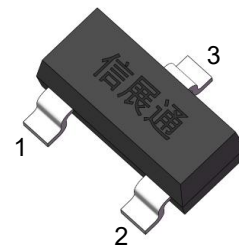




FEATURES

- Small Package
- Extremely Fast Switching Speed
- Surface Mount Package Ideally Suited for Automatic Insertion

SOT-23



MARKING:

BAT54: KL1	BAT54A: KL2	BAT54C: KL3	BAT54S: KL4

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	$R_{\theta JA}$	500	$^{\circ}\text{C/W}$
Operating Junction Temperature Range	T_j	$-40 \sim +125$	$^{\circ}\text{C}$
Storage Temperature Range	T_{stg}	$-55 \sim +150$	$^{\circ}\text{C}$

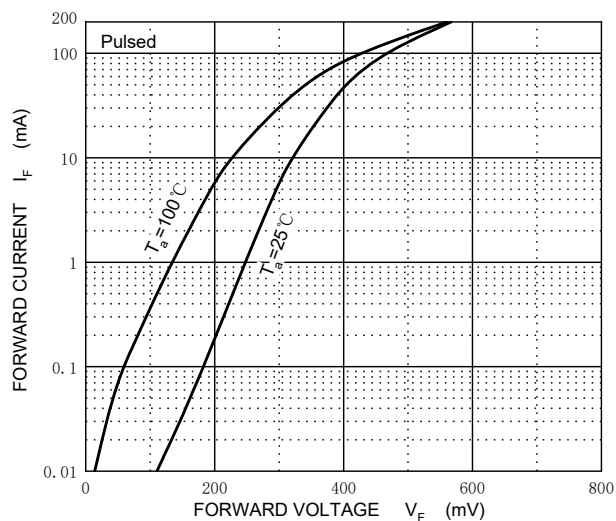
ELECTRICAL CHARACTERISTICS($T_a=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Min	Typ	Max	Unit	Test conditions
Reverse voltage	$V_{(BR)}$	30			V	$I_R=100\mu\text{A}$
Forward voltage	V_F			0.24	V	$I_{F1}=0.1\text{mA}$
				0.32	V	$I_{F2}=1\text{mA}$
				0.40	V	$I_{F3}=10\text{mA}$
				0.50	V	$I_{F4}=30\text{mA}$
				1	V	$I_{F5}=100\text{mA}$
Reverse current	I_R			2	μA	$V_R=25\text{V}$
Diode capacitance	C_D			10	pF	$V_R=1\text{V}, f=1\text{MHz}$
Reverse recovery time	t_{rr}			5	ns	$I_F=I_R=10\text{mA}$ $I_{rr}=0.1 \times I_R, R_L=100\Omega$

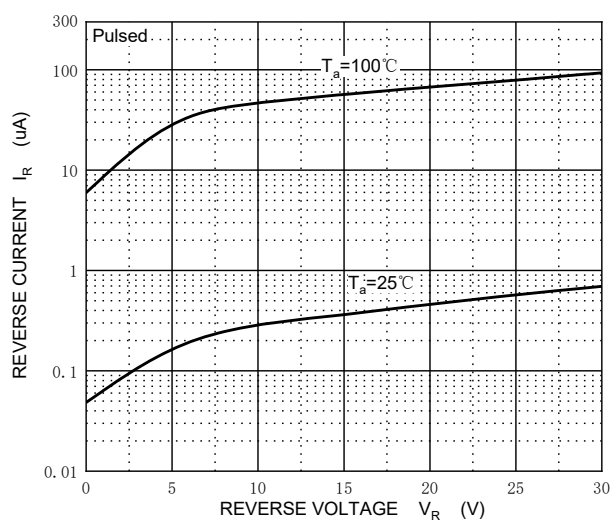


Typical Characteristics

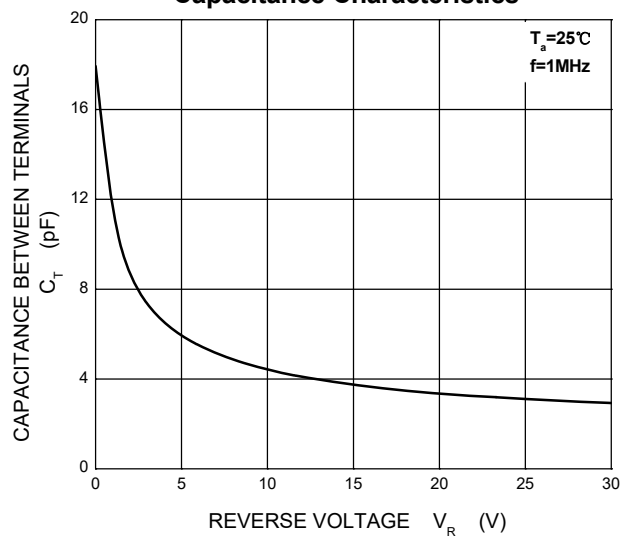
Forward Characteristics



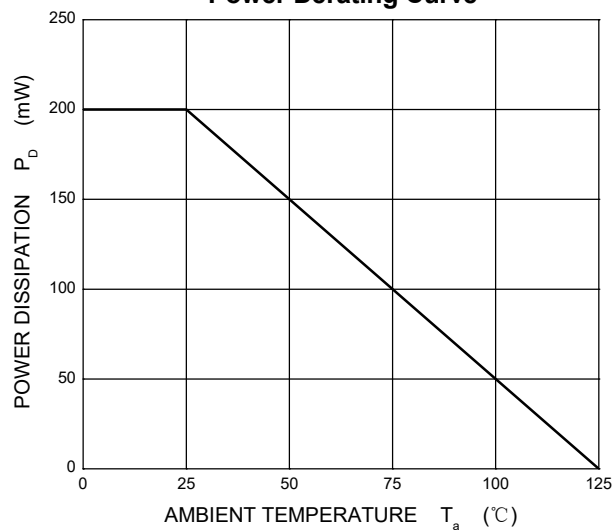
Reverse Characteristics



Capacitance Characteristics

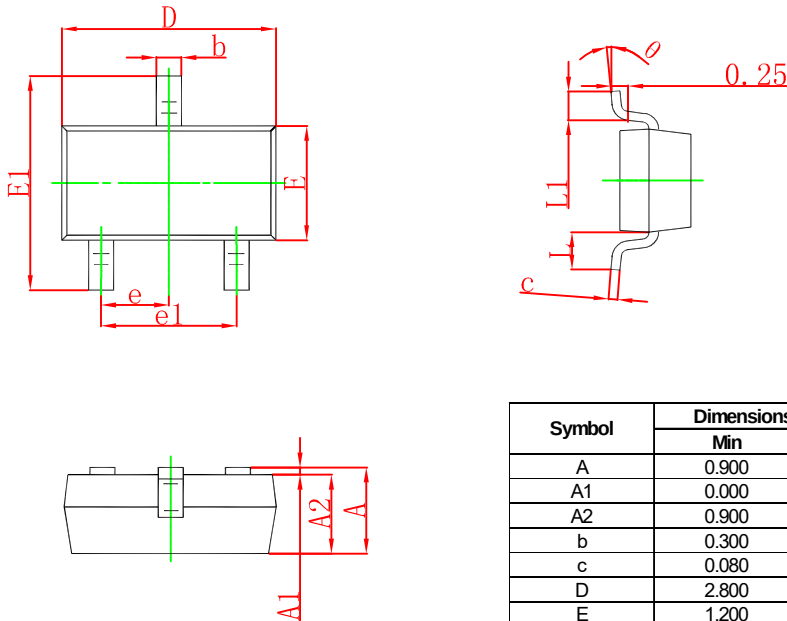


Power Derating Curve



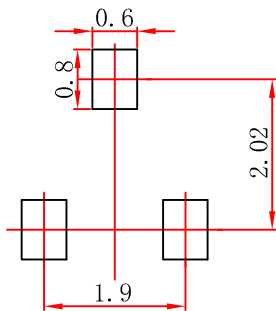


SOT-23 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		0.037 TYP	
e1	1.800	2.000	0.071	0.079
L	0.550 REF		0.022 REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°

SOT-23 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.