

Schottky Barrier Diode

30 VOLTS
SCHOTTKY BARRIER
DETECTOR AND SWITCHING
DIODE

BAT54HT1



MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Continuous Reverse Voltage	VR	30	Vdc

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max.	Unit
Total Device Dissipation FR-5 Board, TA=25°C Derate above 25°C	PD	200 1.57	mW mW / °C
Thermal Resistance, Junction to Ambient	R θ JA	635	°C / W
Junction and Storage Temperature	TJ,TSTG	150	°C

DEVICE MARKING

BAT54HT1=JV

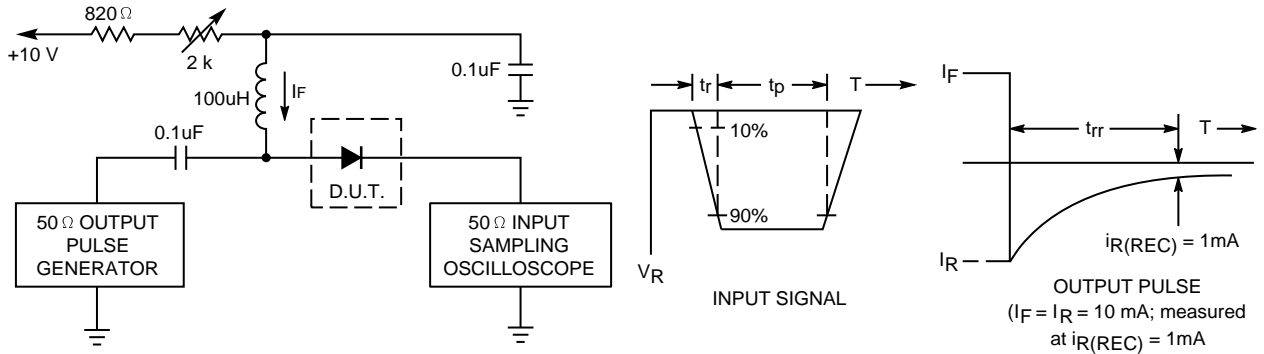
ELECTRICAL CHARACTERISTICS (TA=25°C unless otherwise noted)

Characteristic	Symbol	Min.	Typ.	Max.	Unit
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OFF CHARACTERISTICS

Reverse Breakdown Voltage (IR=10uAdc)	V(BR)	30	-	-	Vdc	
Forward Voltage	VF	(IF=0.1 mAdc)	-	0.22	0.24	Vdc
		(IF=1.0 mAdc)	-	0.29	0.32	
		(IF=10 mAdc)	-	0.35	0.40	
		(IF=30 mAdc)	-	0.41	0.50	
		(IF=100 mAdc)	-	0.52	1.00	
Reverse Voltage Leakage Current (VR=25 Vdc)	IR	-	0.5	2.0	uAdc	
Forward Current (DC)	IF	-	-	200	mAdc	
Repetitive Peak Forward Current	IFRM	-	-	300	mAdc	
Non-Repetitive Peak Forward Current (t < 1.0 s)	IFRM	-	-	600	mAdc	
Junction Capacitance (VR=0, f=1.0MHZ)	CJ	-	7.6	10	pF	
Reverse Recovery Time (IF=IR=10 mAdc, IR(REC)=1.0mAdc)	trr	-	-	5.0	nS	

FIGURE 1. RECOVERY TIME EQUIVALENT TEST CIRCUIT



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

FIGURE 2. FORWARD VOLTAGE

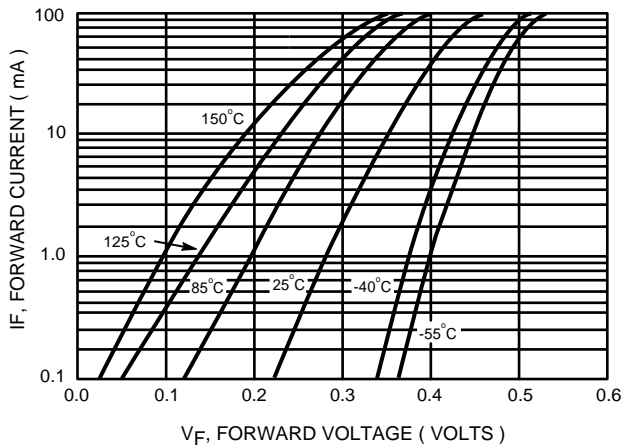


FIGURE 3. LEAKAGE CURRENT

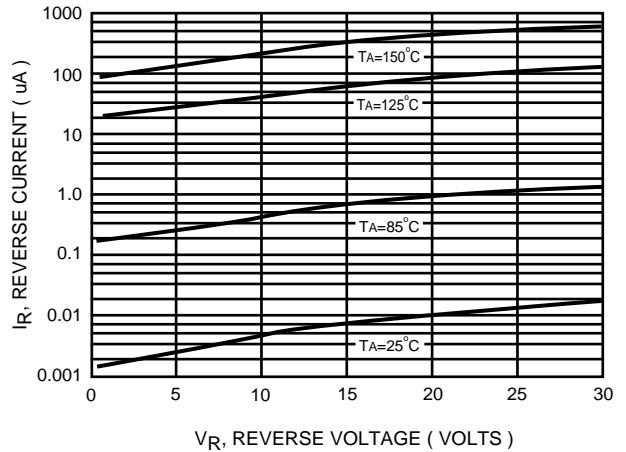


FIGURE 4. CAPACITANCE

