

### Features

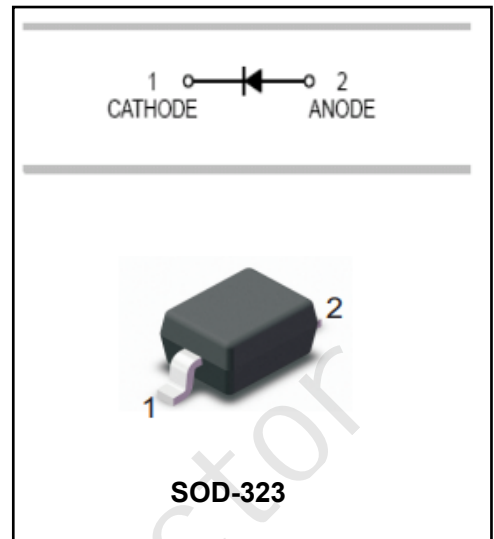
- Low turn-on voltage
- Fast switching
- Ultra-small surface mount package
- PN junction guard for transient and ESD protection

### Application

Schottky barrier detector and switching diodes

### Mechanical Data

- Case: SOD-323
- Molding Compound: UL Flammability Classification Rating 94V-0
- Terminals: Matte tin-plated leads; solderability-per MIL-STD-202, Method 208



### Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
BAT54WS	SOD-323	3000 pcs / Tape & Reel	L4

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

Parameter	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	V <sub>RRM</sub>	30	V
Working Peak Reverse Voltage	V <sub>RWM</sub>	30	V
DC Reverse Voltage	V <sub>R</sub>	30	V
RMS Reverse Voltage	V <sub>R(RMS)</sub>	21	V
Forward Continuous Current	I <sub>F</sub>	200	mA
Peak Forward Surge Current (1s single half sine-wave)	I <sub>FSM</sub>	600	mA
Repetitive Peak Forward Current	I <sub>FRM</sub>	300	mA

### Thermal Characteristics

Parameter	Symbol	Value	Unit
Power Dissipation *1	P <sub>D</sub>	200	mW
Thermal Resistance Junction-to-Air *1	R <sub>θJA</sub>	500	°C/W
Operating junction Temperature	T <sub>J</sub>	-55 ~ +125	°C
Storage Temperature Range	T <sub>STG</sub>	-55 ~ +150	°C

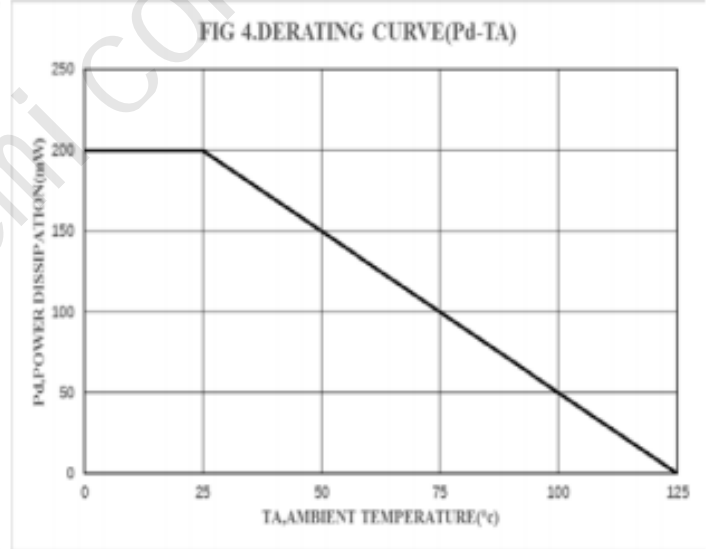
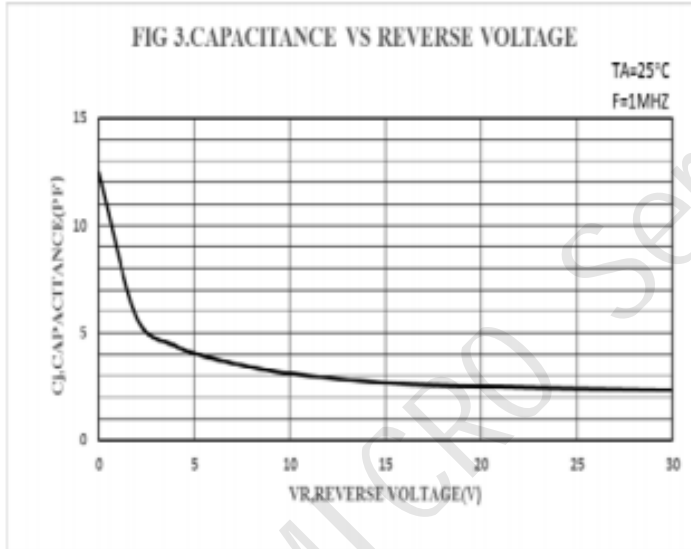
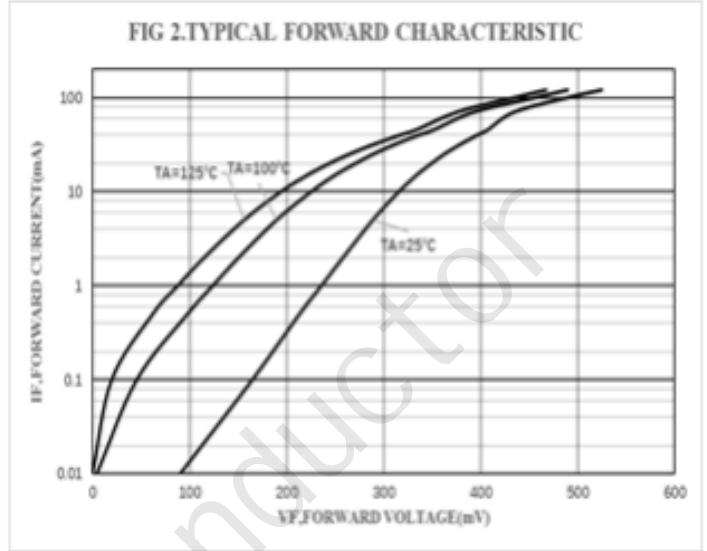
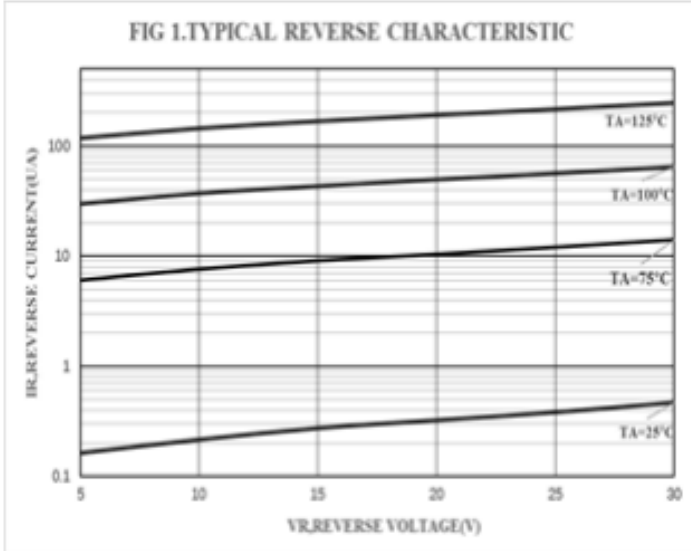
**Electrical Characteristics** (@  $T_A = 25^\circ\text{C}$  unless otherwise specified)

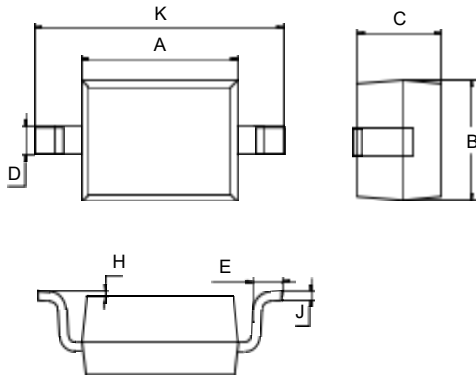
Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Reverse Breakdown Voltage	$V_{(BR)R}$	$I_R = 100\mu\text{A}$	30	-	-	V
Forward Voltage *2	$V_{F1}$	$I_F = 0.1\text{mA}$	-	-	240	mV
	$V_{F2}$	$I_F = 1.0\text{mA}$	-	-	320	mV
	$V_{F3}$	$I_F = 10\text{mA}$	-	-	400	mV
	$V_{F4}$	$I_F = 30\text{mA}$	-	-	500	mV
	$V_{F5}$	$I_F = 100\text{mA}$	-	-	1000	mV
Maximum Peak Reverse Current *3	$I_R$	$V_R = 25\text{V}$	-	-	2	$\mu\text{A}$
Reverse Recovery Time	$t_{rr}$	$I_F = 10\text{mA}$ , $I_R = 10\text{mA}$ to $1\text{mA}$ $R_L = 100\Omega$	-	-	5.0	ns
Typical Junction Capacitance	$C_J$	$V_R = 1\text{V}$ , $f = 1\text{MHz}$	-	-	10	pF

Notes:

1. Part mounted on FR-4 board with recommended pad layout
2. Pulse test,  $t_p \leq 300\mu\text{s}$
3. Pulse test,  $t_p \leq 5\text{ms}$

**Ratings and Characteristic Curves** (@  $T_A = 25^\circ\text{C}$  unless otherwise specified)



**Package Outline Dimensions** (Unit: mm)


SOD-323		
Dimension	Min.	Max.
A	1.60	1.80
B	1.20	1.40
C	0.80	0.90
D	0.25	0.35
E	0.22	0.42
H	0.02	0.10
J	0.05	0.15
K	2.55	2.75

**Mounting Pad Layout** (Unit: mm)

SOD-323

