



DESCRIPTION

The BAT54xL is available in SOT-23 Package

FEATURES

- Low Forward Voltage
- Fast Switching
- PN Junction Guard Ring for Transient and ESD Protection
- Available in SOT-23 Package

ORDERING INFORMATION

Package Type	Part Number
SOT-23	BAT54L
	BAT54AL
	BAT54CL
	BAT54SL
Note	SPQ: 3,000pcs/Reel
AiT provides all RoHS Compliant Products	

MECHANICAL DATA

Case: SOT-23, Molded Plastic

Case material – UL Flammability Rating

Classification 94V-0

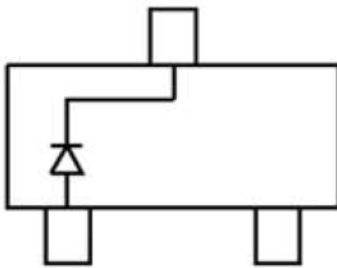
Moisture sensitivity: Level 1 per J-STD-020A

Terminals: Solderable per MIL-STD-202, Method 208

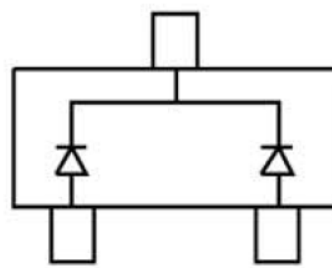
Polarity: See Diagrams Below

Weight: 0.008 grams (approx.)

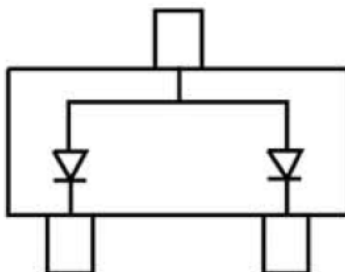
PIN DESCRIPTION



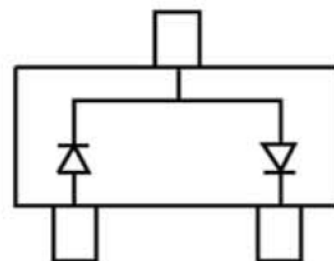
BAT54L



BAT54CL



BAT54AL



BAT54SL



ABSOLUTE MAXIMUM RATINGS

T_A = 25°C, unless otherwise specified

V _{RRM} , Peak Repetitive Reverse Voltage	30V
V _{RWM} , Working Peak Reverse Voltage	30V
V _R , DC Blocking Voltage	30V
I _F , Forward Continuous Current ^{NOTE1}	200mA
I _{FRM} , Repetitive Peak Forward Current	300mA
I _{FSM} , Forward Surge Current at t = 1s	600mA
P _D , Power Dissipation ^{NOTE1}	200mW
R _{θJA} , Thermal Resistance, Junction to Ambient Air ^{NOTE1}	500°C/W
T _J , T _{STG} , Operating and Storage Temperature Range	-65°C ~+125°C

Stresses above may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions beyond those indicated in the Electrical Characteristics are not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

ELECTRICAL CHARACTERISTICS

T_A = 25°C, unless otherwise specified

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Reverse Breakdown Voltage ^{NOTE2}	V _{(BR)R}	I _{RS} =100μA	30	-	-	V
Forward Voltage ^{NOTE2}	V _F	I _F =0.1mA	-	-	240	mV
		I _F =1mA	-	-	320	
		I _F =10mA	-	-	400	
		I _F =30mA	-	-	500	
		I _F =100mA	-	-	1000	
Reverse Leakage Current ^{NOTE2}	I _R	V _R =25V	-	-	2.0	μA
Total Capacitance	C _T	V _R =1.0V, f=1.0MHz	-	-	10	pF
Reverse Recovery Time	t _{rr}	I _F =10mA, through I _R =10mA to I _R =1.0mA, R _L =100Ω	-	-	5.0	ns

NOTE1: Part mounted on FR-4 board with recommended pad layout.

NOTE2: Short duration pulse test used to minimize self-heating effect.



TYPICAL CHARACTERISTICS

Figure 1. Power Derating Curve

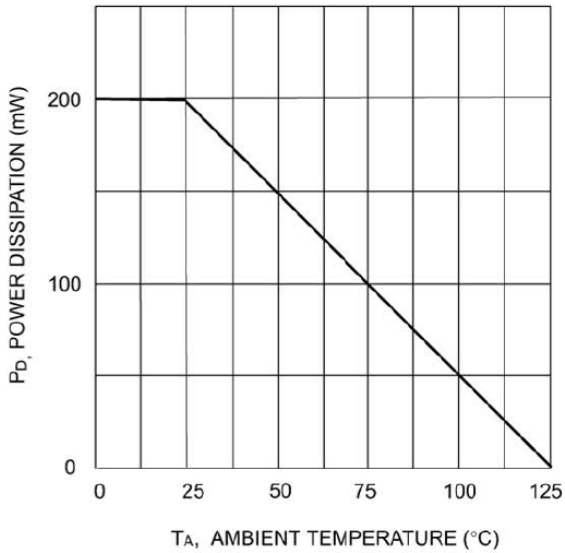


Figure 2. Typical Forward Characteristics

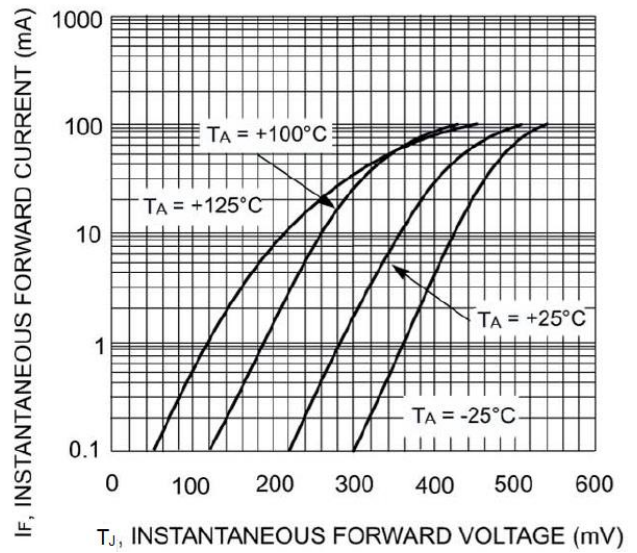
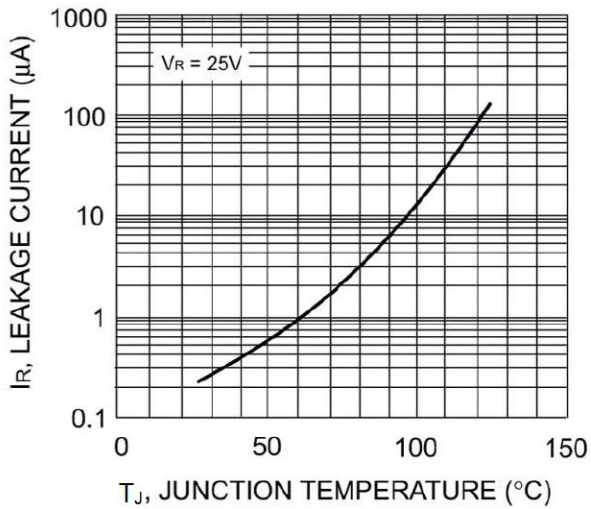


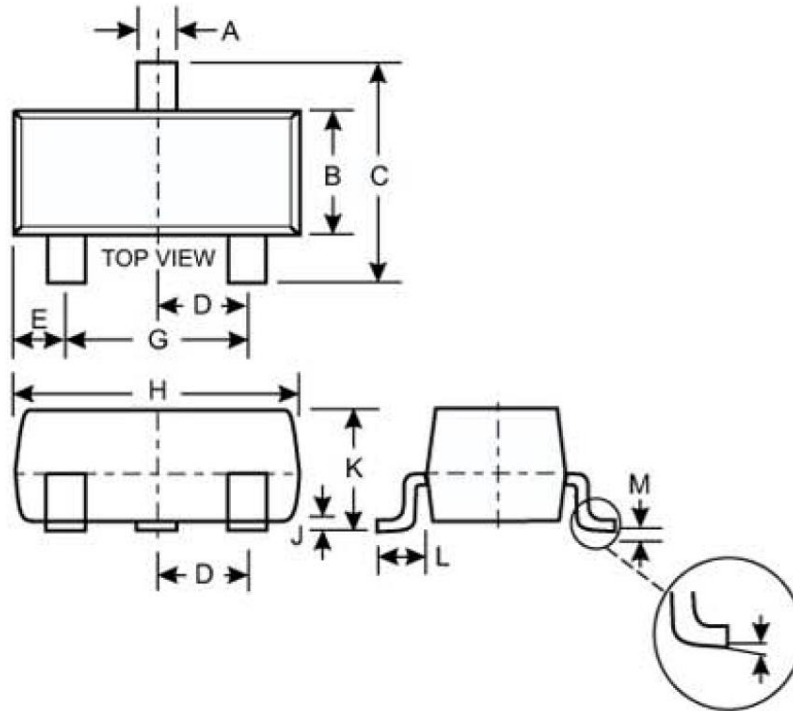
Figure 3. Typical Reverse Characteristics





PACKAGE INFORMATION

Dimension in SOT-23 (Unit: mm)



Dim	Min	Max
A	0.37	0.51
B	1.20	1.40
C	2.30	2.50
D	0.89	1.03
E	0.45	0.60
G	1.78	2.05
H	2.80	3.00
J	0.013	0.10
K	0.903	1.10
L	0.45	0.61
M	0.085	0.177
α	0°	8°



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