

## BAT54WS SURFACE MOUNT SCHOTTKY BARRIER DIODE



### Features

- Low Turn-on Voltage
- Fast Switching
- PN Junction Guard Ring Transient and ESD Protection
- Designed for Surface Mount Application
- Plastic Material —UL Recognition Flammability Classification 94V-0
- Green Products in Compliance with the ROHS Directive
- This is a Pb – Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

### Schematic & Pin Configuration



### Mechanical Characteristics

- Case: SOD-323, Molded plastic
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Weight: 0.04 grams(approx)

### Maximum Ratings @T<sub>A</sub>=25°C unless otherwise specified

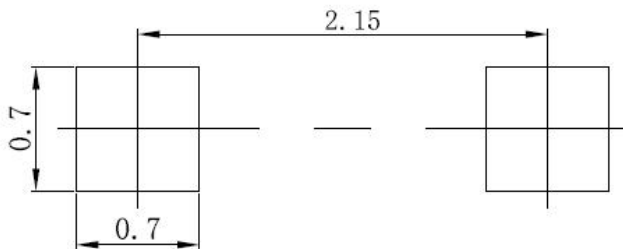
Characteristic	Symbol	Value	Units
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V <sub>RRM</sub> V <sub>RWM</sub> V <sub>R</sub>	30	V
Forward Continuous Current	I <sub>FM</sub>	200	mA
Repetitive Peak Forward Current	I <sub>FRM</sub>	300	mA
Non-Repetitive Peak Forward Surge Current @t<1s	I <sub>FSM</sub>	600	mA
Power Dissipation	P <sub>D</sub>	200	mW
Thermal Resistance, Junction to Ambient	R <sub>θJA</sub>	625	°C/W
Junction and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150	°C

**Electrical Characteristics @ $T_A=25^\circ\text{C}$  unless otherwise specified**

Characteristics	Symbol	Condition	Min.	Max.	Units
Reverse Breakdown Voltage*	$V_{BR}$	@ $I_{BS}=100\mu\text{A}$	30	-	V
Forward Voltage Drop*	$V_{F1}$	@ 1.0mA, Pulse, $T_J = 25^\circ\text{C}$ @ 100mA, Pulse, $T_J = 25^\circ\text{C}$	-	0.32 1	V
Reverse Current*	$I_{R1}$	@ $V_R = 25\text{V}$ , Pulse, $T_J = 25^\circ\text{C}$	-	2	$\mu\text{A}$
Capacitance between terminals	$C_T$	@ $V_R = 0\text{V}$ , $T_C=25$ , $f_{SIG} = 1\text{MHz}$	-	10	pF
Reverse Recovery Time	$t_{rr}$	$I_F=10\text{mA}$ $I_R = 10\text{mA}$ $T_J = 25^\circ\text{C}$ $I_{rr} = 1\text{mA}$ $R_L=100\Omega$	-	5	ns

\* Pulse width < 300  $\mu\text{s}$ , duty cycle < 2%

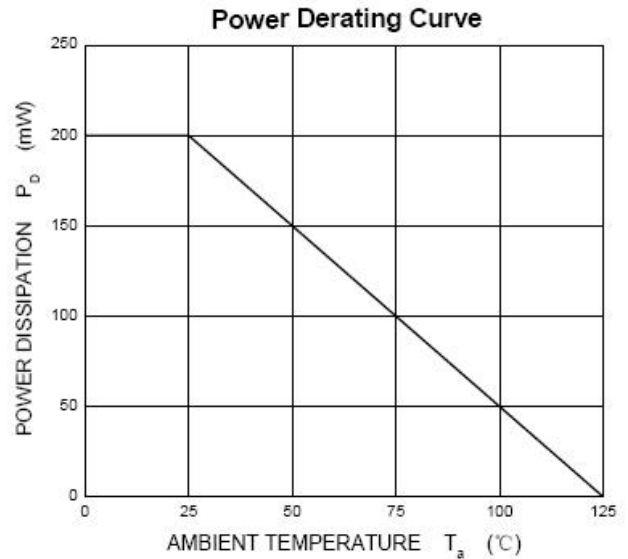
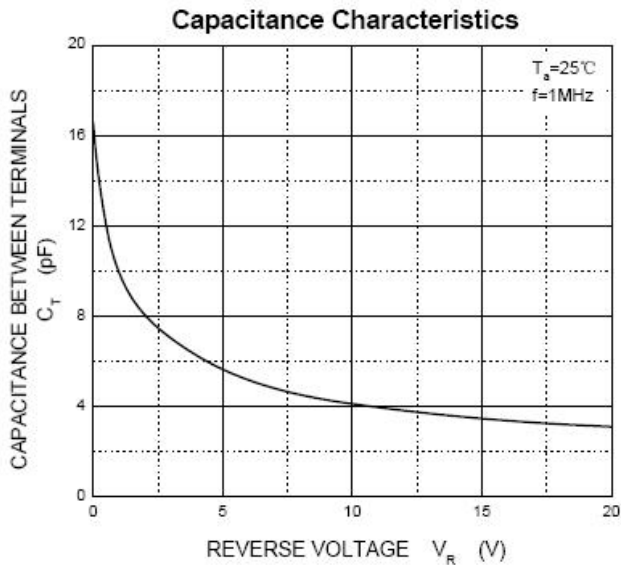
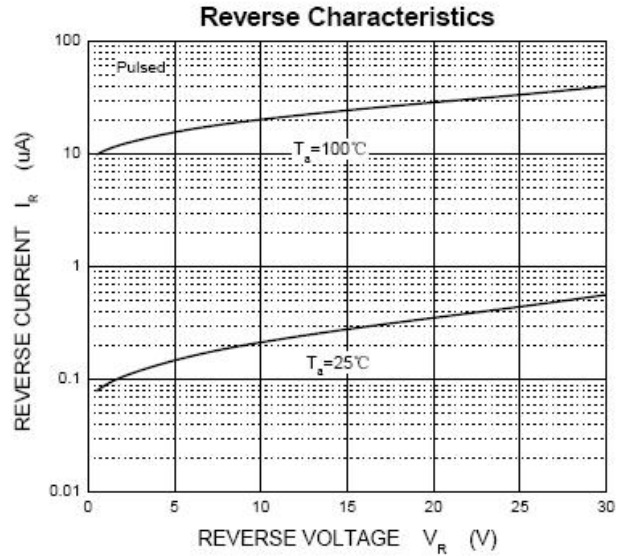
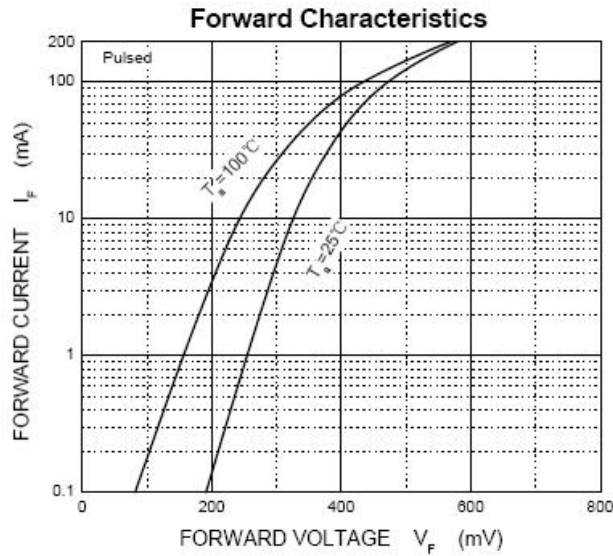
**SOD-323 Suggested Pad Layout**



**Note:**

1. Controlling dimension: in millimeters.
2. General tolerance:  $\pm 0.05\text{mm}$ .
3. The pad layout is for reference purposes only.

**Ratings and Characteristics Curves**



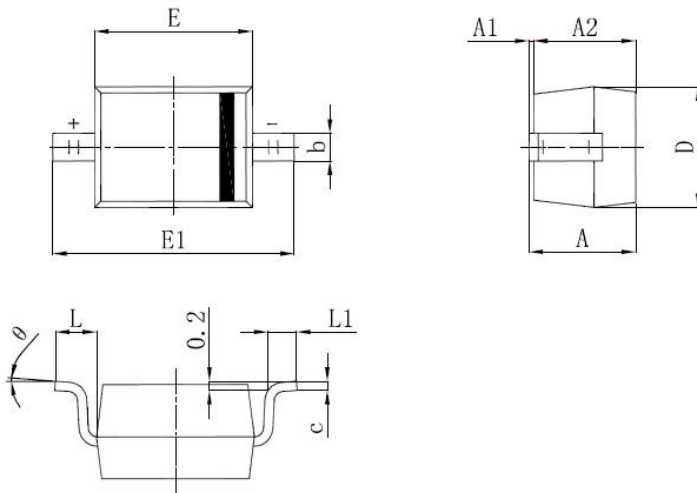
**Ordering Information**

Device	Package	Shipping
BAT54WS	SOD-323 (Pb-Free)	3000pcs / reel

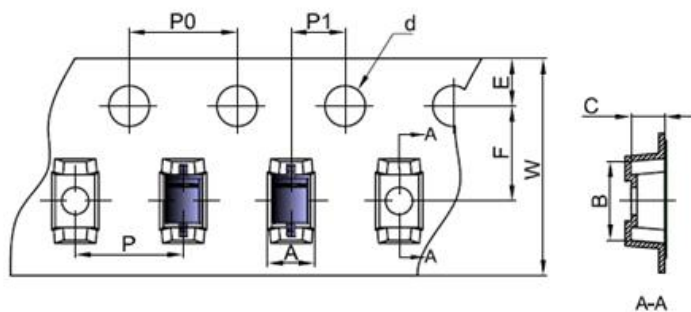
For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel packaging specification.

**Marking Diagram**


L9 = Marking Code

**Mechanical Dimensions SOD-323**


SYMBOL	Millimeters		Inches	
	MIN.	MAX.	MIN.	MAX.
A	-	1.000	-	0.039
A1	0.000	0.100	0.000	0.004
A2	0.800	0.900	0.031	0.035
b	0.250	0.350	0.010	0.014
c	0.080	0.150	0.003	0.006
D	1.200	1.400	0.047	0.055
E	1.600	1.800	0.063	0.071
E1	2.500	2.700	0.098	0.106
L	0.475 REF.		0.019 REF.	
L1	0.250	0.400	0.010	0.016
$\theta$	0°	8°	0°	8°

**Carrier Tape Specification SOD-323**


SYMB OL	Millimeters	
	Min.	Max.
B	2.85	2.95
C	1.20	1.30
d	1.40	1.60
E	1.65	1.85
F	3.40	3.60
P	3.90	4.10
P0	3.90	4.10
P1	1.90	2.10
W	7.90	8.30

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