

### Features

- Fast switching .
- Low Turn-on voltage.
- PN Junction Guard Ring for Transient and ESD Protection.
- Available in Lead Free Version.
- MSL 1.

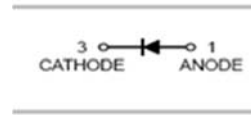


Lead-free

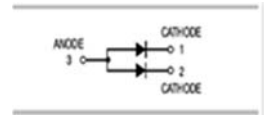


### Mechanical Data

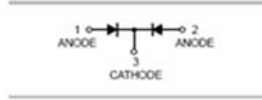
- Case: SOT-23
- Terminals: solderable per MIL-STD-202, Method 208.



BAT54



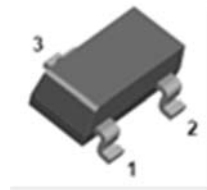
BAT54A



BAT54C



BAT54S



SOT-23

### Ordering Information

Part Number	Package	Shipping	Marking Code
BAT54□	SOT-23	3000/Tape&Reel	KL1
BAT54A□	SOT-23	3000/Tape&Reel	KL2
BAT54C□	SOT-23	3000/Tape&Reel	KL3
BAT54S□	SOT-23	3000/Tape&Reel	KL4

□: none is for Lead Free package;

“G” is for Halogen Free package.

### Maximum Ratings (@T<sub>A</sub>=25°C unless otherwise specified)

Parameter	Symbol	Limits	Unit
Peak Repetitive Peak reverse voltage	V <sub>RRM</sub>	30	V
Working Peak Reverse Voltage	V <sub>RWM</sub>		
DC Reverse Voltage	V <sub>R</sub>		
Forward Continuous Current	I <sub>F</sub>	200	mA
Repetitive Peak Forward Current	I <sub>FRM</sub>	300	mA
Forward surge current@tp<1s	I <sub>FSM</sub>	600	mA

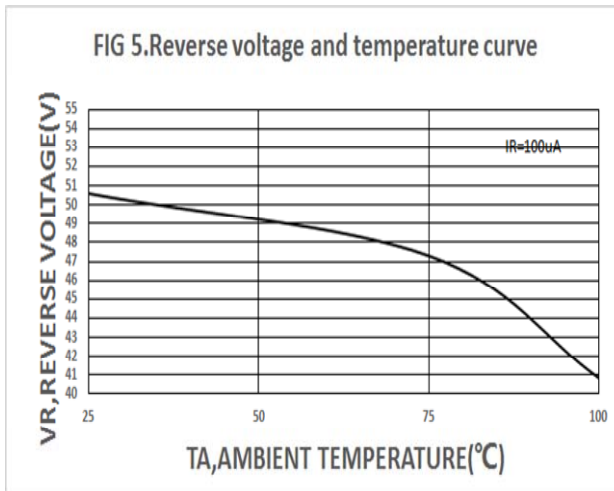
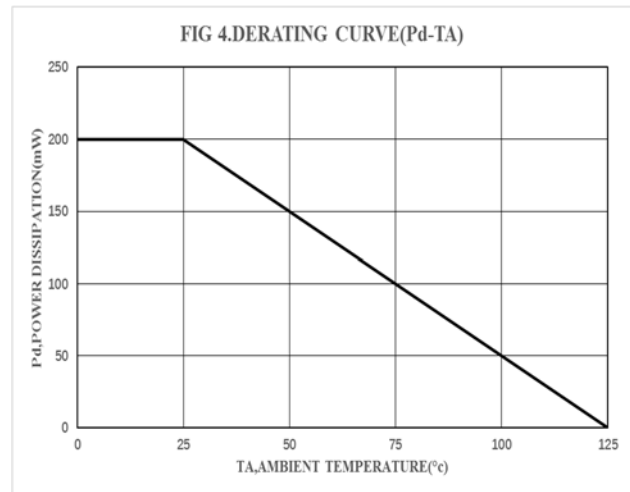
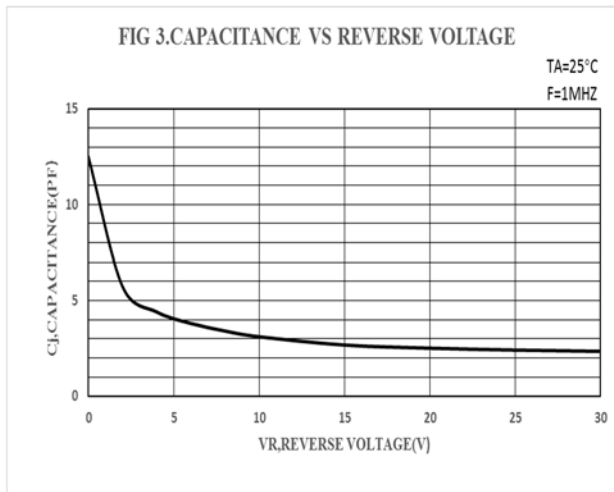
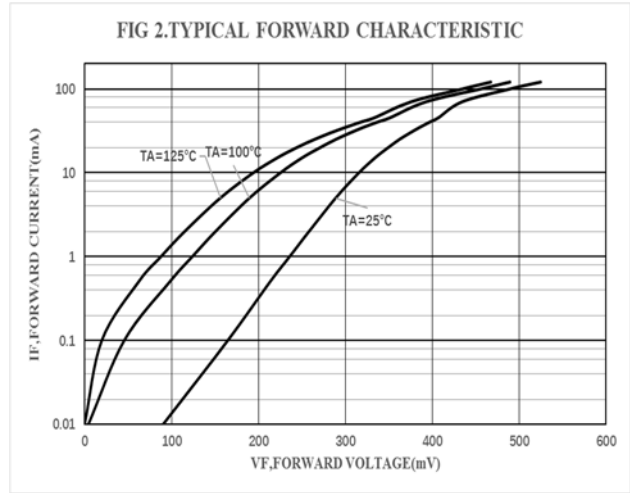
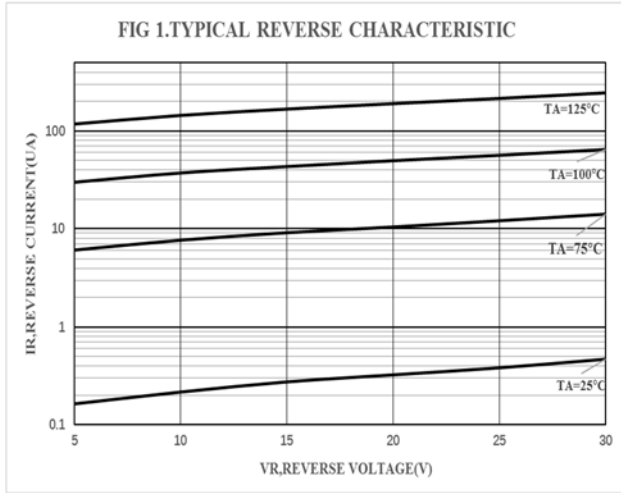
**Thermal Characteristics**

Parameter	Symbol	Limits	Unit
Power Dissipation *	$P_d$	200	mW
Thermal resistance junction to ambient air	$R_{\theta JA}$	500	$^{\circ}\text{C}/\text{W}$
Thermal resistance junction to case	$R_{\theta Jc}$	360	$^{\circ}\text{C}/\text{W}$
Junction temperature	$T_j$	125	$^{\circ}\text{C}$
Storage temperature range	$T_{STG}$	-55 to +150	$^{\circ}\text{C}$

**Electrical Characteristics (@ $T_A=25^{\circ}\text{C}$  unless otherwise specified)**

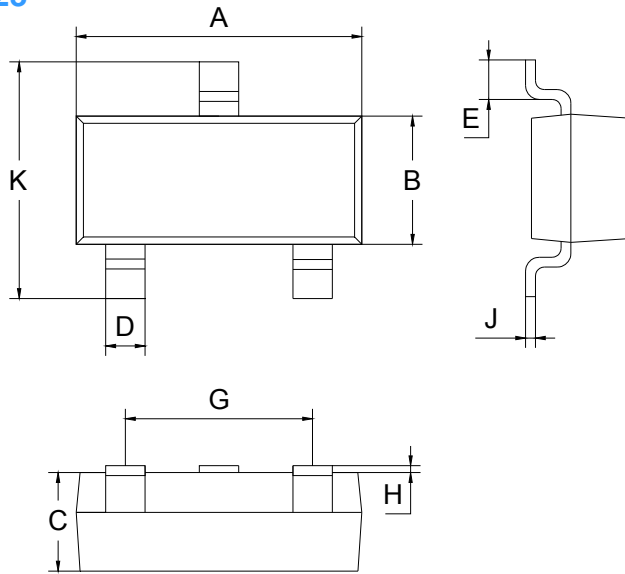
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Reverse Breakdown Voltage	$V_{(BR)}$	$I_R=100\mu\text{A}$	30	-	-	V
Forward voltage *1	$V_F$	$I_F=0.1\text{mA}$	-	-	0.24	V
		$I_F=1\text{mA}$	-	-	0.32	V
		$I_F=10\text{mA}$	-	-	0.40	V
		$I_F=30\text{mA}$	-	-	0.50	V
		$I_F=100\text{mA}$	-	-	0.8	V
Reverse current *2	$I_R$	$V_R=25\text{V}$	-	-	2	$\mu\text{A}$
Capacitance Between Terminals	$C_T$	$V_R=1\text{V}, f=1\text{MHz}$	-	-	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
*1: pulse test, $t_p \leq 300\mu\text{s}$						
*2: pulse test, $t_p \leq 5\text{ms}$						

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



**Package Outline Dimensions**(unit:mm)

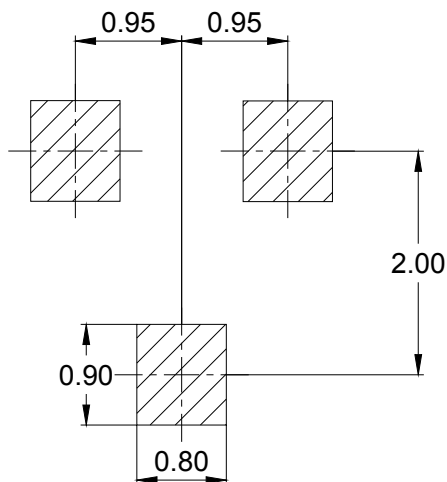
**SOT-23**



SOT-23		
Dim	Min	Max
A	2.70	3.10
B	1.10	1.50
C	0.90	1.10
D	0.30	0.50
E	0.35	0.48
G	1.80	2.00
H	0.02	0.10
J	0.05	0.15
K	2.20	2.60

**Mounting Pad Layout**(unit:mm)

**SOT-23**



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