

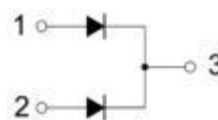
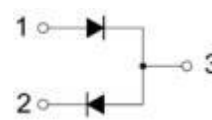
FEATURES

Extremely Fast Switching Speed

Low forward voltage

SOT-323

BAT54W
MARKING:KL5

BAT54AW
MARKING:KL6

BAT54CW
MARKING:KL7

BAT54SW
MARKING:KL8

MAXIMUM RATINGS ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

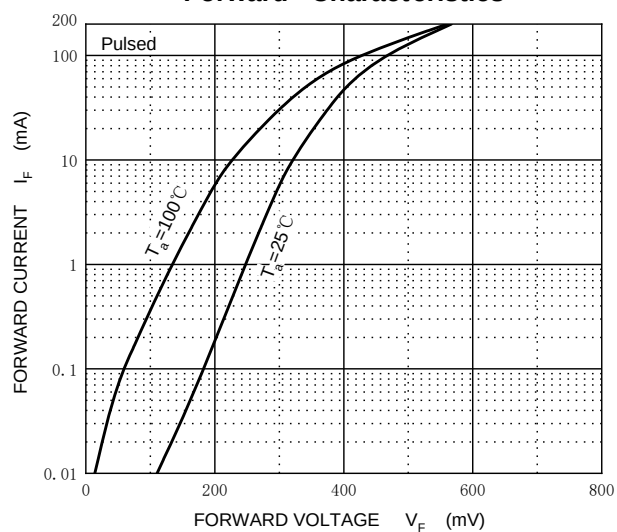
Parameter	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	V_{RRM}	30	V
Working Peak Reverse Voltage	V_{RWM}		
DC Blocking Voltage	V_R		
Forward Continuous Current	I_{FM}	200	mA
Non-repetitive Peak Forward Surge Current @ $t=8.3\text{ms}$	I_{FSM}	600	mA
Repetitive Peak Forward Current @ $t \leq 1\text{s}$, $\delta \leq 0.5$	I_{FRM}	300	mA
Power Dissipation	P_D	200	mW
Thermal Resistance from Junction to Ambient	R_{JA}	500	$^{\circ}\text{C/W}$
Operating Junction Temperature Range	T_j	-40 ~ +125	$^{\circ}\text{C}$
Storage Temperature Range	T_{stg}	-55 ~ +150	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS($T_a=25^{\circ}\text{C}$ unless otherwise specified)

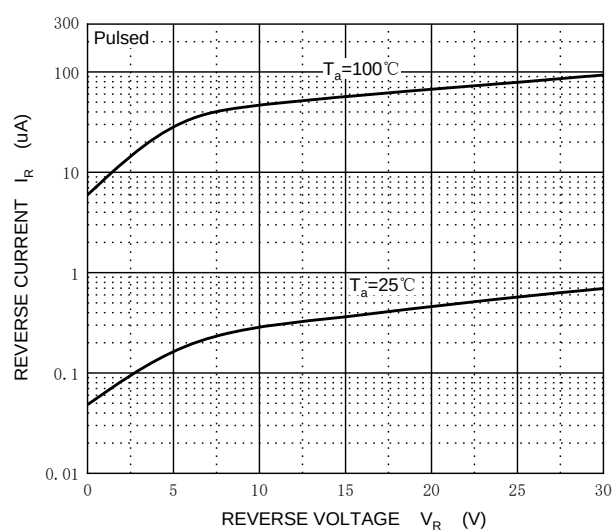
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Reverse voltage	$V_{(BR)}$	$I_R=100\mu\text{A}$	30			V
Reverse current	I_R	$V_R=25\text{V}$			2	μA
Forward voltage	V_F	$I_{F1}=0.1\text{mA}$			0.24	V
		$I_{F2}=1\text{mA}$			0.32	V
		$I_{F3}=10\text{mA}$			0.40	V
		$I_{F4}=30\text{mA}$			0.50	V
		$I_{F5}=100\text{mA}$			1	V
Diode capacitance	C_D	$V_R=1\text{V}$, $f=1\text{MHz}$			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

Typical Characteristics

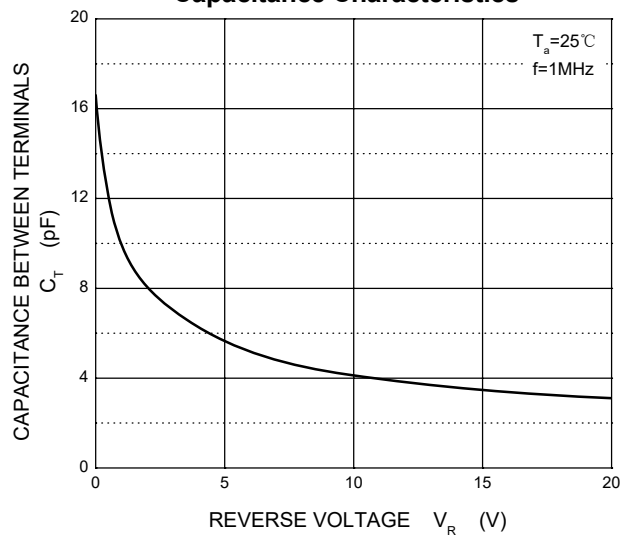
Forward Characteristics



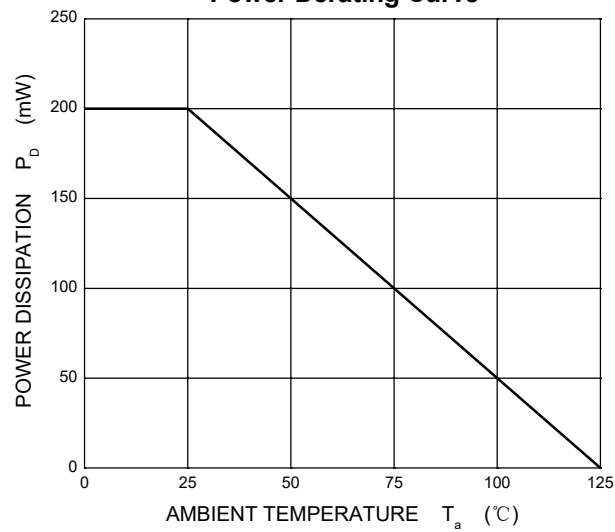
Reverse Characteristics



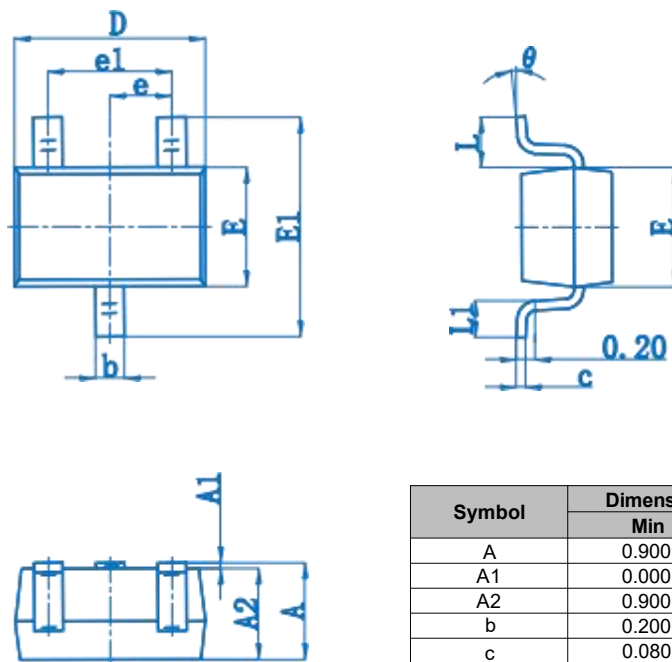
Capacitance Characteristics



Power Derating Curve

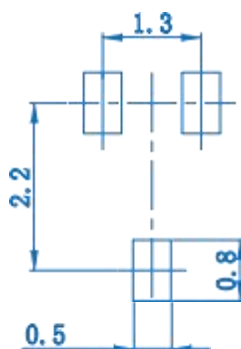


SOT-323 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.100	0.035	0.043
A1	0.000	0.100	0.000	0.004
A2	0.900	1.000	0.035	0.039
b	0.200	0.400	0.008	0.016
c	0.080	0.150	0.003	0.006
D	2.000	2.200	0.079	0.087
E	1.150	1.350	0.045	0.053
E1	2.150	2.450	0.085	0.096
e	0.650 TYP		0.026 TYP	
e1	1.200	1.400	0.047	0.055
L	0.525 REF		0.021 REF	
L1	0.260	0.460	0.010	0.018
theta	0°	8°	0°	8°

SOT-323 Suggested Pad Layout



Note:

1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.