

BAT54 / A / C / S

Silicon epitaxial planar type

Features

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

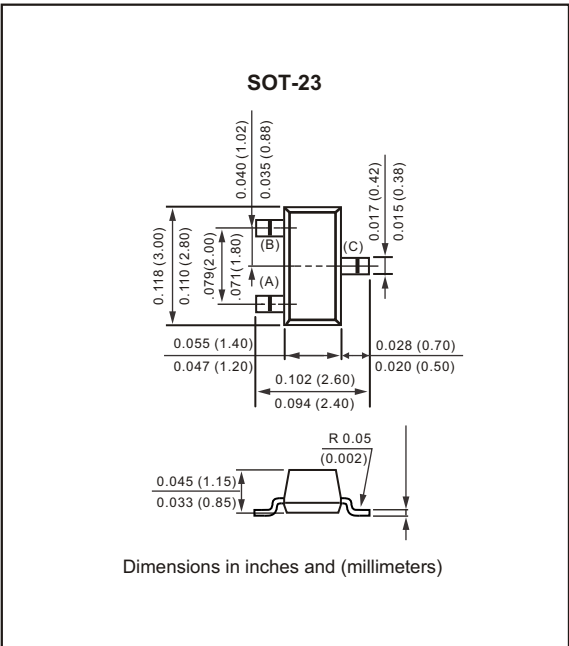
Mechanical data

Case : SOT-23

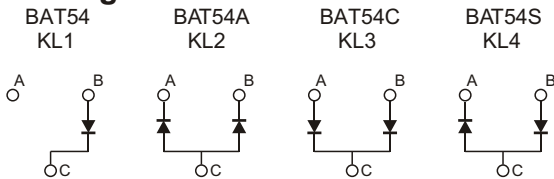
Terminals : Solder plated, solderable per MIL-STD-750,

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	μA
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

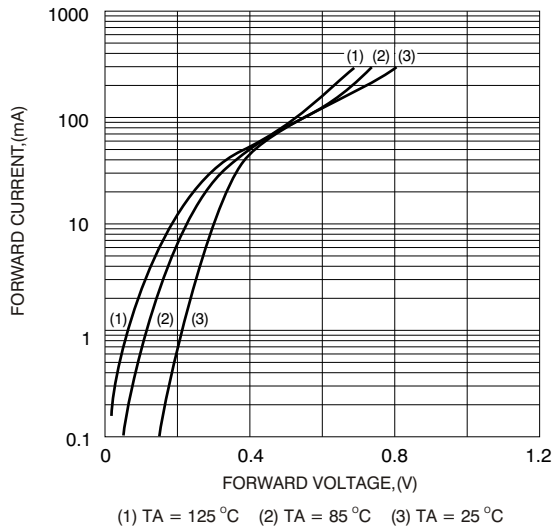


FIG.2 - Leakage Current
CHARACTERISTICS

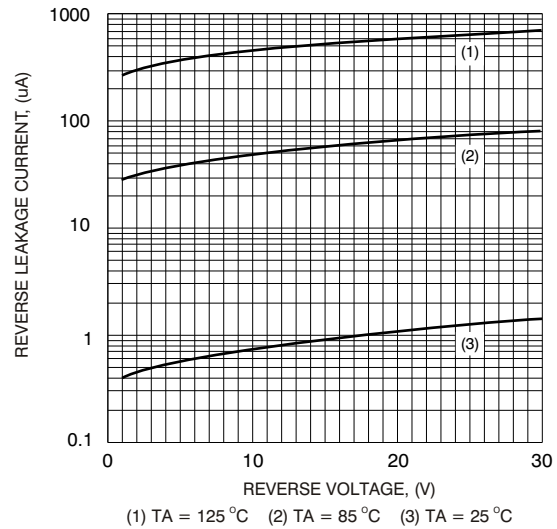
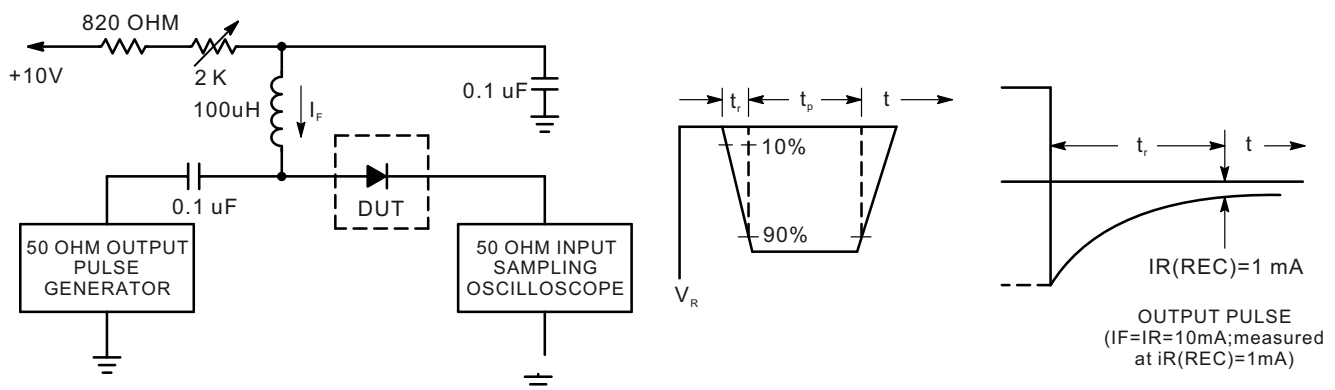
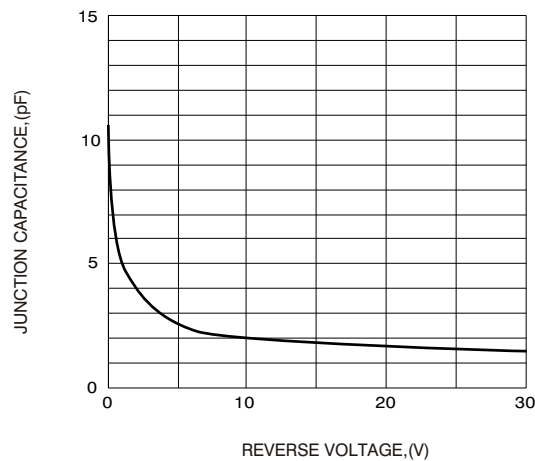


FIG.3-TYPICAL JUNCTION CAPACITANCE



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

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Recovery Time Equivalent Test Circuit