

RoHS Compliant Product

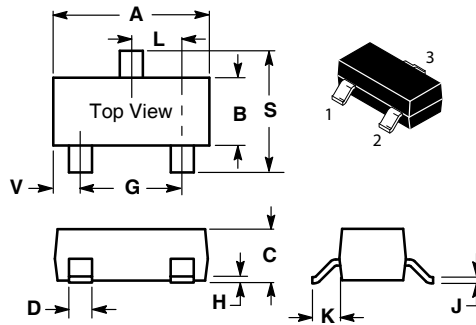
A suffix of "-C" specifies halogen & lead-free

**FEATURES**

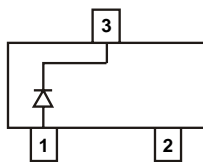
- Low Turn-on Voltage
- Fast Switching
- PN Junction Guard Ring for Transient and ESD Protection

**MECHANICAL DATA**

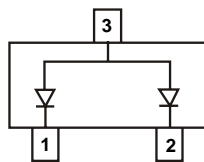
- Case: SOT-23, Molded Plastic
- Terminals: Solderable per MIL-STD-202, Method 208
- Polarity: See Diagrams Below
- Weight: 0.008 grams (approx.)
- Mounting Position: Any



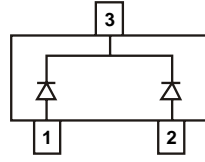
SOT-23		
Dim	Min	Max
A	2.800	3.040
B	1.200	1.400
C	0.890	1.110
D	0.370	0.500
G	1.780	2.040
H	0.013	0.100
J	0.085	0.177
K	0.450	0.600
L	0.890	1.020
S	2.100	2.500
V	0.450	0.600
All Dimension in mm		



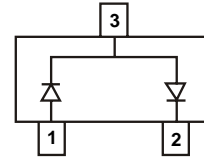
BAT54 Marking: LV3,KL1



BAT54A Marking: B6,KL2



BAT54C Marking: B5,KL3



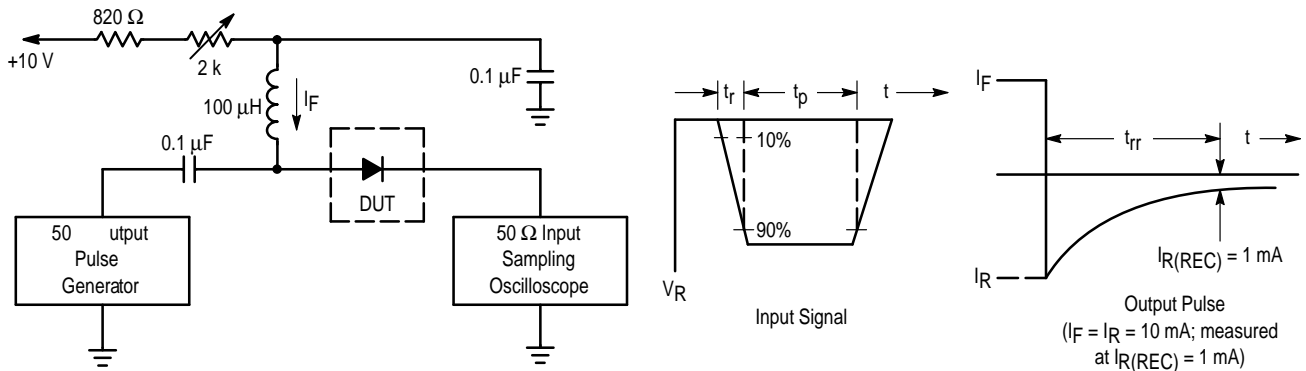
BAT54S Marking: LD3,KL4

**MAXIMUM RATINGS** ( $T_J = 125^\circ\text{C}$  unless otherwise noted)

Rating	Symbol	Value	Unit
Reverse Voltage	$V_R$	30	Volts
Forward Power Dissipation @ $T_A = 25^\circ\text{C}$ Derate above $25^\circ\text{C}$	$P_F$	225 1.8	mW mW/ $^\circ\text{C}$
Forward Current (DC)	$I_F$	200 Max	mA
Junction Temperature	$T_J$	125 Max	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	-55 to +150	$^\circ\text{C}$

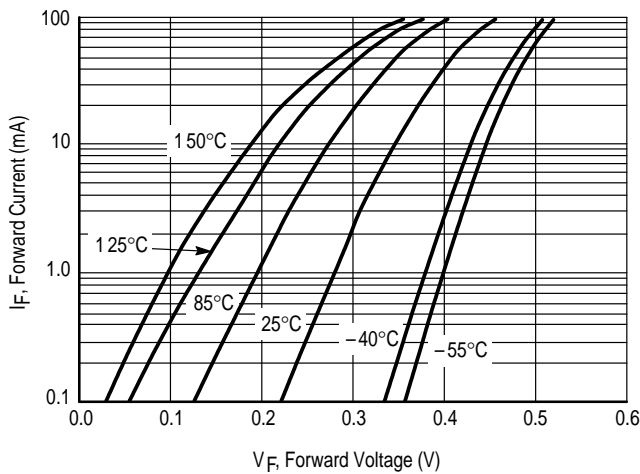
**ELECTRICAL CHARACTERISTICS** ( $T_A = 25^\circ\text{C}$  unless otherwise noted) (EACH DIODE)

Characteristic	Symbol	Min	Typ	Max	Unit
Reverse Breakdown Voltage ( $I_R = 10 \mu\text{A}$ )	$V_{(BR)R}$	30	—	—	Volts
Total Capacitance ( $V_R = 1.0 \text{ V}$ , $f = 1.0 \text{ MHz}$ )	$C_T$	—	7.6	10	pF
Reverse Leakage ( $V_R = 25 \text{ V}$ )	$I_R$	—	0.5	2.0	$\mu\text{A}_{dc}$
Forward Voltage ( $I_F = 0.1 \text{ mA}_{dc}$ )	$V_F$	—	0.22	0.24	V <sub>dc</sub>
Forward Voltage ( $I_F = 30 \text{ mA}_{dc}$ )	$V_F$	—	0.41	0.5	V <sub>dc</sub>
Forward Voltage ( $I_F = 100 \text{ mA}_{dc}$ )	$V_F$	—	0.52	1.0	V <sub>dc</sub>
Reverse Recovery Time ( $I_F = I_R = 10 \text{ mA}_{dc}$ , $I_{R(REC)} = 1.0 \text{ mA}_{dc}$ ) Figure 1	$t_{rr}$	—	—	5.0	ns
Forward Voltage ( $I_F = 1.0 \text{ mA}_{dc}$ )	$V_F$	—	0.29	0.32	V <sub>dc</sub>
Forward Voltage ( $I_F = 10 \text{ mA}_{dc}$ )	$V_F$	—	0.35	0.40	V <sub>dc</sub>
Forward Current (DC)	$I_F$	—	—	200	mA <sub>dc</sub>
Repetitive Peak Forward Current	$I_{FRM}$	—	—	300	mA <sub>dc</sub>
Non-Repetitive Peak Forward Current ( $t < 1.0 \text{ s}$ )	$I_{FSM}$	—	—	600	mA <sub>dc</sub>

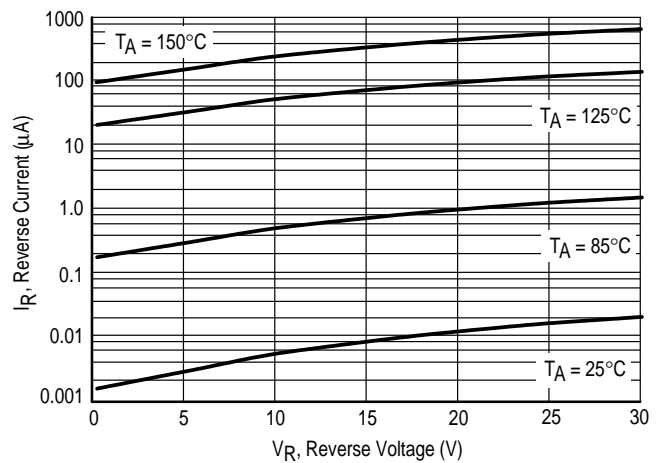


- Notes: 1. A 2.0 kΩ variable resistor adjusted for a Forward Current ( $I_F$ ) of 10 mA.  
2. Input pulse is adjusted so  $I_{R(peak)}$  is equal to 10 mA.  
3.  $t_p \gg t_{rr}$

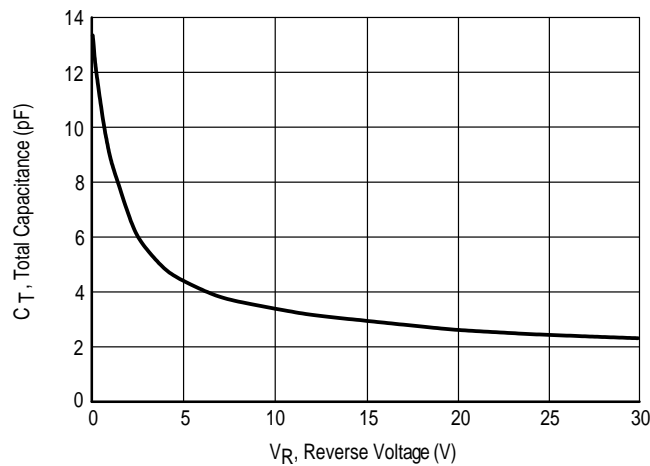
**Figure 1. Recovery Time Equivalent Test Circuit**



**Figure 2. Forward Voltage**



**Figure 3. Leakage Current**



**Figure 4. Total Capacitance**

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