

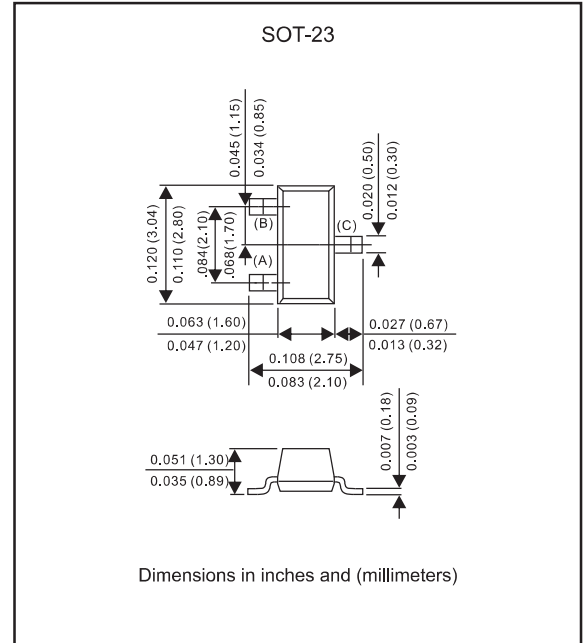
### Features

- 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 )

### 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<sub>A</sub>=25°C unless otherwise noted)

PARAMETER	CONDITIONS	Symbol	MIN.	TYP.	MAX.	UNIT
Repetitive peak reverse voltage		V <sub>RRM</sub>			30	V
Reverse voltage		V <sub>R</sub>			30	V
Total Device dissipation	FR-5 board, (Note 1) T <sub>A</sub> = 25°C Derate above 25°C	P <sub>D</sub>			200 2.0	mW mW/°C
Repetitive peak forward current		I <sub>FRM</sub>			300	mA
Forward surge current	tp<1s	I <sub>FSM</sub>			600	mA
Forward current		I <sub>F</sub>			200	mA
Thermal Resistance	Junction to ambient	R <sub>θJA</sub>		500		°C/W
Operating Junction temperature range		T <sub>J</sub>	-55		+125	°C
Storage temperature range		T <sub>STG</sub>	-55		+125	°C
Forward voltage	I <sub>F</sub> = 0.1 mA	V <sub>F</sub>		0.220	0.240	V
	I <sub>F</sub> = 1 mA	V <sub>F</sub>		0.290	0.320	V
	I <sub>F</sub> = 10 mA	V <sub>F</sub>		0.350	0.400	V
	I <sub>F</sub> = 30 mA	V <sub>F</sub>		0.410	0.500	V
	I <sub>F</sub> = 100 mA	V <sub>F</sub>		0.520	1.000	V
Reverse current	V <sub>R</sub> = 25 V	I <sub>R</sub>		0.5	2.0	uA
Diode capacitance	V <sub>R</sub> = 1 V, f = 1MHz	C <sub>J</sub>		7.6	10.0	pF
Reverse recovery time	I <sub>F</sub> = I <sub>R</sub> = 10 mAdc, I <sub>R(REC)</sub> = 1.0 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

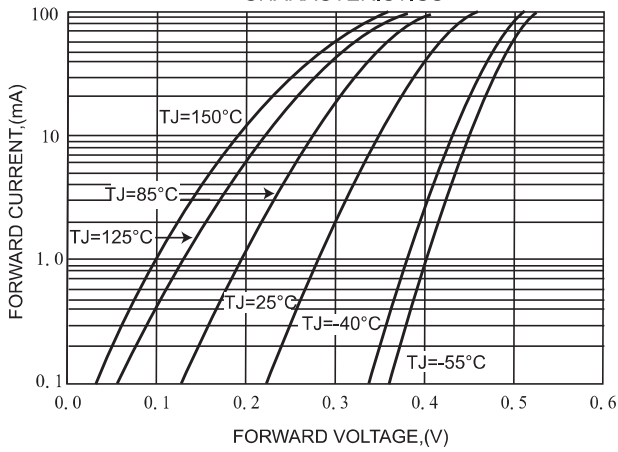


FIG.2 - TYPICAL LEAKAGE CURRENT CHARACTERISTICS

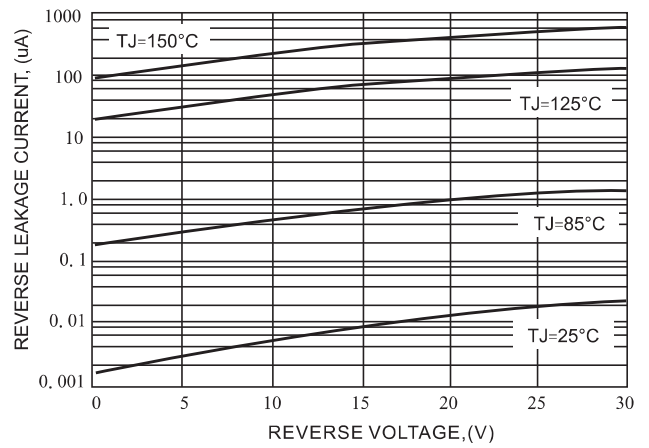
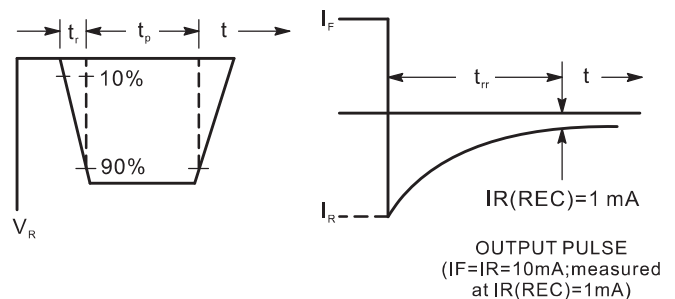
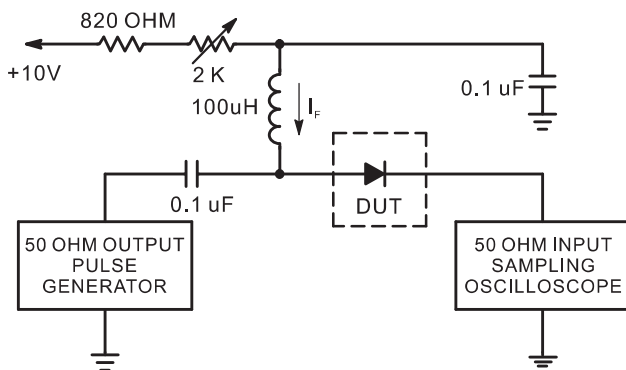
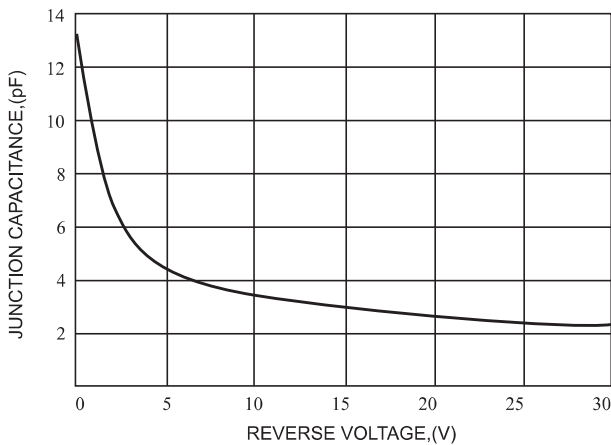


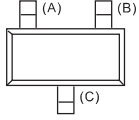
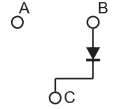
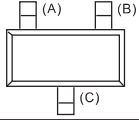
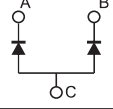
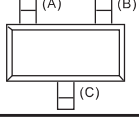
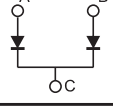
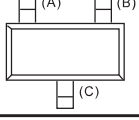
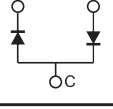
FIG.3-TYPICAL JUNCTION CAPACITANCE



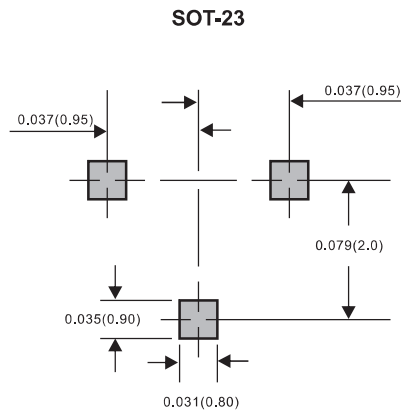
- Notes : 1. A2.0 Kohm variable resistor adjusted for a forward Current ( $I_F$ ) of 10mA.  
2. Input pulse is adjusted so  $I_R(\text{peak})$  is equal to 10 mA.  
3.  $t_p \gg t_{rr}$ .

**Recovery Time Equivalent Test Circuit**

**Pinning information**

Type number	Marking code	Simplified outline	Symbol
BAT54	KL1		
BAT54A	KL2		
BAT54C	KL3		
BAT54S	KL4		

**Suggested solder pad layout**



Dimensions in inches and (millimeters)

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