

# BAT54 / A / C / S

Silicon epitaxial planar type

## Features

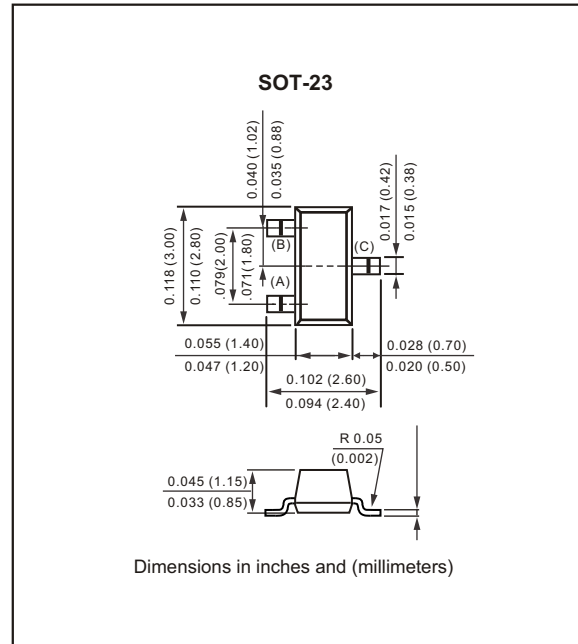
- Small surface mounting type
- High reliability
- High speed ( $t_{rr} < 5 \text{ ns}$ )

## Mechanical data

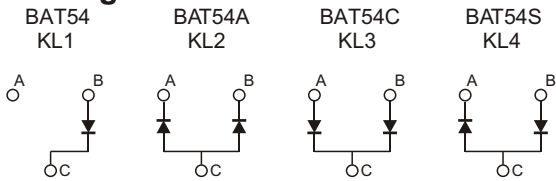
Case : SOT-23

Terminals : Solder plated, solderable per MIL-STD-750,  
Method 2026

Mounting Position : Any



## Marking Code



## MAXIMUM RATINGS (AT $T_A=25^\circ\text{C}$ unless otherwise noted)

PARAMETER	CONDITIONS	Symbol	MIN.	TYP.	MAX.	UNIT
Repetitive peak reverse voltage		$V_{RRM}$			30	V
Reverse voltage		$V_R$			30	V
Peak forward surge current	$t_p < 10 \text{ ms}$	$I_{FSM}$			600	mA
Repetitive peak forward current	$t_p < 1 \text{ s}$	$I_{FRM}$			300	mA
Forward current		$I_F$			200	mA
Junction temperature		$T_j$			125	$^\circ\text{C}$
Storage temperature		$T_{STG}$	-55		+150	$^\circ\text{C}$

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

PARAMETER	CONDITIONS	Symbol	MIN.	TYP.	MAX.	UNIT
Forward voltage	$I_F = 0.1\text{mA}$	$V_F$			0.240	V
	$I_F = 1\text{mA}$	$V_F$			0.320	V
	$I_F = 10\text{mA}$	$V_F$			0.400	V
	$I_F = 30\text{mA}$	$V_F$			0.500	V
	$I_F = 100\text{mA}$	$V_F$			0.800	V
Reverse current	$V_R = 25\text{V}$	$I_R$			2.0	$\mu\text{A}$
Diode capacitance	$V_R = 1\text{V}$ , $f = 1\text{MHz}$	$C_D$			10.0	pF
Reverse recovery time	$I_F = 10\text{mA}$ , $V_R = 10\text{mA}$ , $I_{RR} = 0.1 \times I_R$ , $R_L = 100\Omega$	$t_{rr}$			5	ns

## RATING AND CHARACTERISTIC CURVES for each diode (BAT54 / A / C / S)

FIG.1-TYPICAL FORWARD CHARACTERISTICS

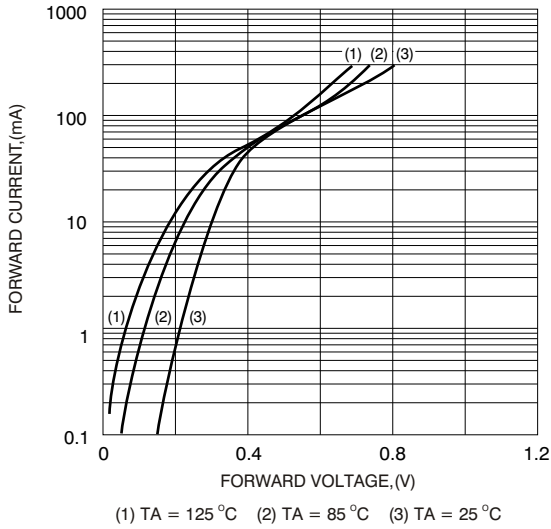


FIG.2 - Leakage Current CHARACTERISTICS

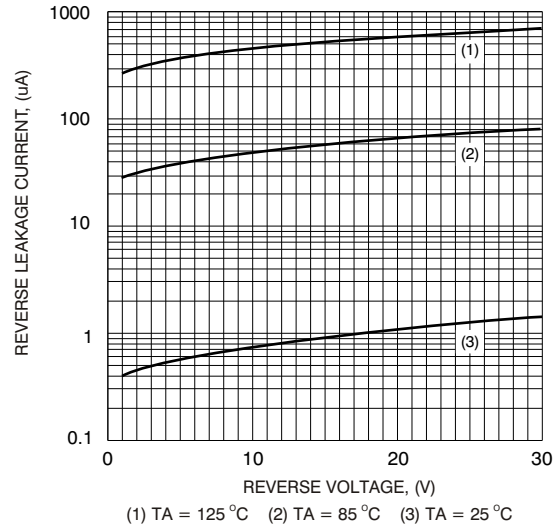
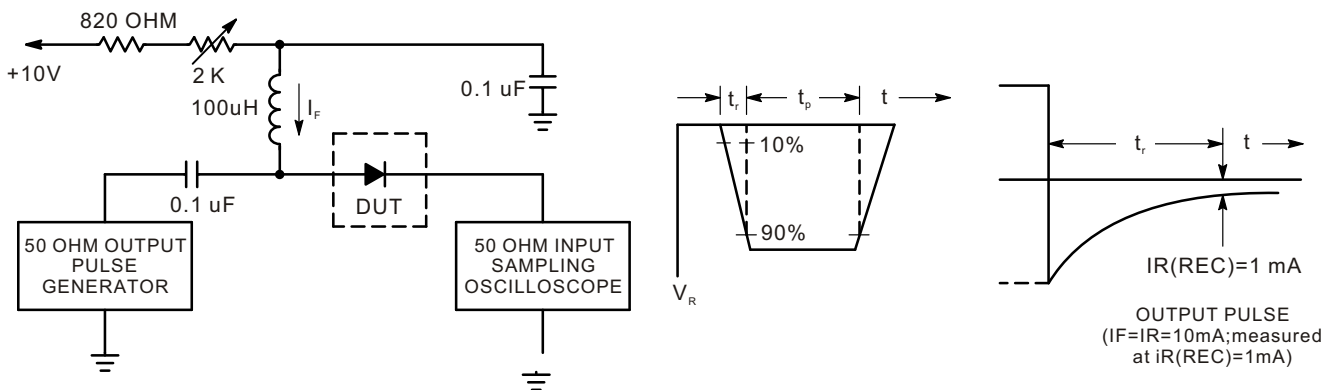
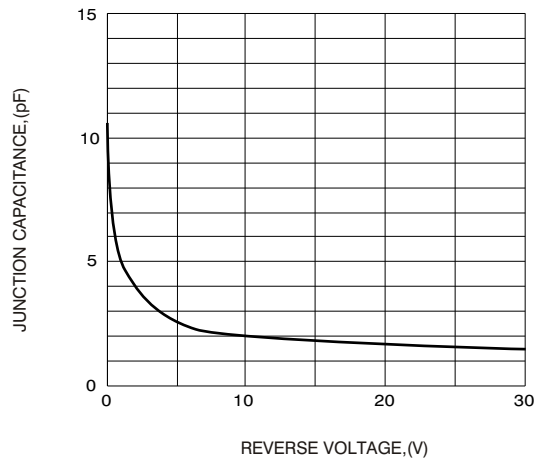


FIG.3-TYPICAL JUNCTION CAPACITANCE



- Notes : 1. A 2.0 Kohm variable resistor adjusted for a Forward Current (I<sub>F</sub>) of 10mA.  
 2. Input pulse is adjusted so I<sub>R</sub>(peak) is equal to 10 mA.  
 3. t<sub>p</sub> >> t<sub>rr</sub>.

t

**Recovery Time Equivalent Test Circuit**