

**DESCRIPTION**

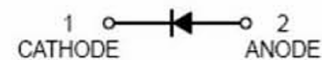
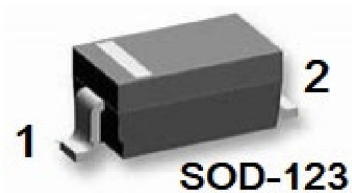
The BAT54T is available in the SOD-123 package.

**FEATURE**

- Low turn-on voltage.
- Fast switching.
- Ultra-small surface mount package.
- PN junction guard ring for transient and ESD protection.

**APPLICATION**

- Schottky barrier detector and switching diodes.

**PIN DESCRIPTION****ORDERING INFORMATION**

Package Type	Part Number
SOD-123	BAT54T
SPQ	3,000pcs/Reel
AiT provides all RoHS Compliant Products	

PIN#	DESCRIPTION
1	CATHODE
2	ANODE

**ABSOLUTE MAXIMUM RATINGS**

T<sub>A</sub> = 25°C, unless otherwise specified.

V <sub>RM</sub> , Peak Reverse Voltage	30 V
V <sub>R</sub> , Reverse Voltage	21 V
I <sub>O</sub> , Average Rectified Output Current	100 mA
I <sub>F</sub> , Forward Continuous Current	200 mA
I <sub>FRM</sub> , Repetitive peak Forward Current	300 mA
I <sub>FSM</sub> , Forward Surge Current	600 mA
P <sub>d</sub> , Power Dissipation	200 mW
R <sub>θjA</sub> , Thermal Resistance, Junction to Ambient air	625 °C/W
T <sub>j</sub> , Junction Temperature	125 °C
T <sub>stg</sub> , Storage Temperature Range	-65 ~ +155 °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<sub>A</sub>=25°C unless otherwise specified.

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Reverse Breakdown Voltage	V <sub>(BR)R</sub>	I <sub>R</sub> = 100 μA	30	-	-	V
Forward Voltage	V <sub>F1</sub>	I <sub>F</sub> = 0.1 mA	-	-	240	mV
	V <sub>F2</sub>	I <sub>F</sub> = 1 mA	-	-	320	mV
	V <sub>F3</sub>	I <sub>F</sub> = 10 mA	-	-	400	mV
	V <sub>F4</sub>	I <sub>F</sub> = 30 mA	-	-	500	mV
	V <sub>F5</sub>	I <sub>F</sub> = 100 mA	-	-	1000	mV
Reverse Current	I <sub>R</sub>	V <sub>R</sub> = 25 V	-	-	2.0	μA
Reverse Recovery time	t <sub>rr</sub>	I <sub>F</sub> = 10 mA, I <sub>R</sub> = 10mA to 1mA R <sub>L</sub> = 100Ω	-	-	5.0	ns
Capacitance between terminals	C <sub>T</sub>	V <sub>R</sub> = 0, f = 1 MHz	-	-	10	pF



## TYPICAL CHARACTERISTICS

Fig 1. Max Forward voltage drop characteristics (PERLEG)

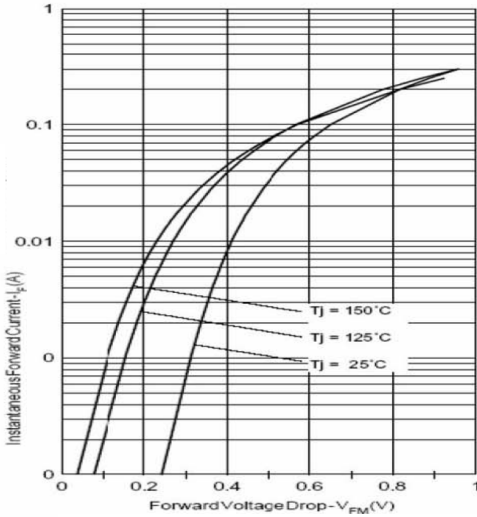


Fig 2. Typical values of reverse current vs. Reverse voltage (PERLEG)

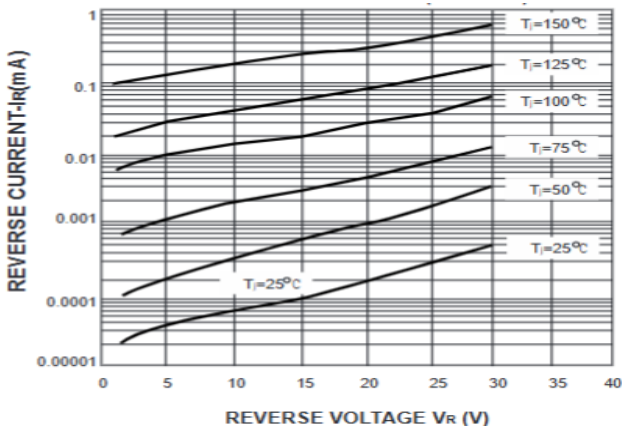


Fig 4. Forward power loss characteristics

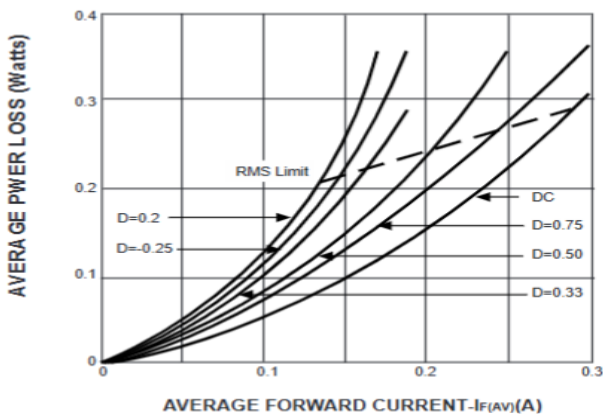


Fig 3. Typical junction capacitance vs. Reverse voltage (PERLEG)

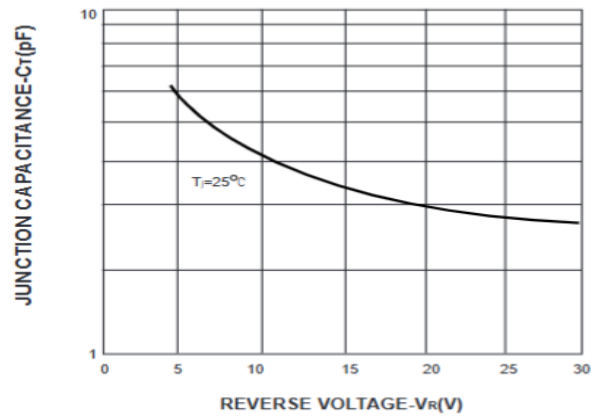
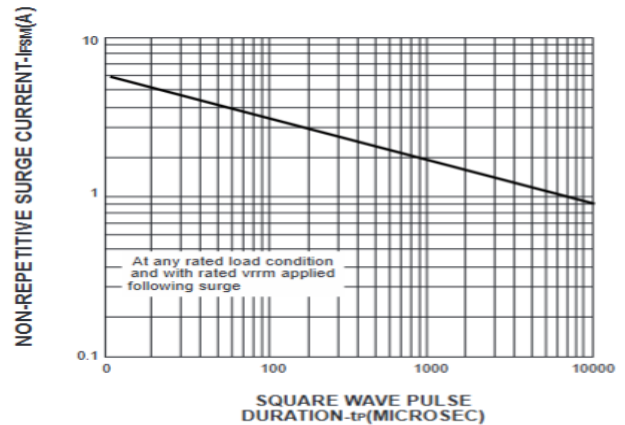


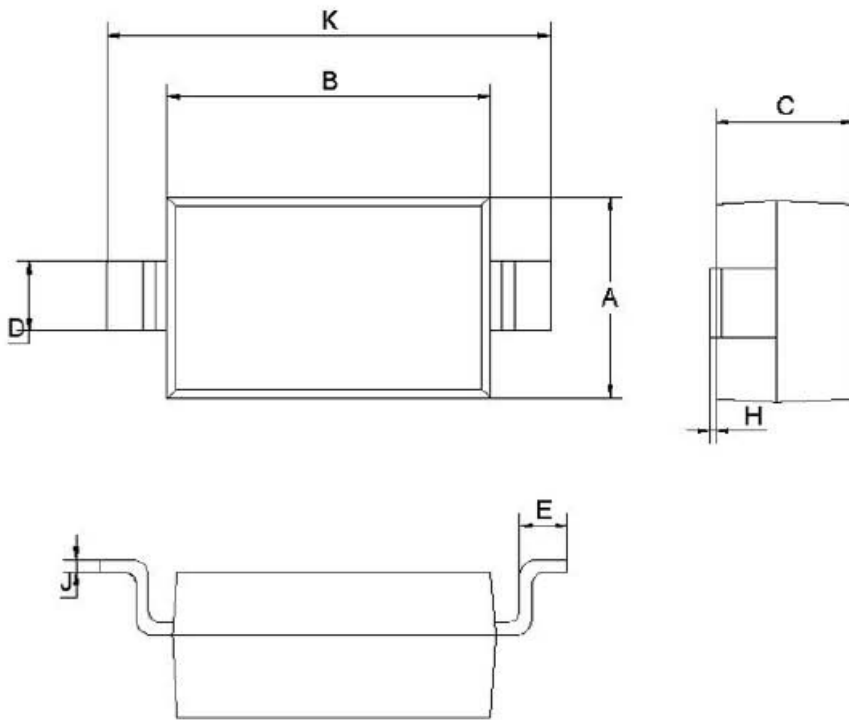
Fig 5. Max non-repetitive surge current





**PACKAGE INFORMATION**

Dimension in SOD-123 (Unit: mm)



Symbol	Millimeter	
	Min.	Max.
A	1.400	1.800
B	2.550	2.850
C	1.150 TYP.	
D	0.500	0.600
E	0.300	0.400
H	0.020	0.100
J	0.100 TYP.	
K	3.550	3.850



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