

## Features

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


**BAT54C      BAT54S**

## Mechanical Data

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


**SOT-23**

## Ordering Information

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

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

Parameter	Symbol	Limits	Unit
Peak Repetitive Peak reverse voltage	V <sub>RRM</sub>		
Working Peak Reverse Voltage	V <sub>RWM</sub>	30	V
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**

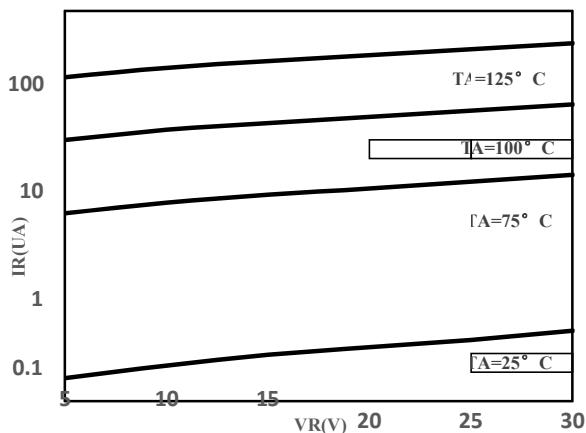
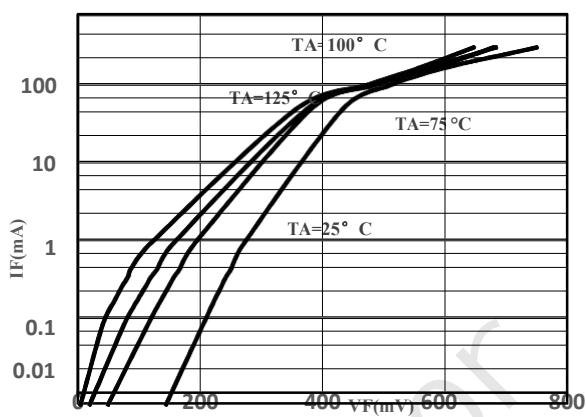
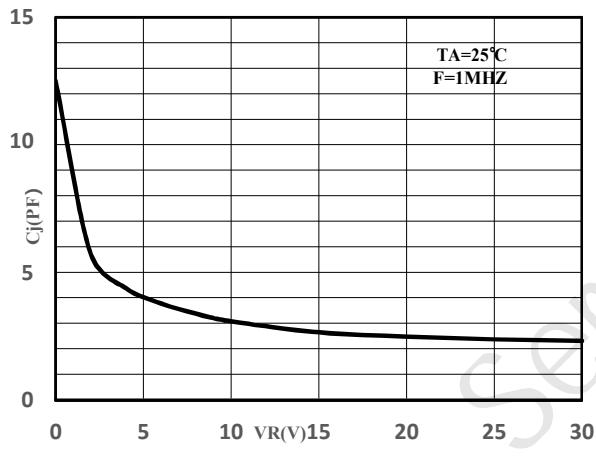
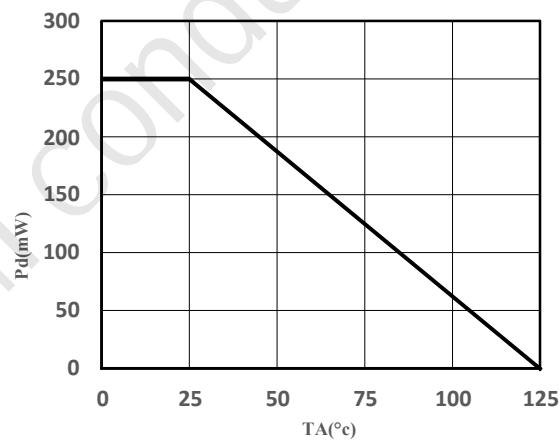
Parameter	Symbol	Limits	Unit
Power Dissipation *	P <sub>D</sub>	250	mW
Thermal resistance junction to ambient air	R <sub>θJA</sub>	500	°C/W
Thermal resistance junction to case	R <sub>θJC</sub>	360	°C/W
Junction temperature	T <sub>J</sub>	125	°C
Storage temperature range	T <sub>STG</sub>	-55 to +150	°C

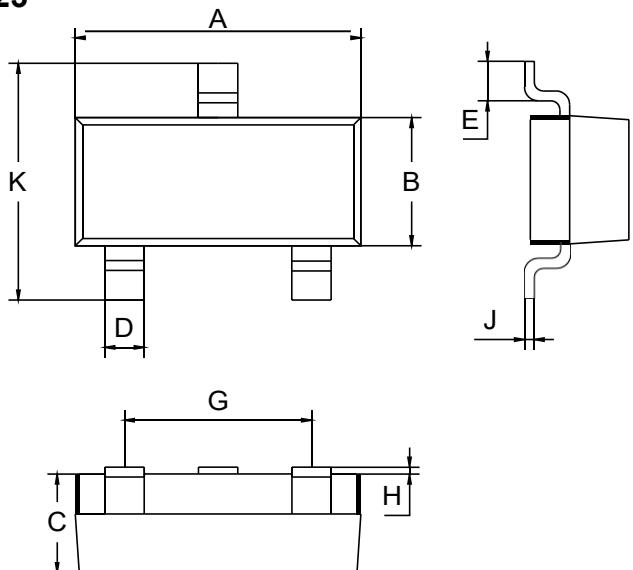
**Electrical Characteristics (@T<sub>A</sub>=25°C unless otherwise specified)**

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Reverse Breakdown Voltage	V <sub>(BR)</sub>	I <sub>R</sub> =100μA	30	-	-	V
Forward voltage * <sup>1</sup>	V <sub>F</sub>	I <sub>F</sub> =0.1mA	-	-	0.24	V
		I <sub>F</sub> =1mA	-	-	0.32	V
		I <sub>F</sub> =10mA	-	-	0.40	V
		I <sub>F</sub> =30mA	-	-	0.50	V
		I <sub>F</sub> =100mA	-	-	0.8	V
Reverse current * <sup>2</sup>	I <sub>R</sub>	V <sub>R</sub> =25V	-	-	2	μA
Capacitance Between Terminals	C <sub>T</sub>	V <sub>R</sub> =1V,f=1MHz	-	-	10	pF
Reverse Recovery Time	t <sub>rr</sub>	I <sub>F</sub> =I <sub>R</sub> =10mA I <sub>rr</sub> =0.1XI <sub>R</sub> ,R <sub>L</sub> =100Ω	-	-	5	ns

\*1: pulse test, tp≤300μs

\*2: pulse test, tp≤5ms

**Ratings and Characteristic Curves** ( $T_A=25^\circ C$  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**
