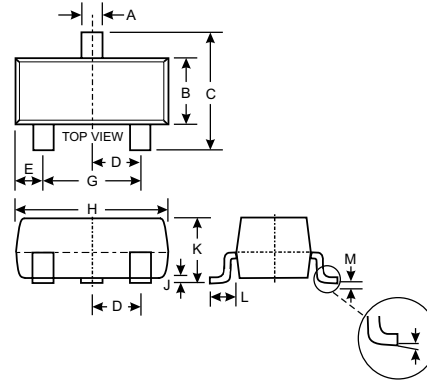


### Features

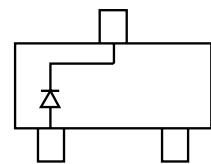
- Low Turn-on Voltage
- Fast Switching
- PN Junction Guard Ring for Transient and ESD Protection

### Mechanical Data

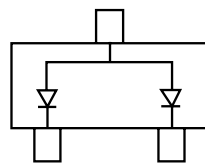
- Case: SOT-23, Molded Plastic
- Case material - UL Flammability Rating Classification 94V-0
- Moisture sensitivity: Level 1 per J-STD-020A
- Terminals: Solderable per MIL-STD-202, Method 208
- Polarity: See Diagrams Below
- Weight: 0.008 grams (approx.)
- Marking Code: See Diagrams Below
- Ordering Information: See Page 3



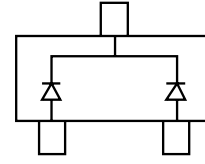
SOT-23		
Dim	Min	Max
A	0.37	0.51
B	1.20	1.40
C	2.30	2.50
D	0.89	1.03
E	0.45	0.60
G	1.78	2.05
H	2.80	3.00
J	0.013	0.10
K	0.903	1.10
L	0.45	0.61
M	0.85	0.80
$\alpha$	0°	8°
All Dimensions in mm		



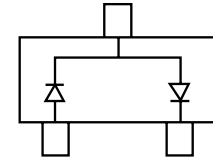
BAT54 Marking: KL1



BAT54A Marking: KL2



BAT54C Marking: KL3



BAT54S Marking: KL4

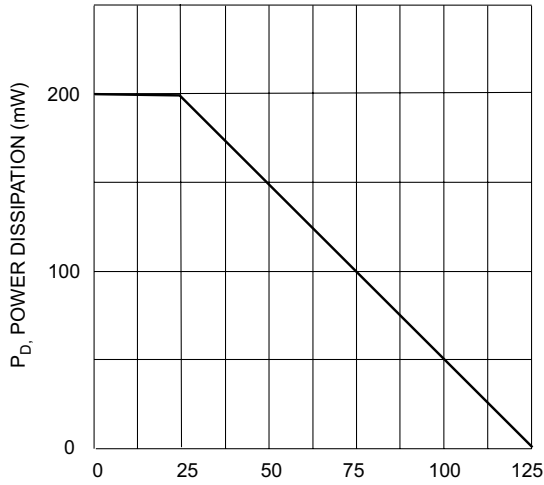
### Maximum Ratings @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	$V_{RRM}$ $V_{RWM}$ $V_R$	30	V
Forward Continuous Current (Note 2)	$I_F$	200	mA
Repetitive Peak Forward Current	$I_{FRM}$	300	mA
Forward Surge Current @ $t < 1.0\text{s}$	$I_{FSM}$	600	mA
Power Dissipation (Note 2)	$P_d$	200	mW
Thermal Resistance, Junction to Ambient Air (Note 2)	$R_{\theta JA}$	500	$^\circ\text{C}/\text{W}$
Operating and Storage Temperature Range	$T_j, T_{STG}$	-65 to +125	$^\circ\text{C}$

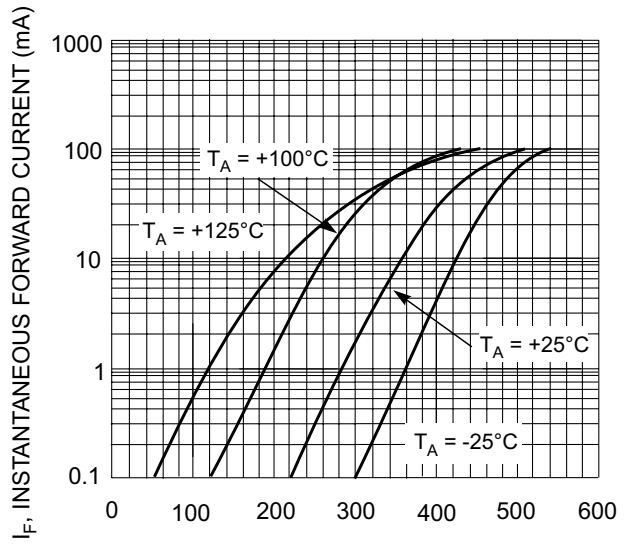
### Electrical Characteristics @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 1)	$V_{(BR)R}$	30	—	—	V	$I_{RS} = 100\mu\text{A}$
Forward Voltage (Note 1)	$V_F$	—	—	240 320 400 500 1000	mV	$I_F = 0.1\text{mA}$ $I_F = 1\text{mA}$ $I_F = 10\text{mA}$ $I_F = 30\text{mA}$ $I_F = 100\text{mA}$
Reverse Leakage Current (Note 1)	$I_R$	—	—	2.0	$\mu\text{A}$	$V_R = 25\text{V}$
Total Capacitance	$C_T$	—	—	10	pF	$V_R = 1.0\text{V}, f = 1.0\text{MHz}$
Reverse Recovery Time	$t_{rr}$	—	—	5.0	ns	$I_F = 10\text{mA}$ through $I_R = 10\text{mA}$ to $I_R = 1.0\text{mA}, R_L = 100\Omega$

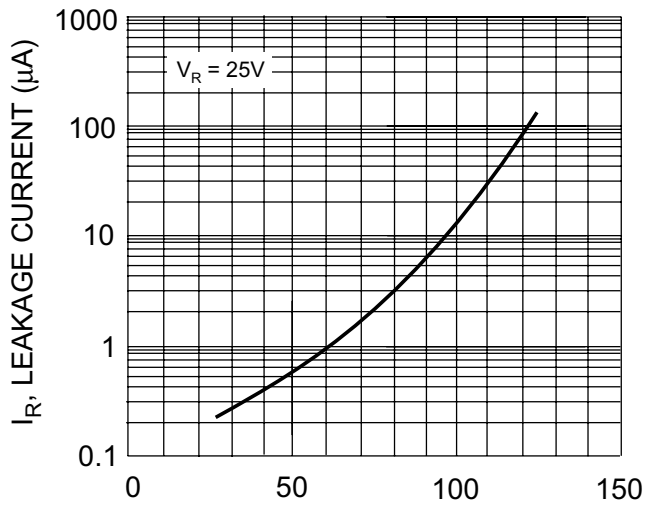
Notes: 1. Short duration pulse test used to minimize self-heating effect.  
2. Part mounted on FR-4 board with recommended pad layout, which can be found on our website at <http://www.diodes.com/datasheets/ap02001.pdf>.



$T_A$ , AMBIENT TEMPERATURE (°C)  
Fig. 1 Power Derating Curve



$T_j$ , INSTANTANEOUS FORWARD VOLTAGE (mV)  
Fig. 2, Typical Forward Characteristics



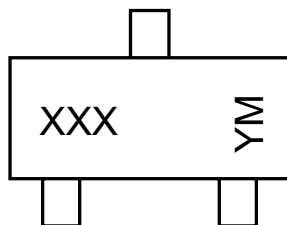
$T_j$ , JUNCTION TEMPERATURE (°C)  
Fig. 3, Typical Reverse Characteristics

## Ordering Information (Note 3)

Device	Packaging	Shipping
BAT54-7 BAT54A-7 BAT54C-7 BAT54S-7	SOT-23	3000/Tape & Reel

Notes: 3. For Packaging Details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

## Marking Information



XXX = Product Type Marking Code (See Page 1)  
 YM = Date Code Marking  
 Y = Year ex: N = 2002  
 M = Month ex: 9 = September

### Date Code Key

Year	2001	2002	2003	2004	2005
Code	M	N	P	R	S

Month	Jan	Feb	March	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D