

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

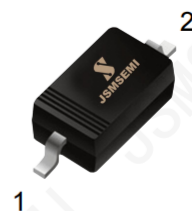
Mechanical Data

Case:SOD-323

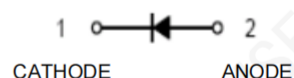
Molding Compound:UL Flammability Classification Rating 94V-0

Terminals:Matte tin-plated leads;solderability-per MIL-STD-202,

Method 208



SOD-323



Maximum Ratings (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	V_{RRM}	30	V
Working Peak Reverse Voltage	V_{RWM}	30	V
DC Reverse Voltage	V_R	30	V
RMS Reverse Voltage	$V_{R(RMS)}$	21	V
Forward Continuous Current	I_F	200	mA
Peak Forward Surge Current (1s single half sine-wave)	I_{FSM}	600	mA
Repetitive Peak Forward Current	I_{FRM}	300	mA

Thermal Characteristics

Parameter	Symbol	Value	Unit
Power Dissipation *1	P_D	200	mW
Thermal Resistance Junction-to-Air *1	$R_{\theta JA}$	500	$^\circ\text{C/W}$
Operating junction Temperature	T_J	-55 ~ +125	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 ~ +150	$^\circ\text{C}$

Ordering Information

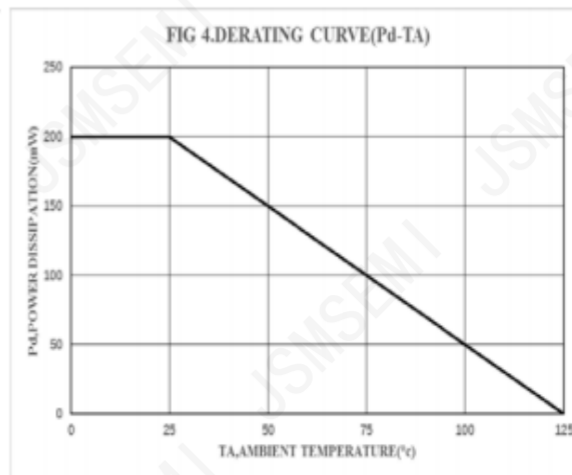
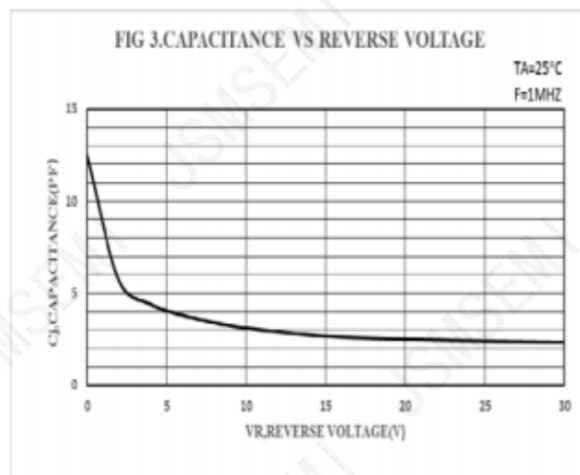
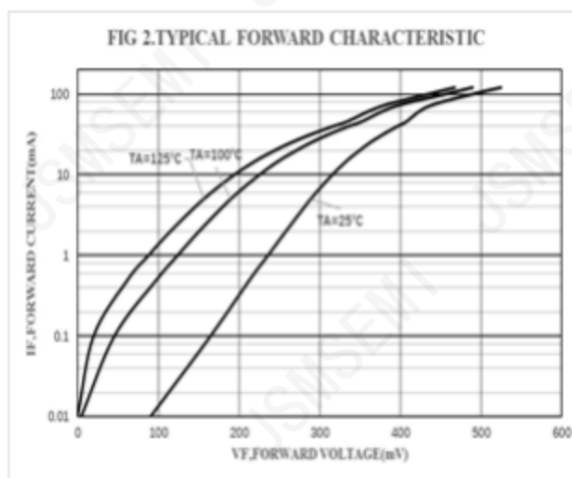
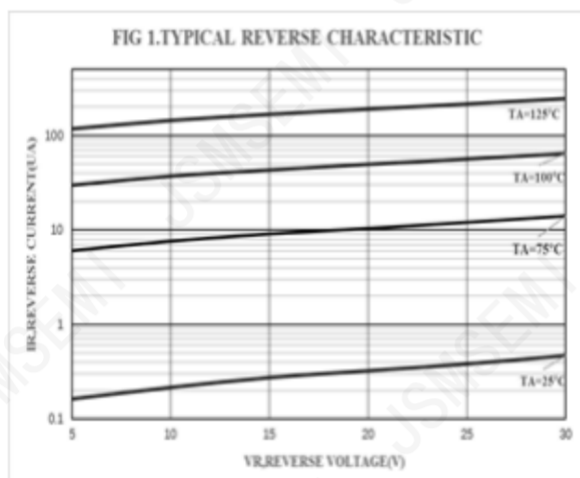
Order number	Package	Marking	Operation Temperature Range	MSL Grade	Ship, Quantity	Green
BAT54WS	SOD-323	L9	-55 to 125 $^\circ\text{C}$	3	T&R,3000	Rohs

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	μA
Reverse Recovery Time	t_{rr}	$I_F = 10\text{mA}$, $I_R = 10\text{mA}$ to 1mA $R_L = 100\Omega$	-	-	5.0	ns
Typical Junction Capacitance	C_J	$V_R = 1\text{V}$, $f = 1\text{MHz}$	-	-	10	pF

Notes:

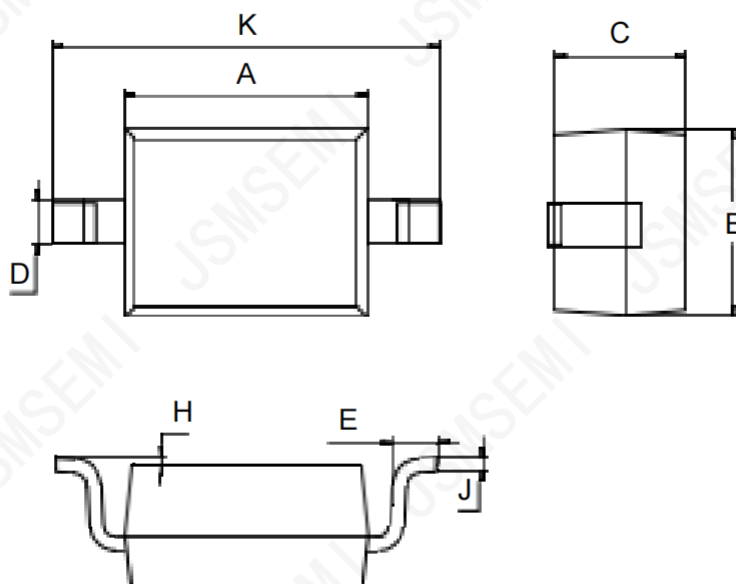
1. Part mounted on FR-4 board with recommended pad layout
2. Pulse test, $t_p \leq 300\mu\text{s}$
3. Pulse test, $t_p \leq 5\text{ms}$

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


Package Outline Dimensions

SOD-323

(Unit:mm)



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

Mountin Pad Laout (Unit:mm)

