

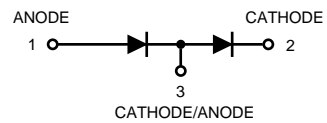
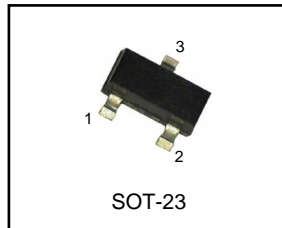
## Schottky Barrier Diode

 30 VOLT  
 SCHOTTKY BARRIER  
 DETECTOR AND SWITCHING  
 DIODE

These Schottky barrier diodes are designed for high speed switching applications, circuit protection, and voltage clamping. Extremely low forward voltage reduces conduction loss. Miniature surface mount package is excellent for hand held and portable applications where space is limited.

- \* Extremely Fast Switching Speed
- \* Low Forward Voltage-0.35 Volts (Typ) @  $I_F=10\text{mA}$

# BAT54S



### MAXIMUM RATINGS (T<sub>J</sub>=125°C unless otherwise noted)

Rating	Symbol	Value	Unit
Reverse Voltage	V <sub>R</sub>	30	Volts
Forward Power Dissipation @ T <sub>A</sub> =25°C Derate above 25°C	P <sub>F</sub>	225 1.8	mW mW / °C
Operating Junction Temperature Range	T <sub>J</sub>	-55 to +125	°C
Storage Temperature Range	T <sub>STG</sub>	-55 to +150	°C

### DEVICE MARKING

**BAT54S=LD3**

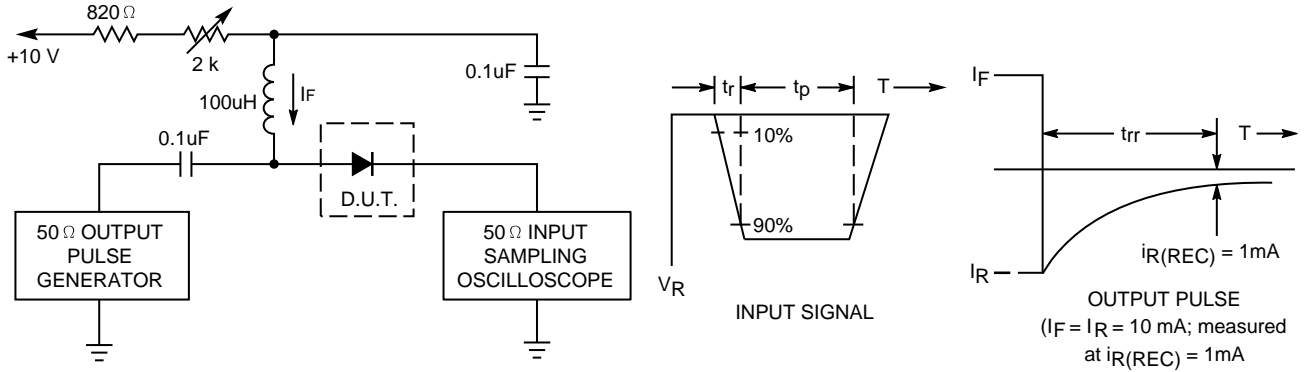
### ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C unless otherwise noted)

Characteristic	Symbol	Min.	Typ.	Max.	Unit
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### OFF CHARACTERISTICS

Reverse Breakdown Voltage ( I <sub>R</sub> =10 uAdc )	V <sub>(BR)</sub>	30	-	-	Volts
Forward Voltage ( I <sub>F</sub> =0.1 mAdc ) ( I <sub>F</sub> =1.0 mAdc ) ( I <sub>F</sub> =10 mAdc ) ( I <sub>F</sub> =30 mAdc ) ( I <sub>F</sub> =100 mAdc )	V <sub>F</sub>	-	0.22 0.29 0.35 0.41 0.52	0.24 0.32 0.40 0.50 1.0	Vdc
Reverse Leakage ( V <sub>R</sub> =25 Vdc )	I <sub>R</sub>	-	0.5	2.0	uAdc
Diode Capacitance ( V <sub>R</sub> =1.0, f=1.0MHZ )	C <sub>J</sub>	-	7.6	10	pF
Reverse Recovery Time ( I <sub>F</sub> =I <sub>R</sub> =10 mAdc, I <sub>R</sub> (REC)=1.0mAdc )	t <sub>rr</sub>	-	-	5.0	nS

FIGURE 1. RECOVERY TIME EQUIVALENT TEST CIRCUIT



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

FIGURE 2. FORWARD VOLTAGE

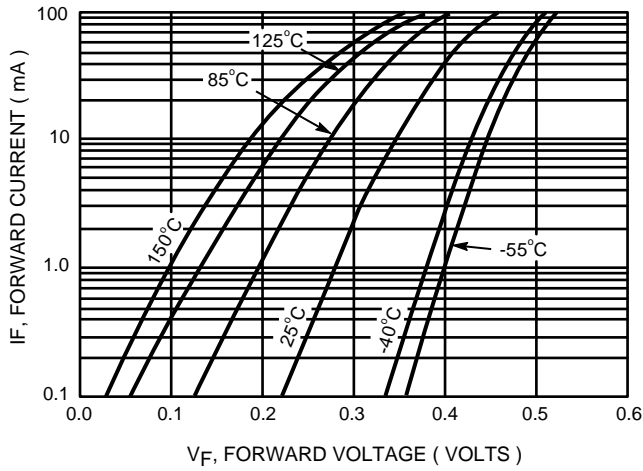


FIGURE 3. LEAKAGE CURRENT

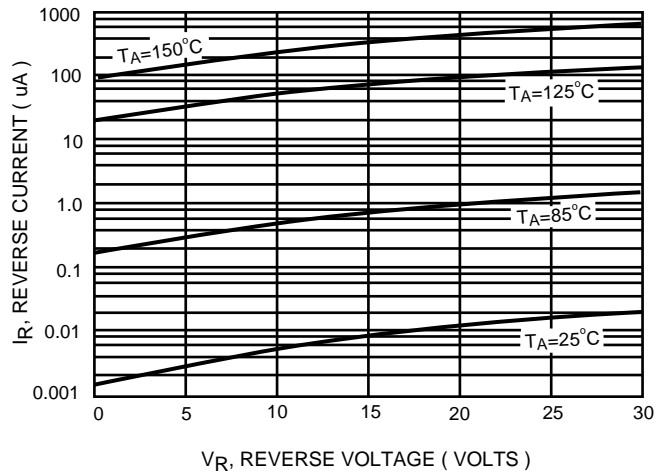


FIGURE 4. TOTAL CAPACITANCE

