

Features

- Low turn-on voltage
- Fast switching
- Ultra-small surface mount package
- RoHS compliant with Halogen-free
- Qualified to AEC-Q101 Standards

HF

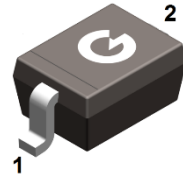
Cathode Anode
1 2

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

Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
TBAT54WS	SOD-323	3000 pcs / Tape & Reel	L9

Maximum Ratings (@ T_A = 25°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-Ambient) *2	R _{θJA}	297	°C/W
Thermal Resistance (Junction-to-Case) *2	R _{θJC}	203	°C/W
Thermal Resistance (Junction-to-Lead) *2	R _{θJL}	231	°C/W
Operating junction Temperature	T _J	-55 ~ +150	°C
Storage Temperature Range	T _{STG}	-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 ^{*3}	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 ^{*4}	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. The data tested by surface mounted on a 1 inch² FR-4 board with 2OZ copper
3. Pulse test, $t_p \leq 300\mu\text{s}$
4. Pulse test, $t_p \leq 5\text{ms}$

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

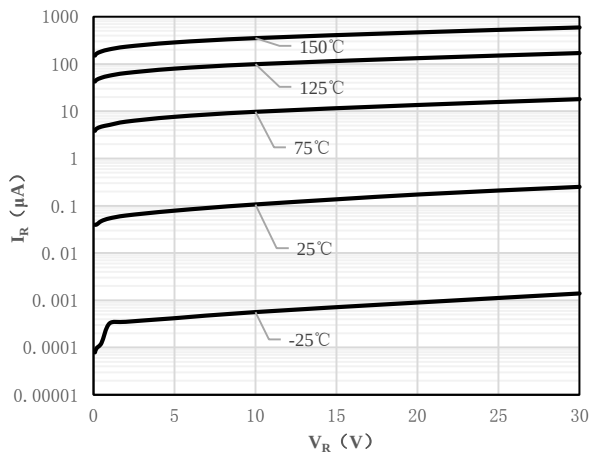


Fig 1 Typical Reverse Characteristic

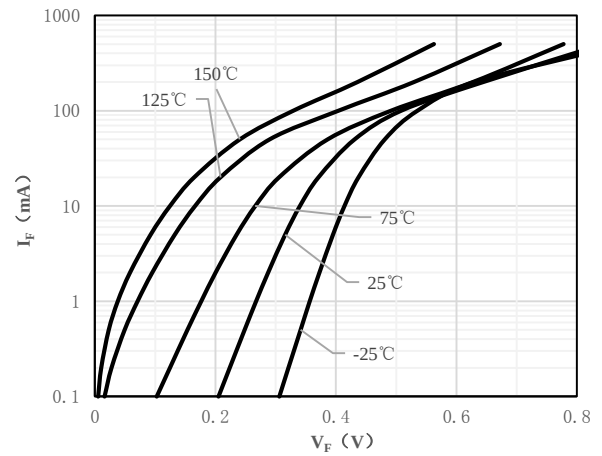


Fig 2 Typical Forward Characteristics

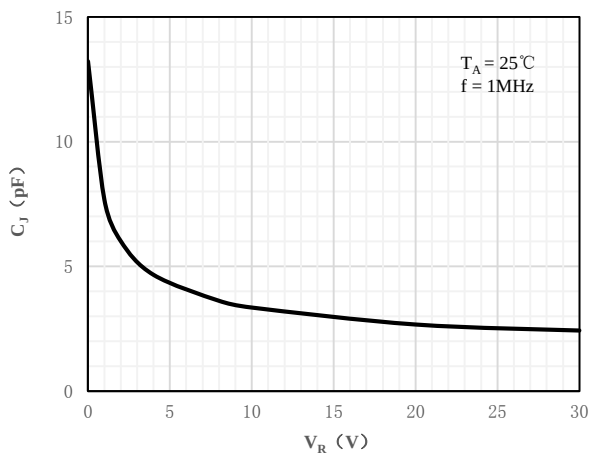


Fig 3 Capacitance Characteristics

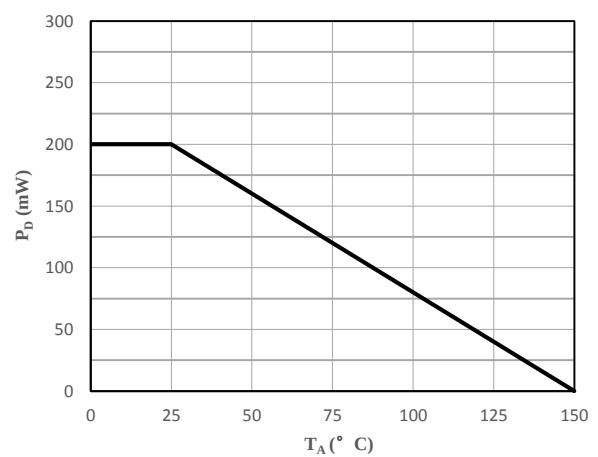
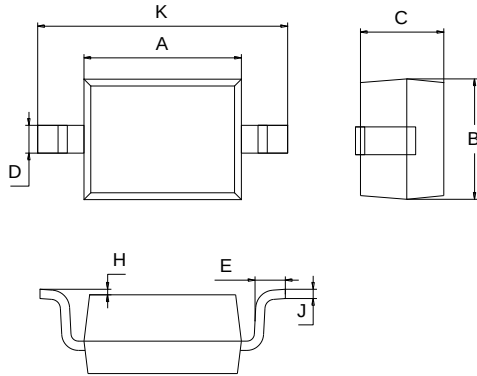


Fig 4 Power Derating Curve

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

