



Features

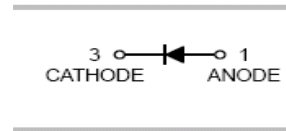
- Fast switching
- Low forward voltage drop
- Ultra-small surface mount package

Applications

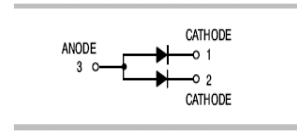
- For general purpose switching applications

Mechanical Data

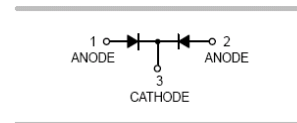
- Case: SOT-323
- Molding compound: UL flammability classification rating 94V-0
- Terminals: Tin-plated; solderability per MIL-STD-202, Method 208



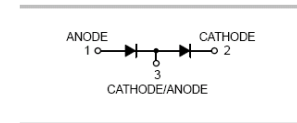
BAT54W



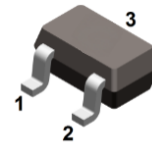
BAT54AW



BAT54CW



BAT54SW



SOT-323

Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
BAT54W	SOT-323	3000 pcs / Tape & Reel	KL5
BAT54AW	SOT-323	3000 pcs / Tape & Reel	KL6
BAT54CW	SOT-323	3000 pcs / Tape & Reel	KL7
BAT54SW	SOT-323	3000 pcs / Tape & Reel	KL8

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
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 ~ +125	°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 ^{*2}	V_F	$I_F = 0.1\text{mA}$	-	-	0.24	V
		$I_F = 1\text{mA}$	-	-	0.32	V
		$I_F = 10\text{mA}$	-	-	0.40	V
		$I_F = 30\text{mA}$	-	-	0.50	V
		$I_F = 100\text{mA}$	-	-	1.00	V
Maximum Peak Reverse Current ^{*3}	I_R	$V_R = 25\text{V}$	-	-	2	μA
Capacitance Between Terminals	C_J	$V_R = 1\text{V}, f = 1\text{MHz}$	-	-	10	pF
Reverse Recovery Time	t_{rr}	$I_F = I_R = 10\text{mA}$ $I_{rr} = 0.1 \times I_R, R_L = 100\Omega$	-	-	5	ns

Notes:

1. The data tested by surface mounted on a 1 inch² FR-4 board with 2OZ copper
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)

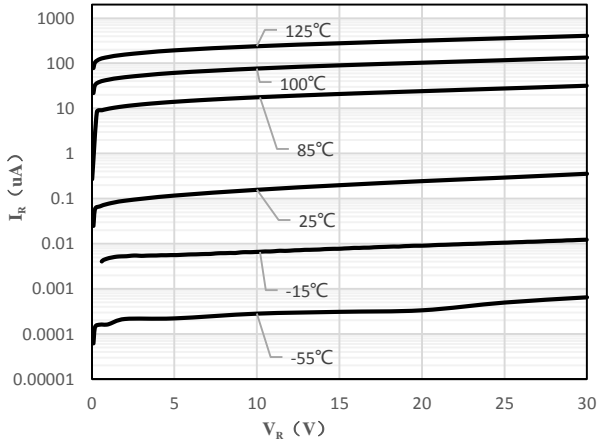


Fig 1 Typical Reverse Characteristic

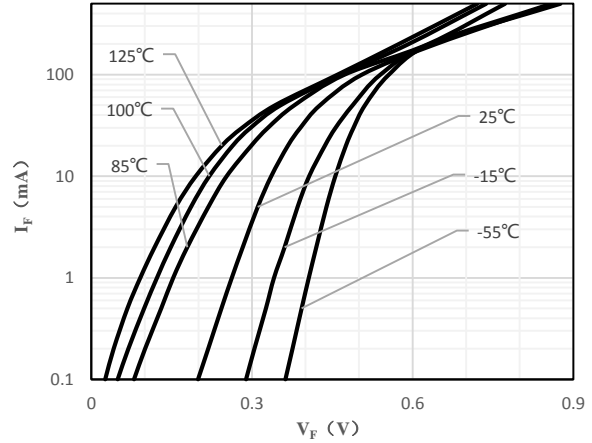


Fig 2 Typical Forward Characteristics

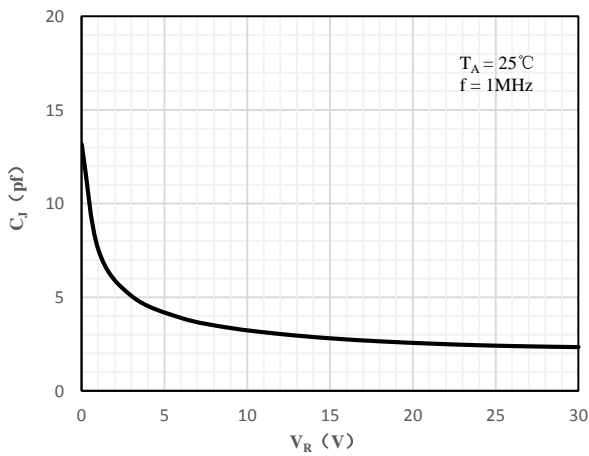


Fig 3 Capacitance Characteristics

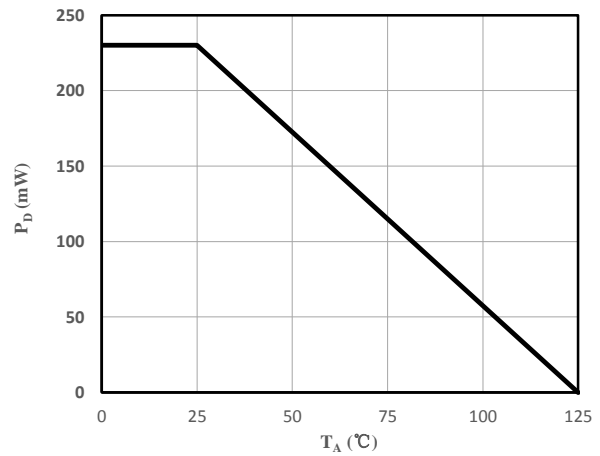
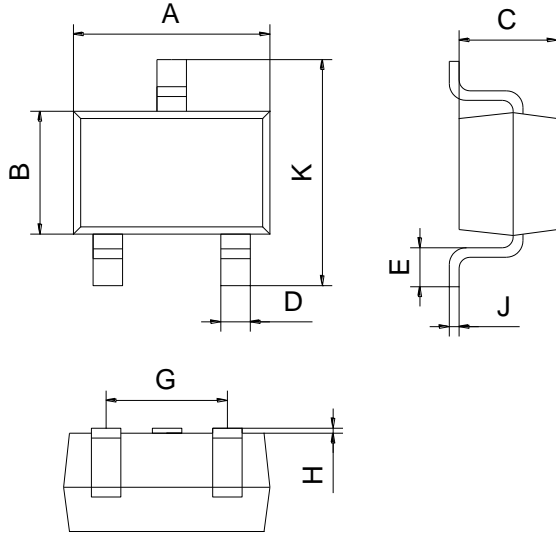


Fig 4 Power Derating Curve



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

