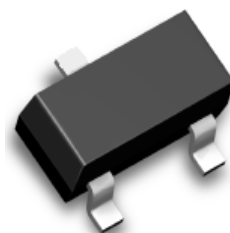


Features

- Low turn-on voltage
- Fast switching
- PN Junction Guard Ring for Transient and ESD Protection.



SOT-23

Mechanical Data

- **Case:** SOT-23, Plastic
- **Terminals:** Solder plated, solderable per MIL-STD-202, Method 208
- **Approx. Weight:** 0.008 gram

Major Ratings and Characteristics

$I_{F(AV)}$	0.2A
V_{RRM}	30 V
I_{FSM}	0.6A
$T_j \text{ max.}$	125 °C

Maximum Ratings & Thermal Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load.

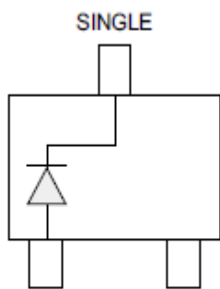
For capacitive load, derate current by 20%.

Items	Symbol	BAT54/BAT54A/BAT54C/BAT54S	UNIT
Peak Repetitive Reverse Voltage	V_{RRM}	30	V
Maximum Average Forward Current at $T_a=25^\circ\text{C}$	I_O	0.2	A
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	I_{FSM}	0.6	A
Thermal resistance from junction to Ambient	$R_{\theta JA}$	635	°C/W
Operating junction temperature range	T_J	-65 to +125	°C
Storage temperature range	T_{STG}	-65 to +125	°C

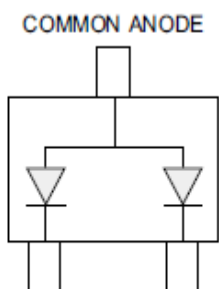
Electrical Characteristics ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Items	Test conditions	Symbol	Min	Type	Max	UNIT
Instantaneous forward voltage	$I_F=0.001\text{A}$ $I_F=0.1\text{A}$	V_F	-	-	0.32 1.0	V
Reverse current	$V_R=25\text{V}$	I_R	-	-	0.002	mA

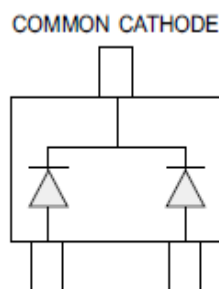
Structure



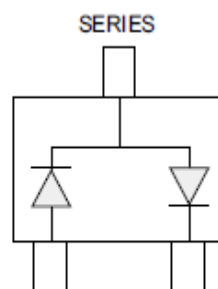
BAT54



BAT54A



BAT54C



BAT54S

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

Fig.1 Forward Current Derating Curve

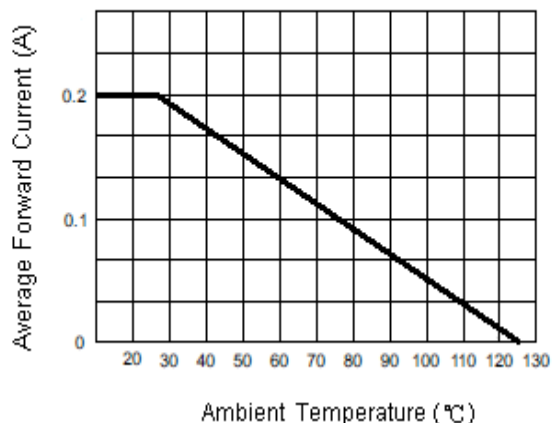


Fig.2 Typical Instantaneous Forward Characteristics

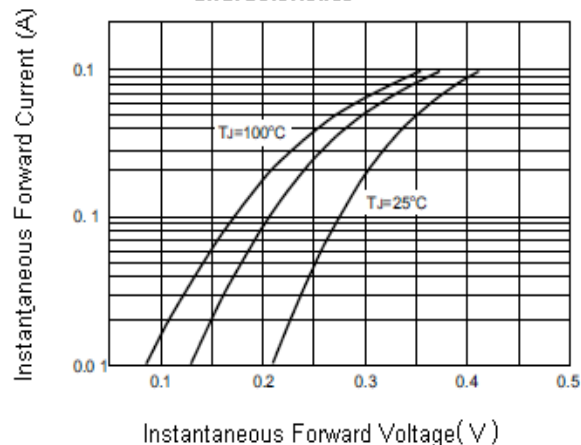


Fig.3 Typical Reverse Leakage Characteristics

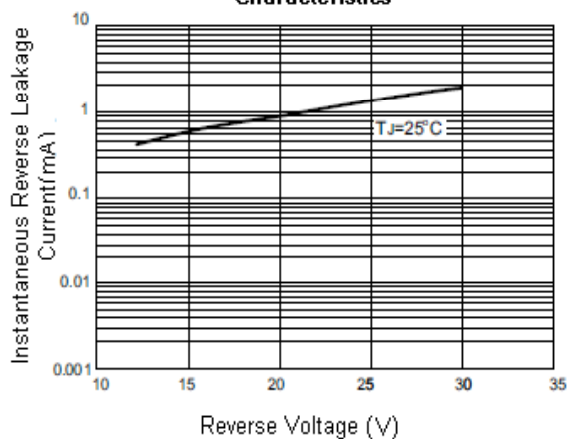
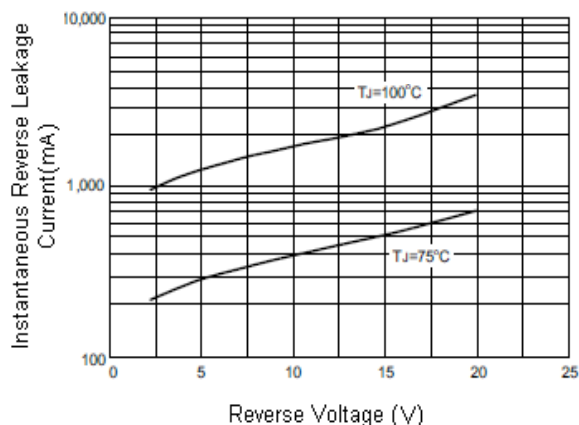
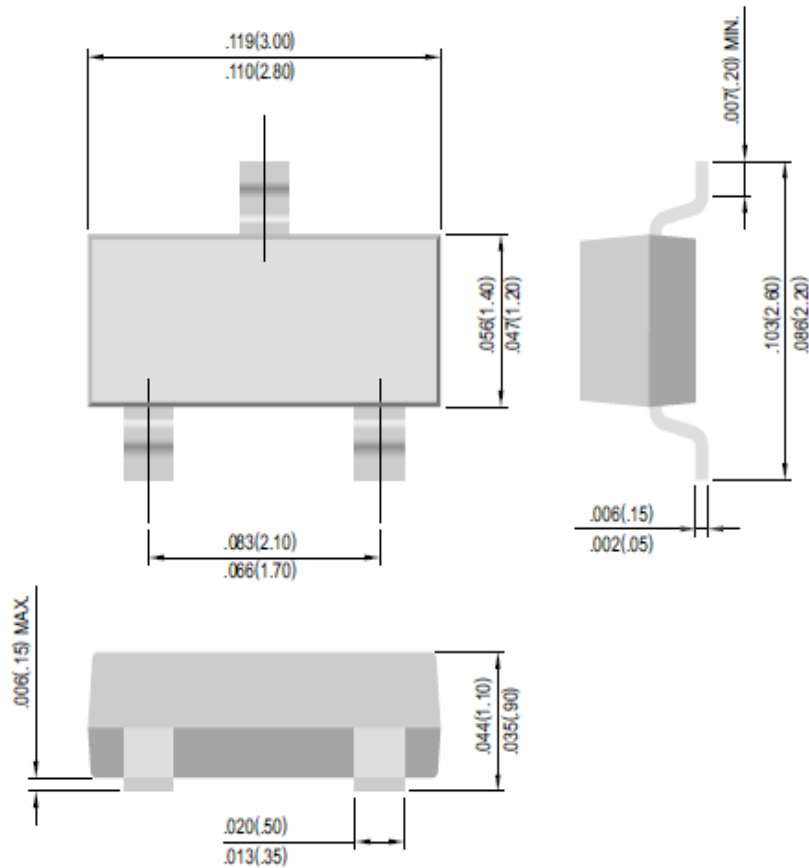


Fig.4 Typical Reverse Leakage Characteristics



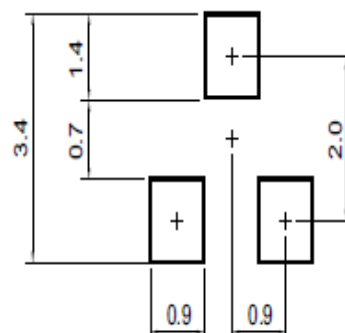
Package Outline

SOT-23



Dimensions in inches and (millimeters)

Suggested Mounting Pad Layout



Dimensions in (millimeters)