Schottky Barrier Diode
TBAT54W-AW-CW-SW

Features

HF

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

Applications

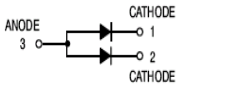
- For general purpose switching applications

Mechanical Data

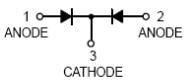
- Case: SOT-323
- Molding compound: UL flammability classification rating 94V-0
- Terminals: Tin-plated; solderability per MIL-STD-202, Method 208



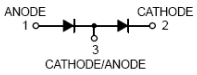
TBAT54W



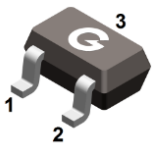
TBAT54AW



TBAT54CW



TBAT54SW



SOT-323

Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
TBAT54W	SOT-323	3000 pcs / Tape & Reel	KL5
TBAT54AW	SOT-323	3000 pcs / Tape & Reel	KL6
TBAT54CW	SOT-323	3000 pcs / Tape & Reel	KL7
TBAT54SW	SOT-323	3000 pcs / Tape & Reel	KL8

Maximum Ratings (@ T_A = 25℃ 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
Continuous Forward Current	I_F	200	mA
Repetitive Peak Forward Current	I_{FRM}	300	mA
Peak Forward Surge Current (t_p = 1s)	I_{FSM}	600	mA

Thermal Characteristics

Parameter	Symbol	Value	Unit
Power Dissipation	P_D	230	mW
Thermal Resistance Junction-to-Air *1	$R_{\theta JA}$	385	°C/W
Thermal Resistance Junction-to-Case *1	$R_{\theta JC}$	260	°C/W
Thermal Resistance Junction-to-Lead *1	$R_{\theta JL}$	310	°C/W
Operating Junction Temperature Range	T_J	-55 ~ +150	°C
Storage Temperature Range	T_{STG}	-55 ~ +150	°C

Electrical Characteristics (@ T_A = 25℃ unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Reverse Breakdown Voltage	$V_{(BR)R}$	I_R= 100μA	30	-	-	V
Forward Voltage *2	V_F	I_F = 0.1mA	-	-	0.24	V
		I_F = 1mA	-	-	0.32	V
		I_F = 10mA	-	-	0.40	V
		I_F = 30mA	-	-	0.50	V
		I_F = 100mA	-	-	1.00	V
Maximum Peak Reverse Current *3	I_R	V_R = 25V	-	-	2	μA
Capacitance Between Terminals	C_J	V_R = 1V, f = 1MHz	-	-	10	pF
Reverse Recovery Time	t_{rr}	I_F = I_R = 10mA I_{rr} = 0.1XI_R, R_L = 100Ω	-	-	5	ns

Notes:
1. The data tested by surface mounted on a 1 inch^2 FR-4 board with 2OZ copper
2. Pulse test, tp ≤ 300μs
3. Pulse test, tp ≤ 5ms

Ratings and Characteristic Curves (@ T_A = 25°C unless otherwise specified)

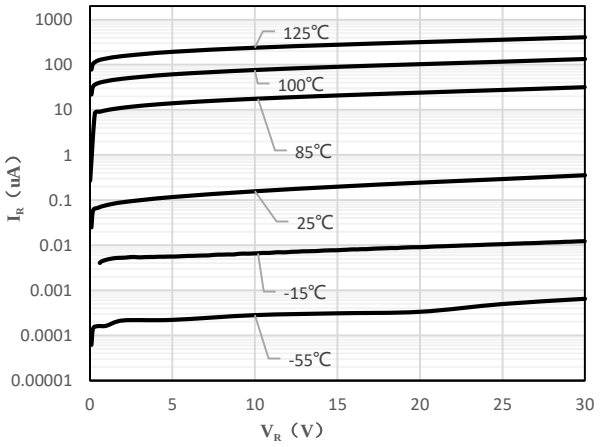


Fig 1 Typical Reverse Characteristic

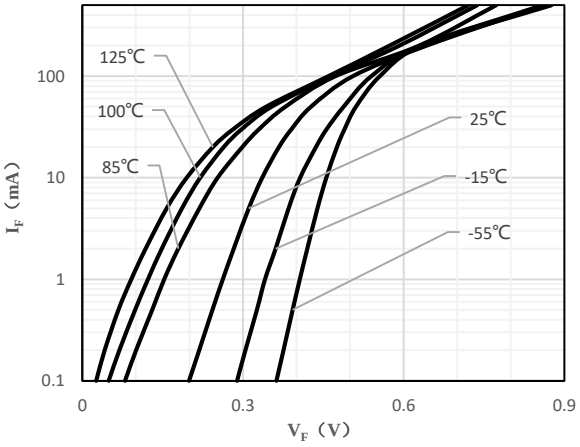


Fig 2 Typical Forward Characteristics

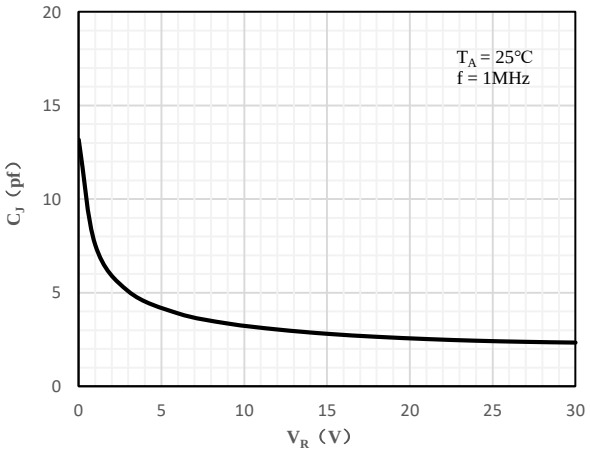


Fig 3 Capacitance Characteristics

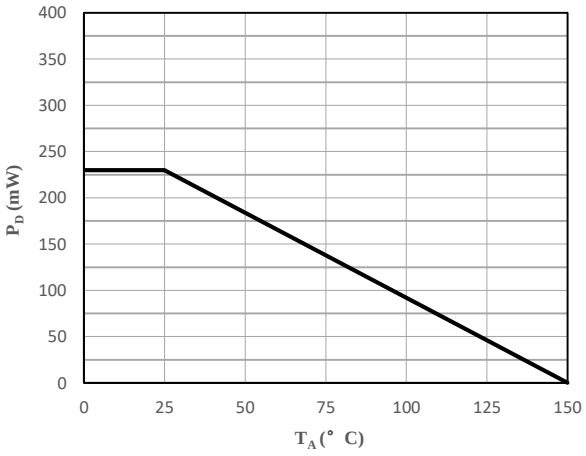
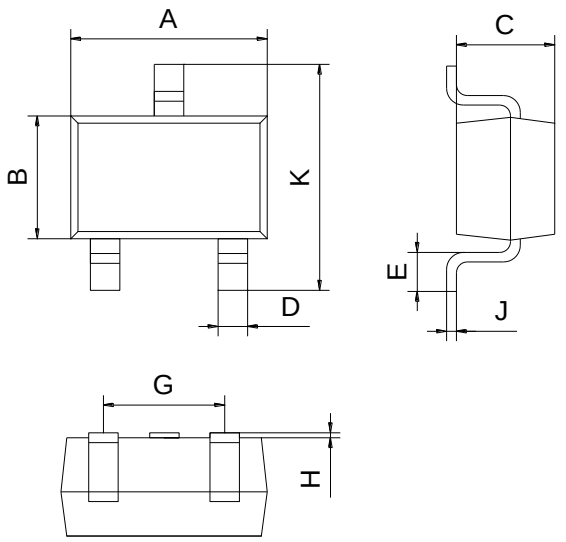


Fig 4 Power Derating Curve

Package Outline Dimensions (Unit: mm)



SOT-323		
Dimension	**Min.**	**Max.**
A	2.00	2.20
B	1.15	1.35
C	0.90	1.10
D	0.15	0.35
E	0.25	0.40
G	1.20	1.40
H	0.02	0.10
J	0.05	0.15
K	2.20	2.40

Mounting Pad Layout (Unit: mm)

SOT-323

