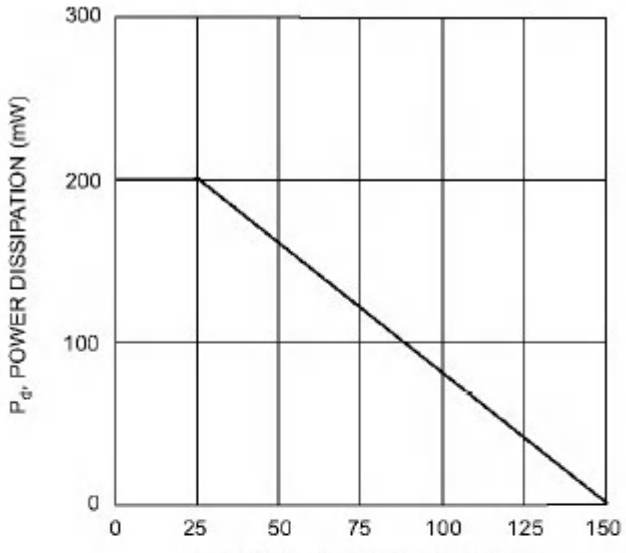


Fig. 1 Power Derating Curve

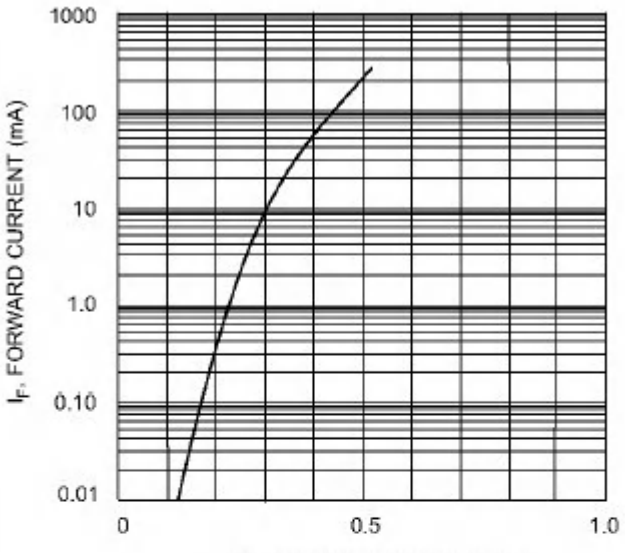


Fig. 2 Typical Forward Characteristics

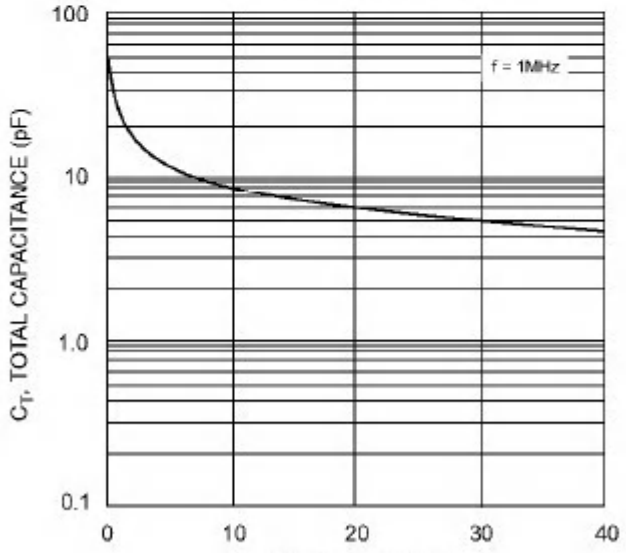
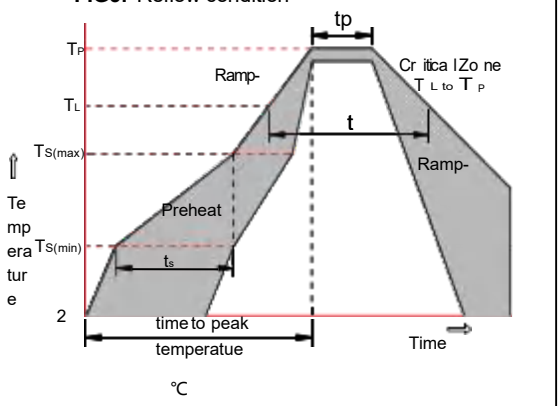


Fig. 3 Total Capacitance vs Reverse Voltage

Soldering parameters

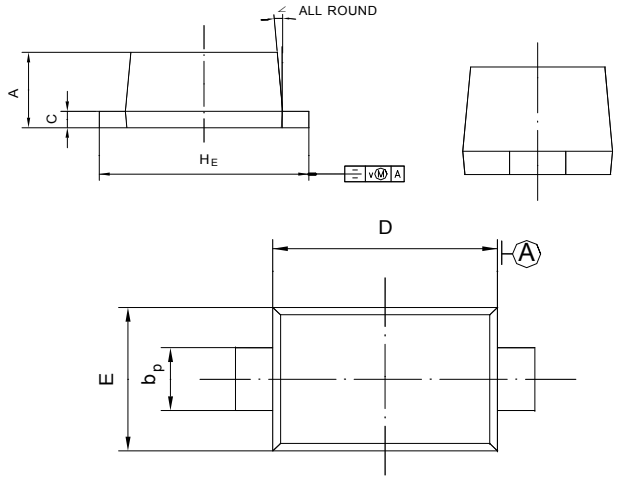
Reflow Condition		Pb-Free assembly (see as bellow)
Pre Heat	-Temperature Min ($T_{s(min)}$)	+150℃
	-Temperature Max($T_{s(max)}$)	+200℃
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquid us Temp (T_L) to peak)		3℃/sec. Max
$T_{s(max)}$ to T_L - Ramp-up Rate		3℃/sec. Max
Reflow	-Temperature(T_L)(Liquid 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

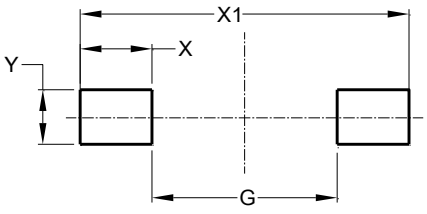


Package Dimensions & Suggested Pad Layout

SOD523



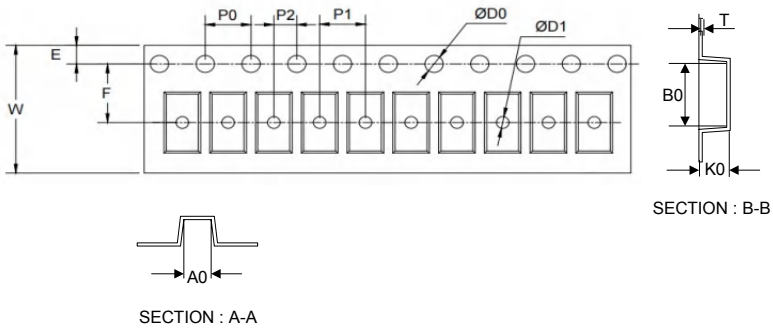
UNIT	A	b_p	C	D	E	H_E	V	∠
mm	0.70 0.50	0.40 0.20	0.14 0.05	1.30 1.10	0.90 0.75	1.70 1.50	0.1	5°



Dimensions	Value (in mm)
G	0.85
X	0.70
X1	2.25
Y	0.80

Tape & rell specification

Tape

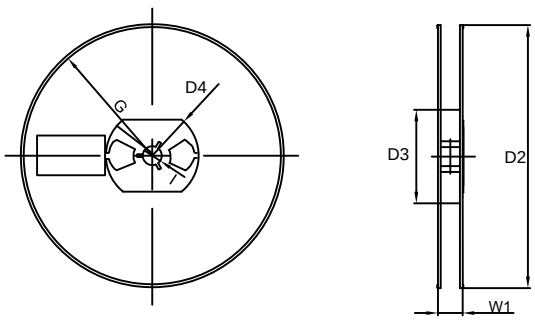


SECTION : A-A

SECTION : B-B

Symbol	Dimension (mm)
P0	4.00±0.20
P1	2.00±0.20
P2	2.00±0.20
D0	1.55±0.20
D1	0.50±0.20
E	1.55±0.25
F	3.60±0.20
W	8.00±0.20
A0	1.30±0.20
B0	2.35±0.20
K0	0.95±0.20
T	0.20±0.20

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