Elektronische Bauelemente

BAT54 Series

BAT54 / BAT54A / BAT54C / BAT54S

Surface Mount Schottky Barrier Diode

RoHS Compliant Product

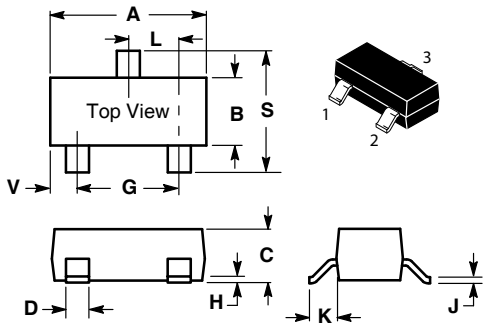
A suffix of "-C" specifies halogen & lead-free

FEATURES

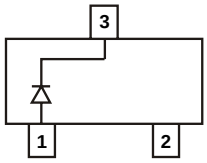
- Low Turn-on Voltage
- Fast Switching
- PN Junction Guard Ring for Transient and ESD Protection

MECHANICAL DATA

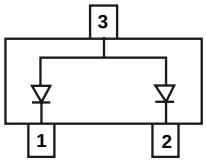
- Case: SOT-23, Molded Plastic
- Terminals: Solderable per MIL-STD-202, Method 208
- Polarity: See Diagrams Below
- Weight: 0.008 grams (approx.)
- Mounting Position: Any



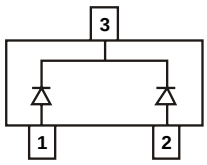
SOT-23		
Dim	**Min**	**Max**
A	2.800	3.040
B	1.200	1.400
C	0.890	1.110
D	0.370	0.500
G	1.780	2.040
H	0.013	0.100
J	0.085	0.177
K	0.450	0.600
L	0.890	1.020
S	2.100	2.500
V	0.450	0.600
All Dimension in mm		



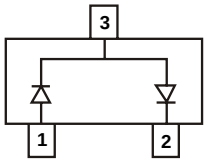
BAT54 Marking: LV3,KL1



BAT54A Marking: B6,KL2



BAT54C Marking: B5,KL3



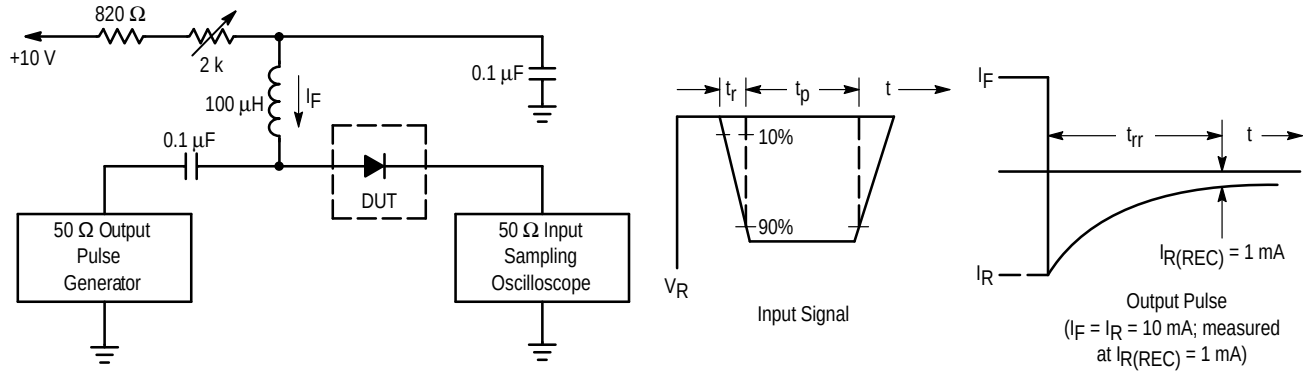
BAT54S Marking: LD3,KL4

MAXIMUM RATINGS (T_J = 125°C unless otherwise noted)

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

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted) (EACH DIODE)

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



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

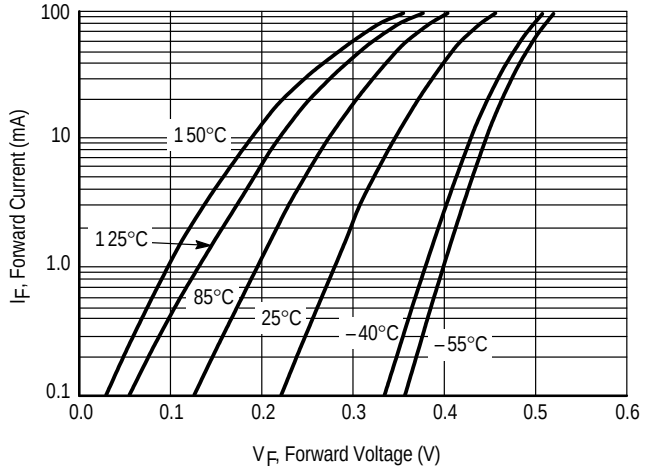


Figure 2. Forward Voltage

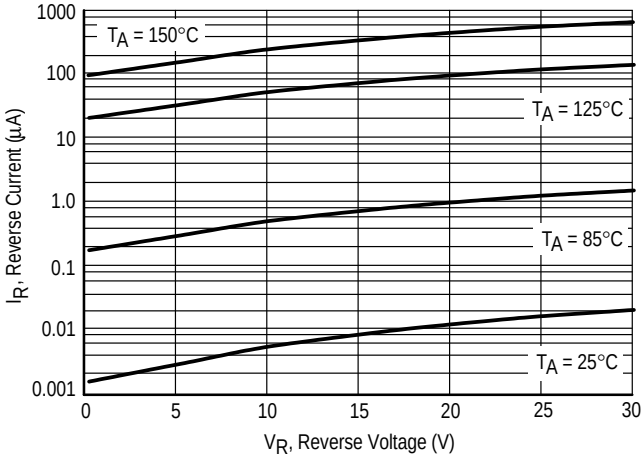


Figure 3. Leakage Current

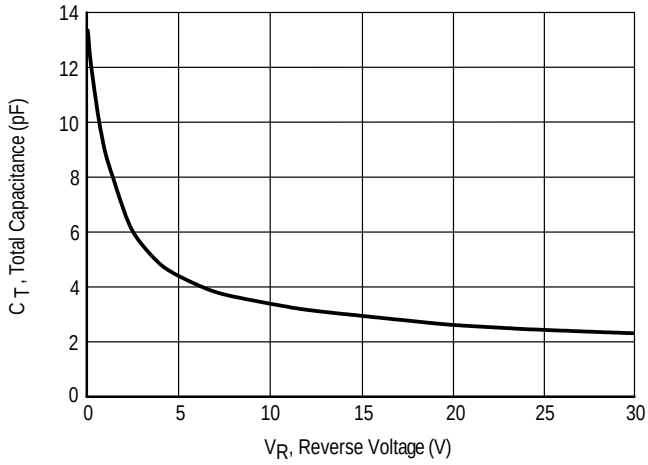


Figure 4. Total Capacitance