

### Features

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

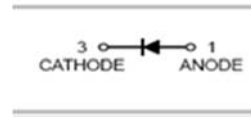


Lead-free

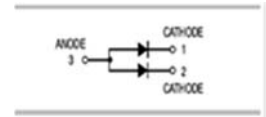


### Mechanical Data

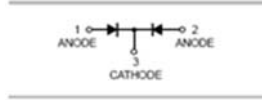
- Case: SOT-23
- Terminals: solderable per MIL-STD-202, Method 208.



BAT54



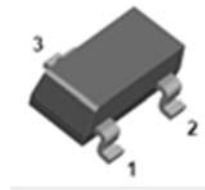
BAT54A



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	$^{\circ}\text{C}$

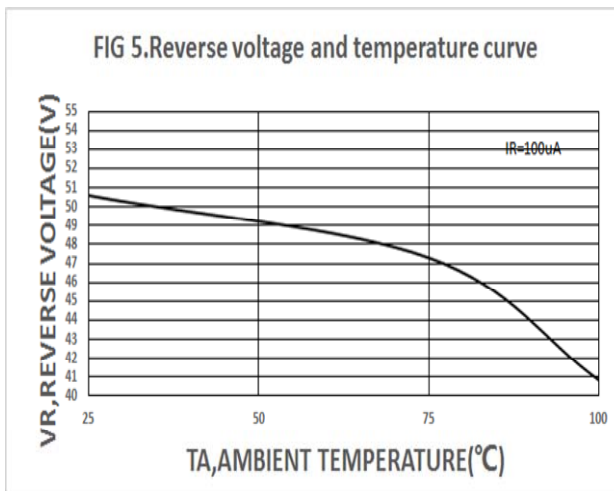
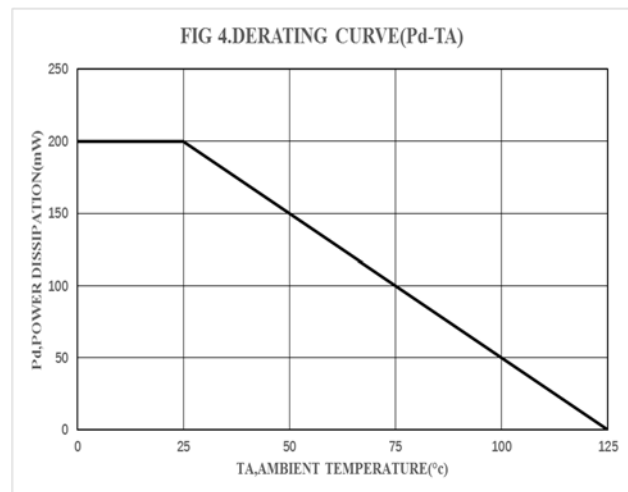
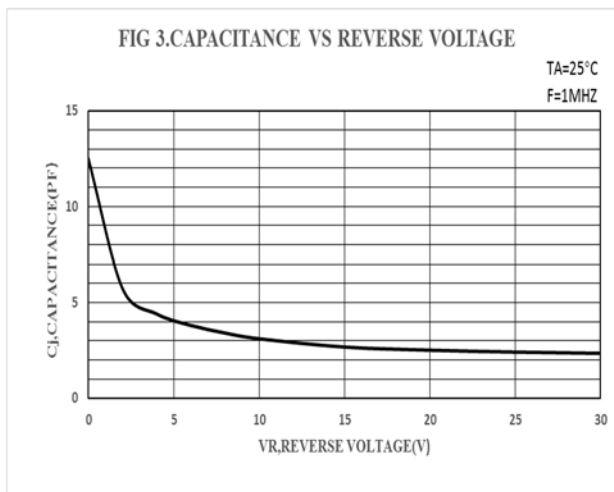
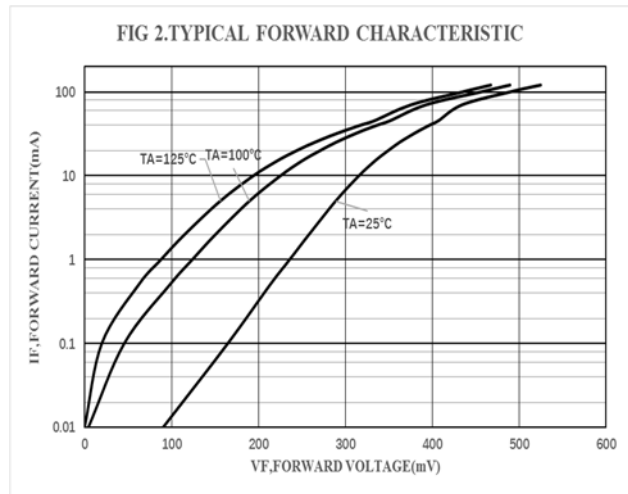
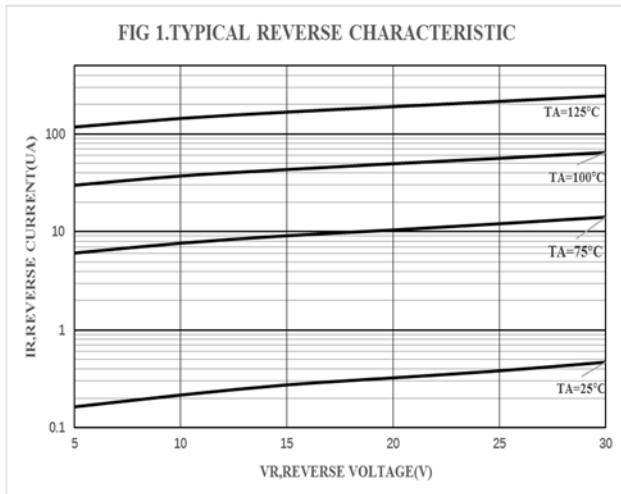
**Electrical Characteristics (@ $T_A=25^{\circ}\text{C}$  unless otherwise specified)**

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,  $t_p \leq 300\mu\text{s}$ 

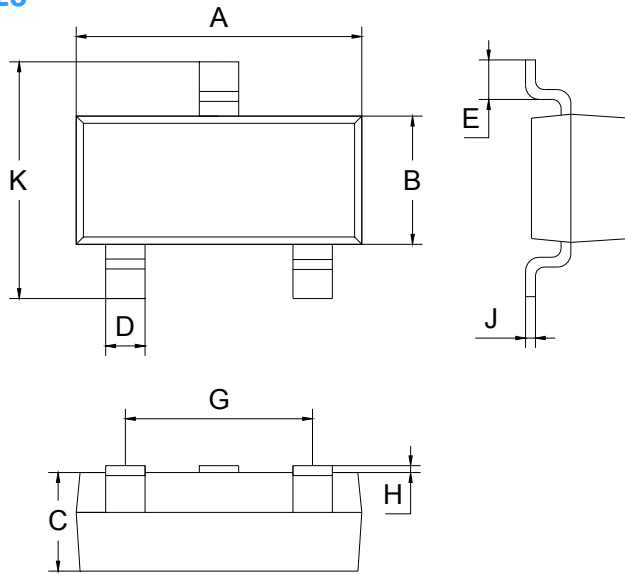
 \*2: pulse test,  $t_p \leq 5\text{ms}$

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



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

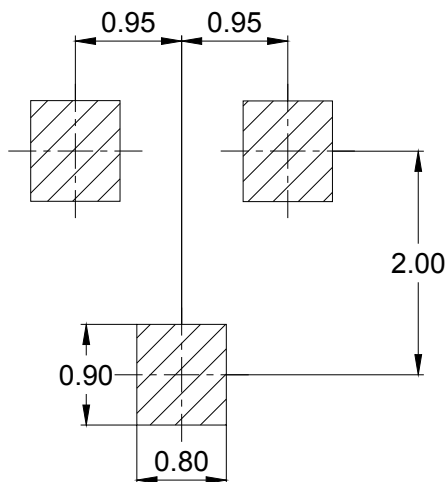
**SOT-23**



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**



**IMPORTANT NOTICE**

Galaxy Microelectronics (GME) reserves the right to make changes without further notice to any product herein to make corrections, modifications, improvements, or other changes. GME does not assume any liability arising out of the application or use of any product described herein; neither does it convey any license under its patent rights, nor the rights of others.