

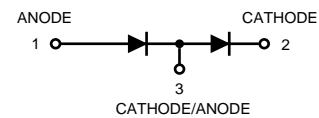
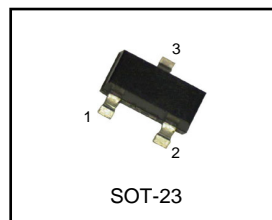
Schottky Barrier Diode

30 VOLTS
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) @ $I_F=10\text{mA}$

BAT54RS



MAXIMUM RATINGS ($T_J=125^\circ\text{C}$ unless otherwise noted)

Rating	Symbol	Value	Unit
Reverse Voltage	VR	30	Volts
Forward Power Dissipation @ $T_A=25^\circ\text{C}$ Derate above 25°C	PF	225 1.8	mW mW / $^\circ\text{C}$
Forward Current (DC)	I_F	200 Max	mA
Operating Junction Temperature Range	T_J	-55 to +125	$^\circ\text{C}$
Storage Temperature Range	TSTG	-55 to +150	$^\circ\text{C}$

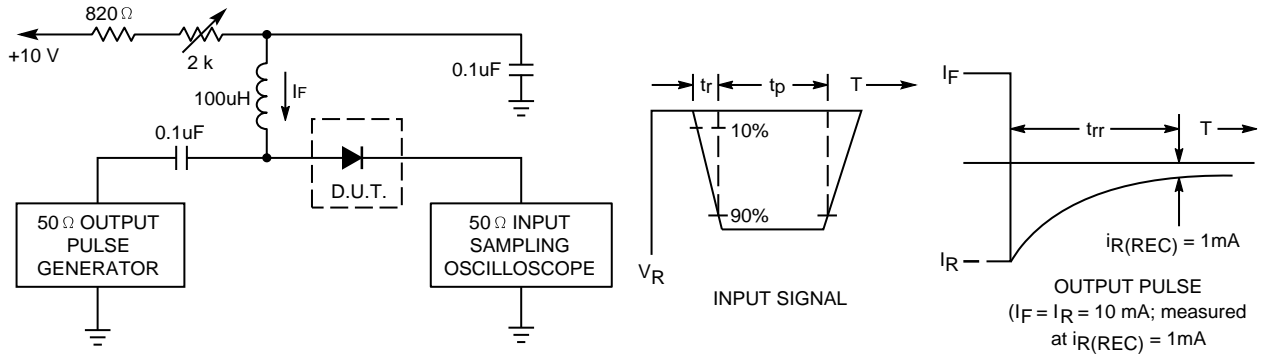
ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ unless otherwise noted)

Characteristic	Symbol	Min.	Typ.	Max.	Unit
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OFF CHARACTERISTICS

Reverse Breakdown Voltage ($I_R=10\ \mu\text{A}$)	$V_{(BR)}$	30	-	-	Volts
Forward Voltage ($I_F=0.1\ \text{mA}$) ($I_F=1.0\ \text{mA}$) ($I_F=10\ \text{mA}$) ($I_F=30\ \text{mA}$) ($I_F=100\ \text{mA}$)	V_F	- - - - -	0.22 0.29 0.35 0.41 0.52	0.24 0.32 0.40 0.50 1.00	Vdc
Reverse Leakage ($V_R=25\ \text{Vdc}$)	I_R	-	0.5	2.0	μA
Diode Capacitance ($V_R=1.0\ \text{V}$, $f=1.0\ \text{MHz}$)	C_J	-	7.6	10	pF
Reverse Recovery Time ($I_F=I_R=10\ \text{mA}$, $I_{R(REC)}=1.0\ \text{mA}$)	t_{rr}	-	-	5.0	nS

FIGURE 1. RECOVERY TIME EQUIVALENT TEST CIRCUIT



- Notes: 1. A 2.0kΩ 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

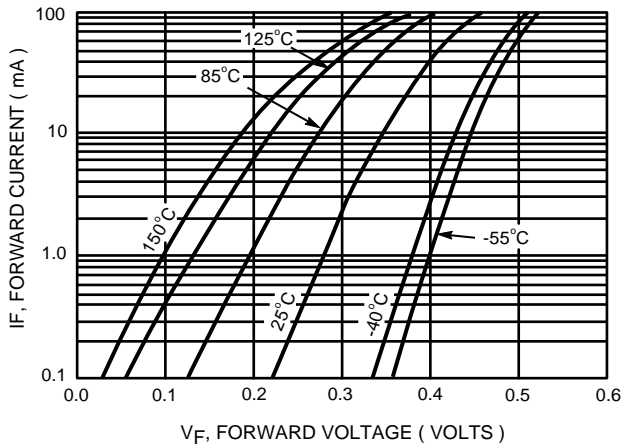


FIGURE 3. LEAKAGE CURRENT

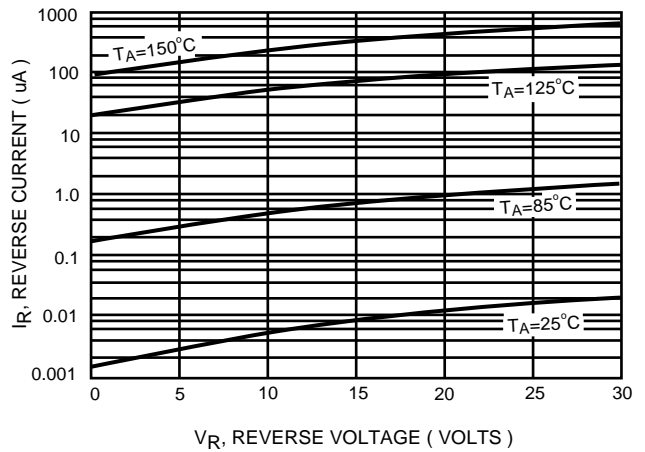


FIGURE 4. TOTAL CAPACITANCE

