

# BAT54 / A / C / S

200m Watts Surface Mount Schottky Barrier Diode

## SOT-23

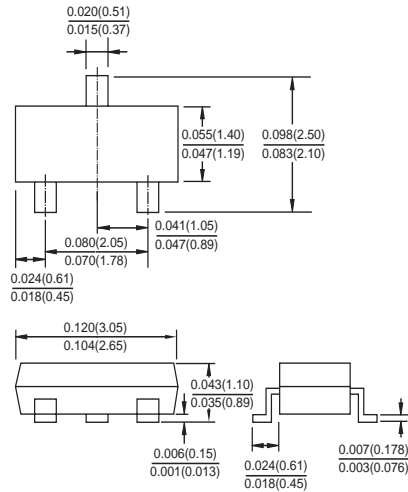


### Features

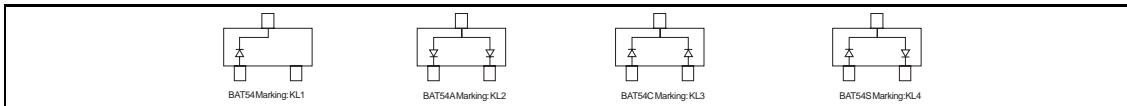
- ✧ Low turn-on voltage
- ✧ Fast switching
- ✧ PN junction guard ring for transient and ESD protection

### Mechanical Data

- ✧ Case: SOT-23, Molded plastic
- ✧ Terminals: Solderable per MIL-STD-202, Method 208
- ✧ Marking & Polarity: See diagram
- ✧ Weight: 0.008 gram (approx.)



Dimensions in inches and (millimeters)



### Maximum Ratings $T_A=25^\circ\text{C}$ unless otherwise specified

Type Number	Symbol	Value	Units
Peak Repetitive Reverse Voltage	VRRM	30	V
Working Peak Reverse Voltage	VRWM		
DC Blocking Voltage	VR		
Forward Continuous Current	IF	200	mA
Repetitive Peak Forward Current	IFM	300	mA
Forward Surge Current @ t=1.0s	IFSM	600	mA
Power Dissipation (Note 1)	Pd	200	mW
Thermal Resistance Junction to Ambient Air	$R_{\theta JA}$	500	$^\circ\text{C/W}$
Operating and Storage Temperature Range	$T_J, T_{STG}$	-65 to + 125	$^\circ\text{C}$

### Electrical Characteristics

Type Number	Symbol	Min	Typ	Max	Units
Reverse Breakdown Voltage (Note 1)	$V_{(BR)R}$	30	-	-	V
Reverse Leakage Current (Note 1) VR=25V	$I_R$	-	-	2.0	$\mu\text{A}$
Forward Voltage (Note1)	$V_F$	-	-	240 320 400 500 1000	mV
Junction Capacitance VR=0, f=1.0MHz	Cj	-	-	10	pF
Reverse Recovery Time (Note 2)	trr	-	-	5.0	nS

- Notes:
1. Short Duration Pulse Test used to Minimize Self-Heating Effect.
  2. Reverse Recovery Test Conditions: IF=10mA through IR=10mA to IR=1.0mA, RL=100 $\Omega$ .

## RATINGS AND CHARACTERISTIC CURVES (BAT54 / A / C / S)

FIG.1- POWER DERATING CURVE

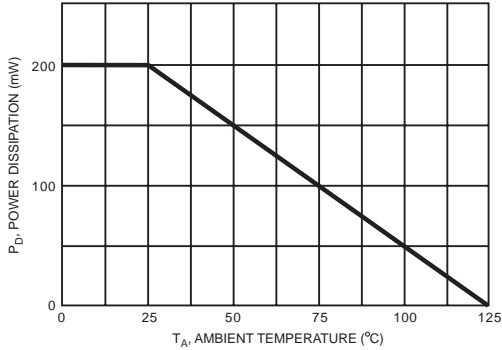


FIG.2- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PER LEG

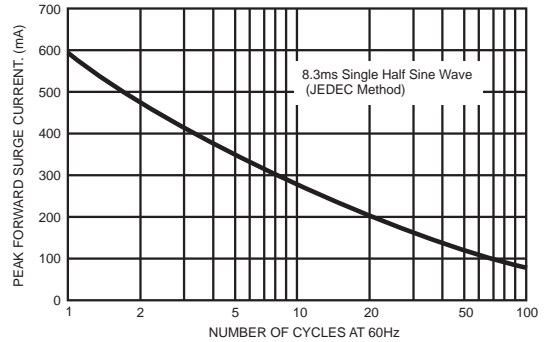


FIG.3- TYPICAL FORWARD CHARACTERISTICS

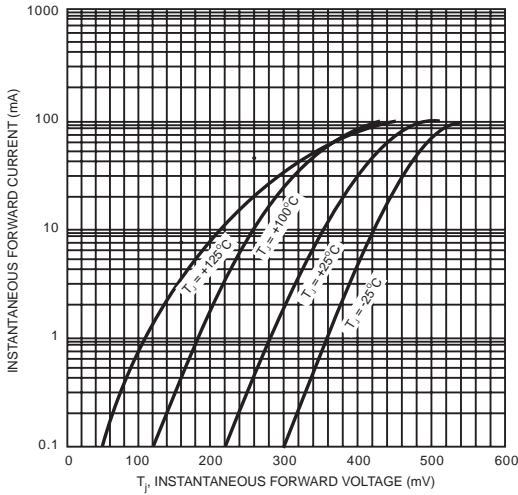


FIG.4- TYPICAL REVERSE CHARACTERISTICS

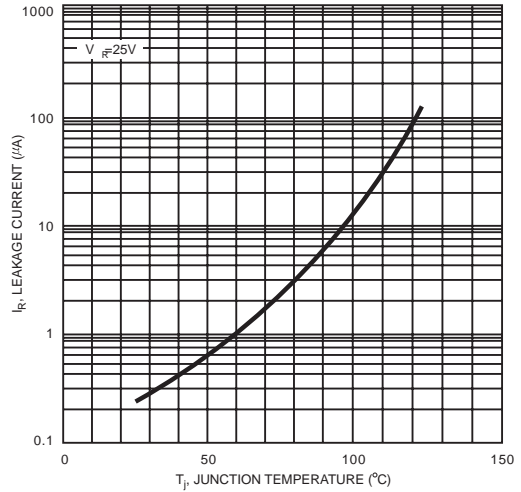


FIG.5- TYPICAL TOTAL CAPACITANCE VS REVERSE VOLTAGE

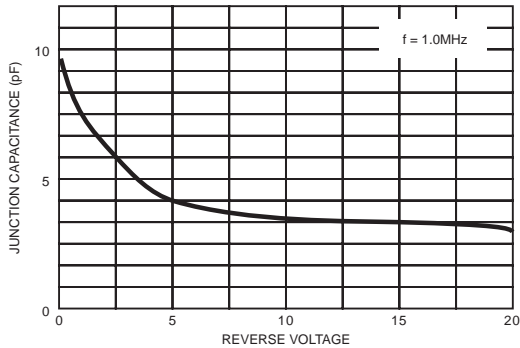


FIG.6- TYPICAL TRANSIENT THERMAL CHARACTERISTICS

