

## Features

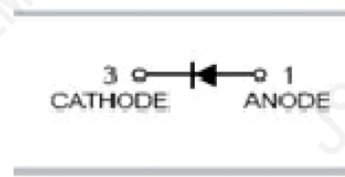
- Fast switching
- Low turn-on voltage
- PN junction guard ring for transient and ESD protection
- Available in lead free version.



SOT-23

## Mechanical Data

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



## Ordering Information

Part Number	Package	Shipping	Marking Code
BAT54-JSM	SOT-23	3000pcs / Tape & Reel	KL1

## Maximum Ratings (@ $T_A=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Limits	Unit
Peak Repetitive Peak reverse voltage	$V_{RRM}$	30	V
Working Peak Reverse Voltage	$V_{RWM}$		
DC Reverse Voltage	$V_R$		
Forward Continuous Current	$I_F$	200	mA
Repetitive Peak Forward Current	$I_{FRM}$	300	mA
Forward surge current@ $t_p < 1\text{s}$	$I_{FSM}$	600	mA

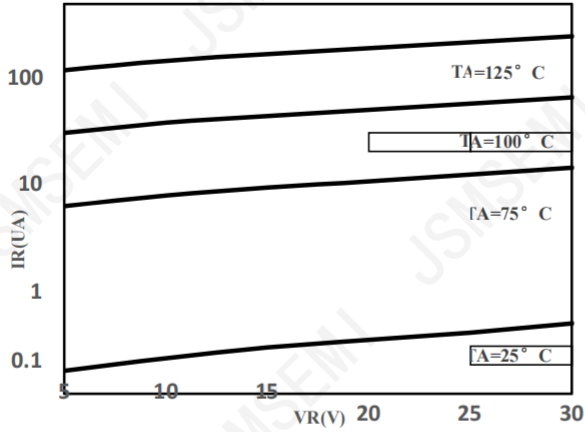
**Thermal Characteristics**

Parameter	Symbol	Limits	Unit
Power Dissipation *	$P_D$	250	mW
Thermal resistance junction to ambient air	$R_{\theta JA}$	500	$^{\circ}C/W$
Thermal resistance junction to case	$R_{\theta JC}$	360	$^{\circ}C/W$
Junction temperature	$T_J$	125	$^{\circ}C$
Storage temperature range	$T_{STG}$	-55 to +150	$^{\circ}C$

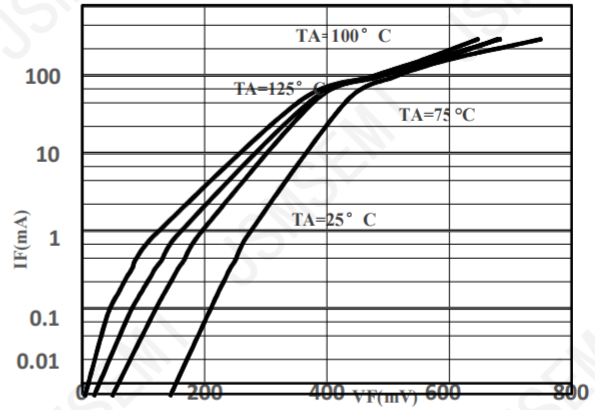
**Electrical Characteristics (@ $T_A=25^{\circ}C$  unless otherwise specified)**

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

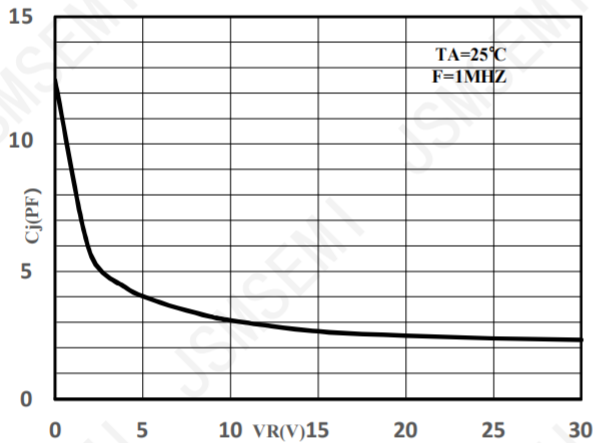
**Ratings and Characteristic Curves** ( $T_A=25^\circ\text{C}$  unless otherwise noted)



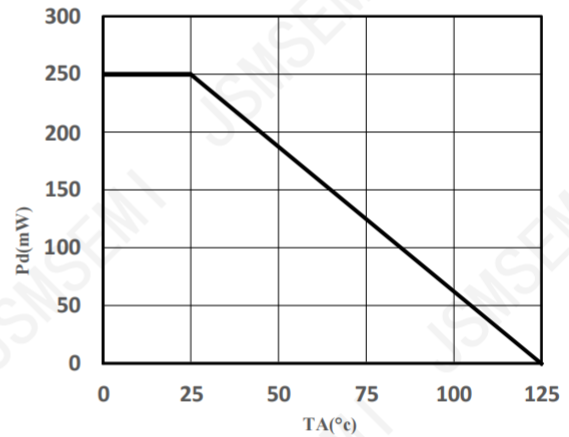
**Fig.1- Typical Reverse Characteristic**



**Fig.2- Typical Forward Characteristics**



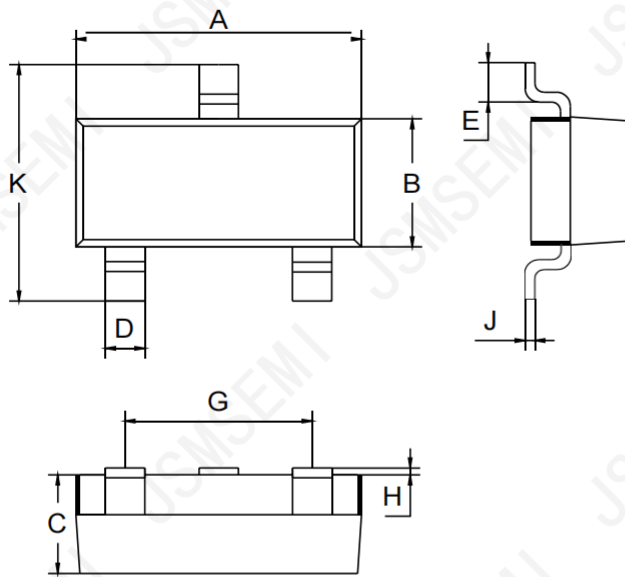
**Fig.3- Capacitance Characteristics**



**Fig.4- Derating Curve**

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

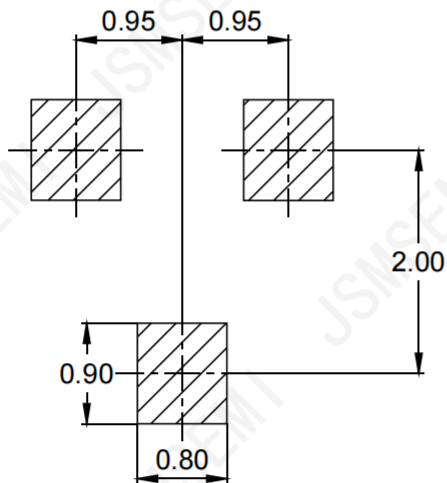
**SOT-23**



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**



## Revision History

Rev.	Change	Date
V1.0	Initial version	2/23/2024

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