

Features

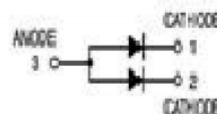
Fast switching
 Low turn-on voltage
 PN junction guard ring for
 transient and ESD protection
 Available in lead free version.



SOT-23

Mechanical Data

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



BAT54A

Ordering Information

Part Number	Package	Shipping	Marking Code
BAT54A-JSM	SOT-23	3000pcs / Tape & Reel	KL2

Maximum Ratings (@T_A=25°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@tp<1s	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	μA
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)

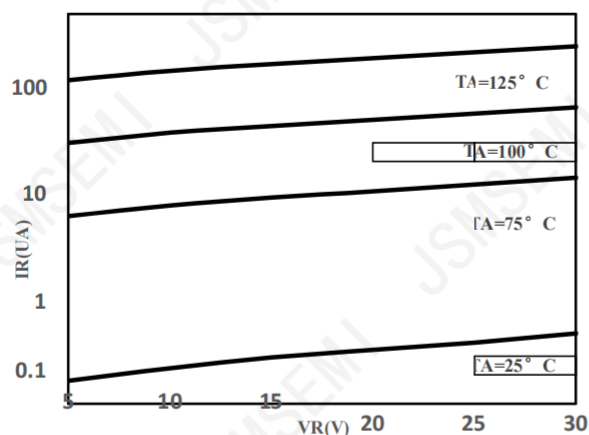


Fig.1- Typical Reverse Characteristic

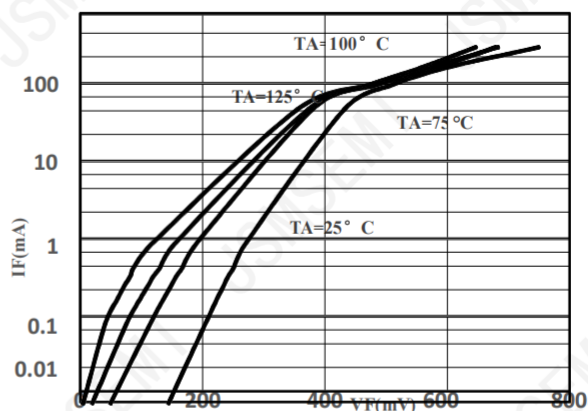


Fig.2- Typical Forward Characteristics

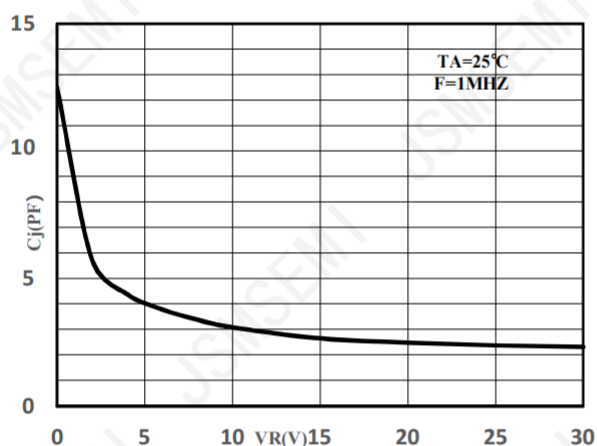


Fig.3-Capacitance Characteristics

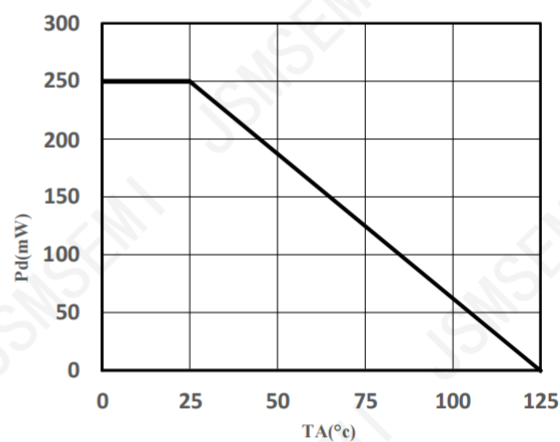
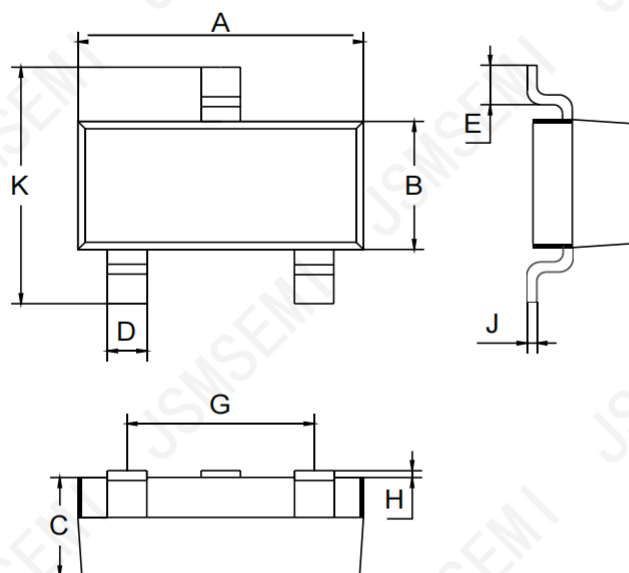


Fig.4-Derating Curve

Package Outline Dimensions (unit: mm)

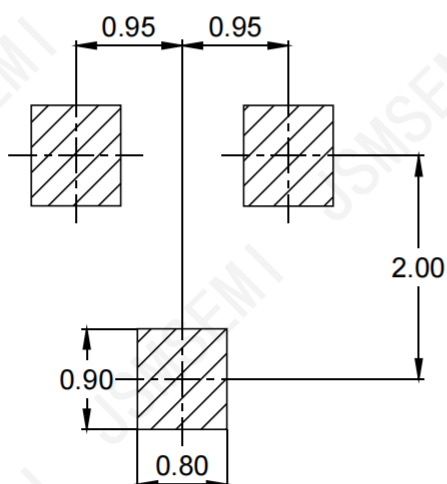
SOT-23



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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