

RoHS Compliant Product  
A suffix of "-C" specifies halogen & lead-free

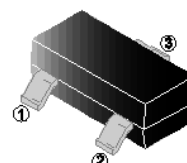
## FEATURES

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

SOT-23

## MECHANICAL DATA

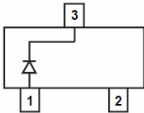
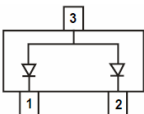
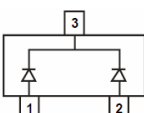
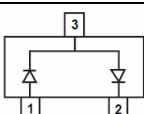
- Case: SOT-23
- Terminals: solderable per MIL-STD-202, Method 208
- Lead (Pb)-free and Halogen-free



## PACKAGE INFORMATION

Package	MPQ	Leader Size
SOT-23	3K	7 inch

## ORDER INFORMATION

Part Number	Equivalent Circuit	Marking
BAT54-C		LV3 / KL1 / L4 / L4P
BAT54A-C		B6 / KL2 / L42
BAT54C-C		B5 / KL3 / L43
BAT54S-C		LD3 / KL4 / L44

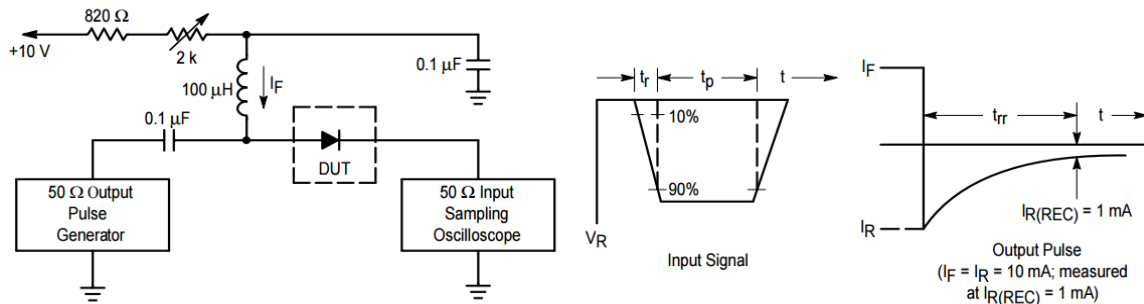
## ABSOLUTE MAXIMUM RATINGS (T<sub>A</sub>=25°C unless otherwise specified)

Parameter	Symbol	Ratings	Unit
Reverse Voltage	V <sub>R</sub>	30	V
Forward Current	I <sub>F</sub>	200	mA
Non-Repetitive Peak Forward Current @t=8.3ms	I <sub>FSM</sub>	600	mA
Power Dissipation	P <sub>D</sub>	200	mW
Thermal Resistance from Junction-Ambient	R <sub>θJA</sub>	500	°C/W
Operating Junction and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	125, -55~150	°C

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

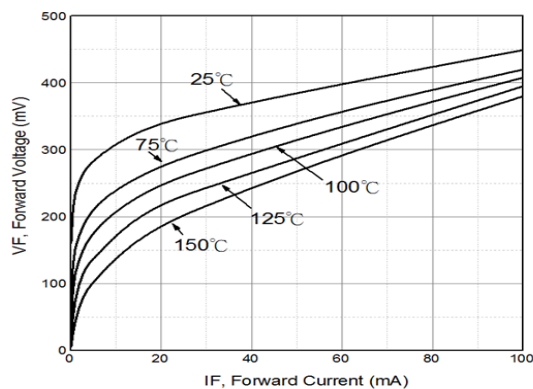
Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Reverse Breakdown Voltage	$V_{(BR)}$	30	-	-	V	$I_R=10\mu\text{A}$
Reverse Voltage Leakage Current	$I_R$	-	0.5	2	$\mu\text{A}$	$V_R=25\text{V}$
Forward Voltage	$V_F$	-	0.22	0.24	V	$I_F=0.1\text{mA}$
		-	0.29	0.32		$I_F=1\text{mA}$
		-	0.35	0.4		$I_F=10\text{mA}$
		-	0.41	0.5		$I_F=30\text{mA}$
		-	0.52	1		$I_F=100\text{mA}$
Total Capacitance	$C_T$	-	7.6	10	pF	$V_R=1\text{V}$ , $f=1\text{MHz}$
Reverse Recovery Time	$T_{rr}$	-	5	-	nS	$I_F=I_R=10\text{mA}$ , $I_{R(REC)}=1\text{mA}$

**RATINGS AND CHARACTERISTIC CURVES**

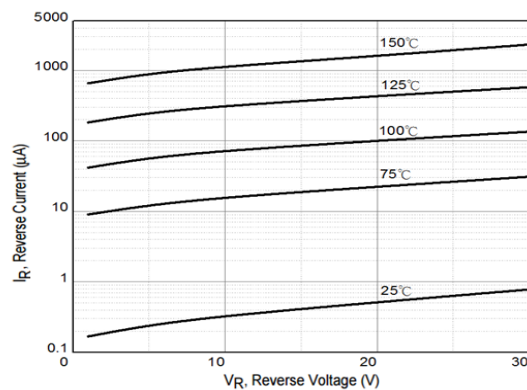


- Notes: 1. A 2.0 k $\Omega$  variable resistor adjusted for a Forward Current ( $I_F$ ) of 10 mA.  
2. Input pulse is adjusted so  $I_{R(\text{peak})}$  is equal to 10 mA.  
3.  $t_p \gg t_{rr}$

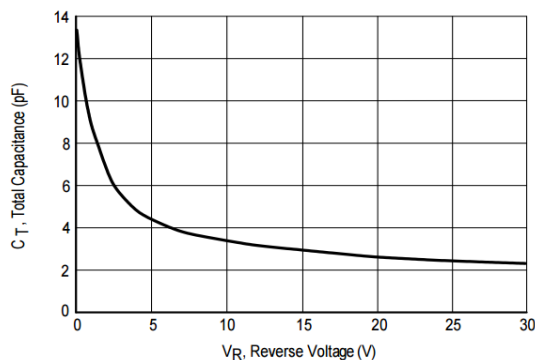
**Figure 1. Recovery Time Equivalent Test Circuit**



**Figure 2. Forward Voltage**



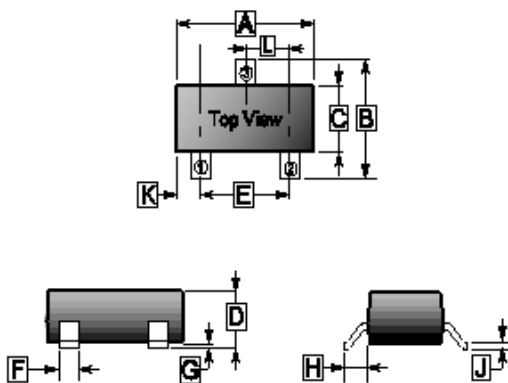
**Figure 3. Leakage Current**



**Figure 4. Total Capacitance**

**PACKAGE OUTLINE DIMENSIONS**

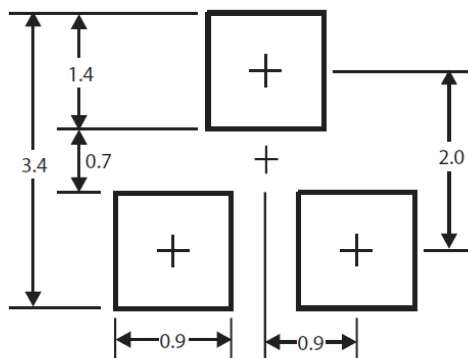
SOT-23



REF.	Millimeter	
	Min.	Max.
A	2.65	3.10
B	2.10	3.00
C	1.10	1.80
D	0.89	1.40
E	1.70	2.30
F	0.28	0.55
G	-	0.18
H	0.55 REF.	
J	0.05	0.26
K	0.60 REF.	
L	0.95 TYP.	

**MOUNTING PAD LAYOUT**

SOT-23



\*Dimensions in millimeters