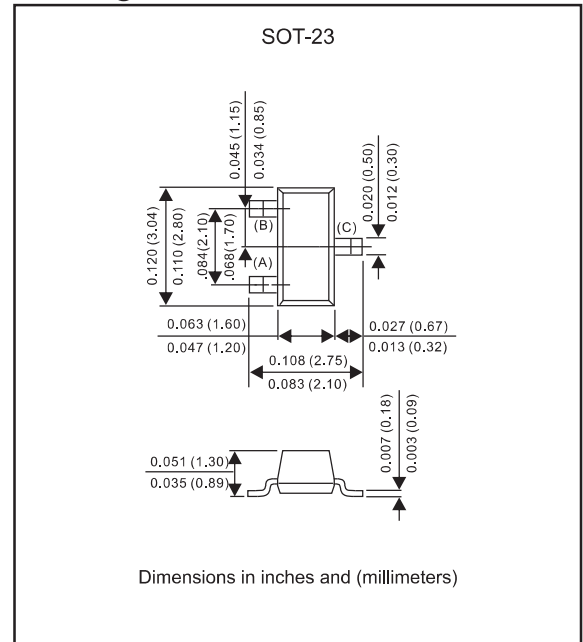


BAT54 / BAT54A / BAT54C / BAT54S**200mA Surface Mount Small Signal Schottky Diodes-30V****Features**

- Low current rectification and high speed switching.
- Small surface mount type.
- Up to 200mA current capability.
- Low forward voltage drop.
- Silicon epitaxial planar chip, metal silicon junction.
- Lead-free parts for green partner, exceeds environmental standards of MIL-STD-19500 /228
- High speed (trr < 5 ns)
- Suffix "-H" indicates Halogen-free part, ex.BAT54-H.

Mechanical data

- Epoxy:UL94-V0 rated flame retardant
- Case : Molded plastic, SOT-23
- Terminals : Solder plated, solderable per MIL-STD-750, Method 2026
- Mounting Position : Any

Package outline**Maximum ratings and Electrical Characteristics** (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
Total Device dissipation	FR-5 board, (Note 1) $T_A = 25^\circ\text{C}$ Derate above 25°C	P_D			200 2.0	mW mW/ $^\circ\text{C}$
Repetitive peak forward current		I_{FRM}			300	mA
Forward surge current	$t_p < 1\text{s}$	I_{FSM}			600	mA
Forward current		I_F			200	mA
Thermal Resistance	Junction to ambient	$R_{\theta JA}$		500		$^\circ\text{C}/\text{W}$
Operating Junction temperature range		T_J	-55		+125	$^\circ\text{C}$
Storage temperature range		T_{STG}	-55		+125	$^\circ\text{C}$
Forward voltage	$I_F = 0.1\text{ mA}$	V_F		0.220	0.240	V
	$I_F = 1\text{ mA}$	V_F		0.290	0.320	V
	$I_F = 10\text{ mA}$	V_F		0.350	0.400	V
	$I_F = 30\text{ mA}$	V_F		0.410	0.500	V
	$I_F = 100\text{ mA}$	V_F		0.520	1.000	V
Reverse current	$V_R = 25\text{ V}$	I_R		0.5	2.0	μA
Diode capacitance	$V_R = 1\text{ V}$, $f = 1\text{ MHz}$	C_J		7.6	10.0	pF
Reverse recovery time	$I_F = I_R = 10\text{ mAdc}$, $I_{R(REC)} = 1.0\text{ mAdc}$	trr			5	ns

Note : 1.FR-5 = 1.0 x 0.75 x 0.062 in

Rating and characteristic curves for each diode (BAT54 / A / C / S)

FIG.1-TYPICAL FORWARD CHARACTERISTICS

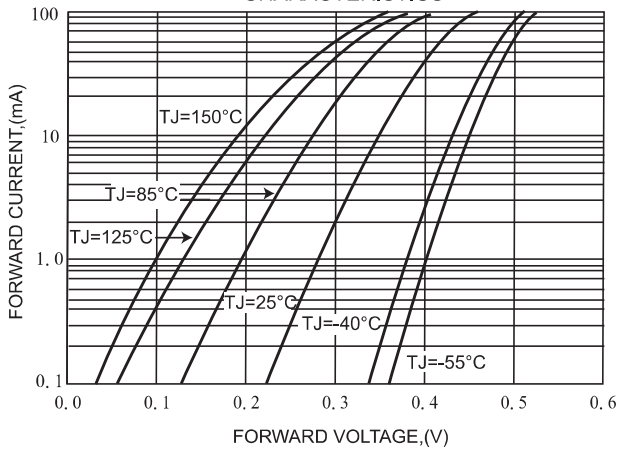


FIG.2 - TYPICAL LEAKAGE CURRENT CHARACTERISTICS

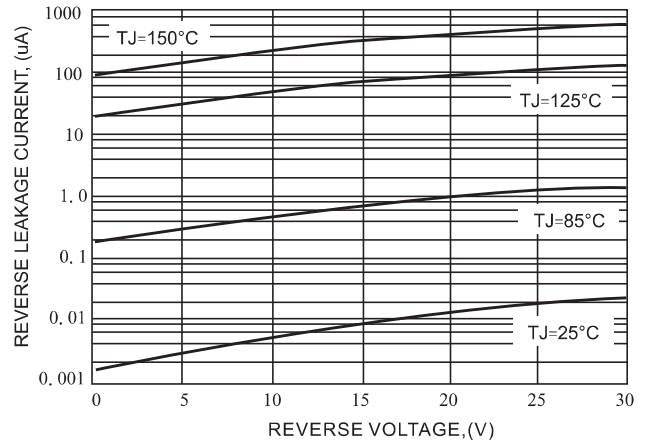
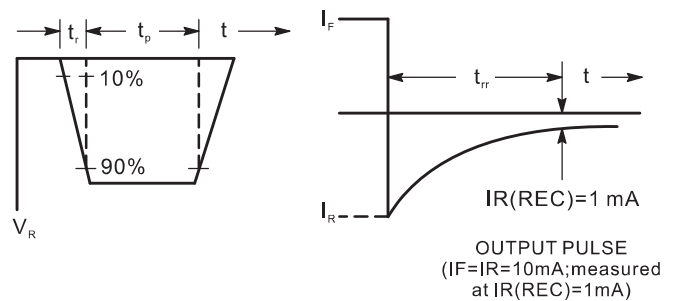
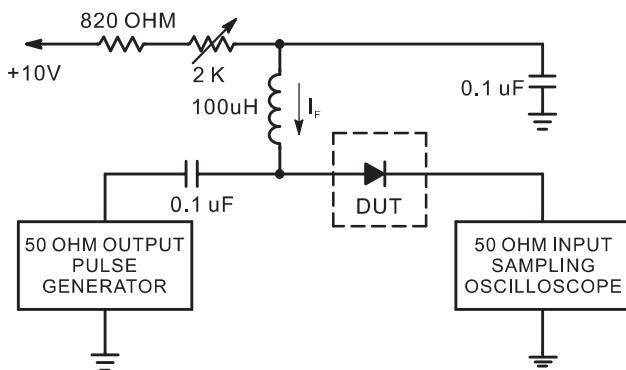
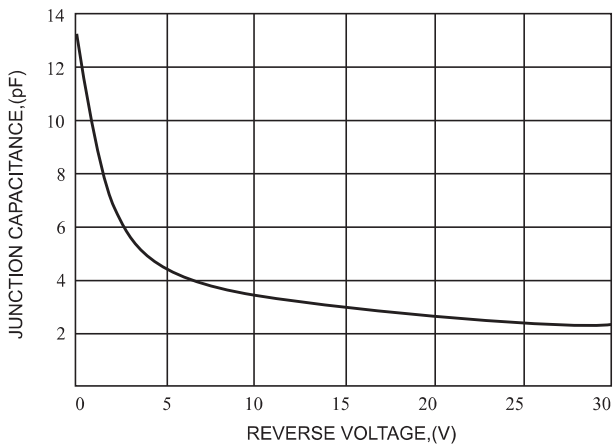


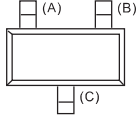
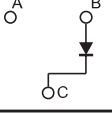
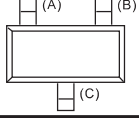
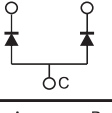
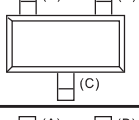
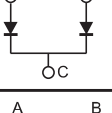
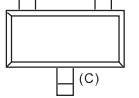
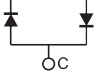
FIG.3-TYPICAL JUNCTION CAPACITANCE

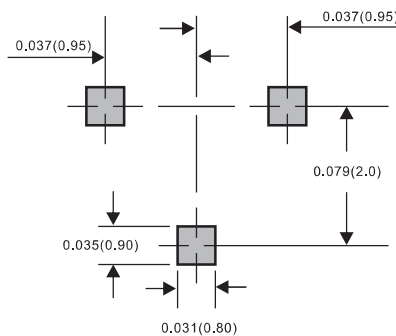


- Notes : 1. A2.0 Kohm variable resistor adjusted for a forward Current (I_F) of 10mA.
 2. Input pulse is adjusted so $I_R(\text{peak})$ is equal to 10 mA.
 3. $t_p \gg t_{rr}$.

Recovery Time Equivalent Test Circuit

BAT54 / BAT54A / BAT54C / BAT54S**Pinning information**

Type number	Marking code	Simplified outline	Symbol
BAT54	JV3, LV3, L4, KL1		
BAT54A	B6, L42, KL2		
BAT54C	5C, KL3, L43		
BAT54S	LD3, L44, KL4		

Suggested solder pad layout**SOT-23**

Dimensions in inches and (millimeters)

Reel packing

PACKAGE	REEL SIZE	REEL (pcs)	COMPONENT SPACING (m/m)	BOX (pcs)	INNER BOX (m/m)	REEL DIA, (m/m)	CARTON SIZE (m/m)	CARTON (pcs)	APPROX. GROSS WEIGHT (kg)
SOT-23	7"	3,000	4.0	30,000	183*183*123	178	382*262*387	240,000	11.6

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