

Schottky Barrier Diode

Lead free product
Halogen-free type

30 VOLTS
SCHOTTKY BARRIER
DETECTOR AND SWITCHING
DIODE

BAT54HT1GH



MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Continuous Reverse Voltage	V_R	30	Vdc

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max.	Unit
Total Device Dissipation FR-5 Board, $T_A=25^\circ\text{C}$ Derate above 25°C	P_D	200 1.57	mW mW / $^\circ\text{C}$
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	635	$^\circ\text{C} / \text{W}$
Junction and Storage Temperature	T_J, T_{STG}	150	$^\circ\text{C}$

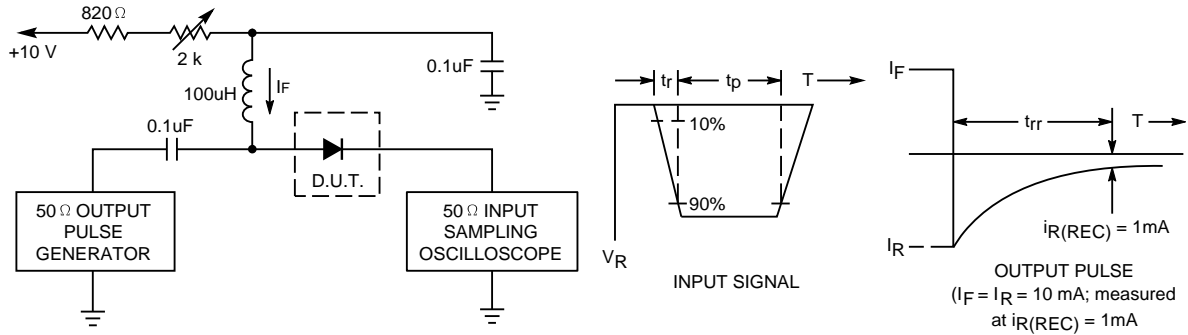
ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ unless otherwise noted)

Characteristic	Symbol	Min.	Typ.	Max.	Unit
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OFF CHARACTERISTICS

Reverse Breakdown Voltage ($I_R=10\mu\text{Adc}$)	$V_{(BR)}$	30	-	-	Vdc
Forward Voltage	V_F	-	0.22 0.29 0.35 0.41 0.52	0.24 0.32 0.40 0.50 1.00	Vdc
($I_F=0.1\text{ mAdc}$)					
($I_F=1.0\text{ mAdc}$)					
($I_F=10\text{ mAdc}$)					
($I_F=30\text{ mAdc}$)					
($I_F=100\text{ mAdc}$)					
Reverse Voltage Leakage Current ($V_R=25\text{ Vdc}$)	I_R	-	0.5	2.0	μAdc
Forward Current (DC)	I_F	-	-	200	mAdc
Repetitive Peak Forward Current	I_{FRM}	-	-	300	mAdc
Non-Repetitive Peak Forward Current ($t < 1.0\text{ s}$)	I_{FRM}	-	-	600	mAdc
Junction Capacitance ($V_R=1.0\text{V}$, $f=1.0\text{MHz}$)	C_J	-	7.6	10	pF
Reverse Recovery Time ($I_F=I_R=10\text{ mAdc}$, $I_R(\text{REC})=1.0\text{mAdc}$)	t_{rr}	-	-	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 $I_{R(peak)}$ is equal to 10mA.
- 3. $t_p \gg t_{rr}$

FIGURE 2. FORWARD VOLTAGE

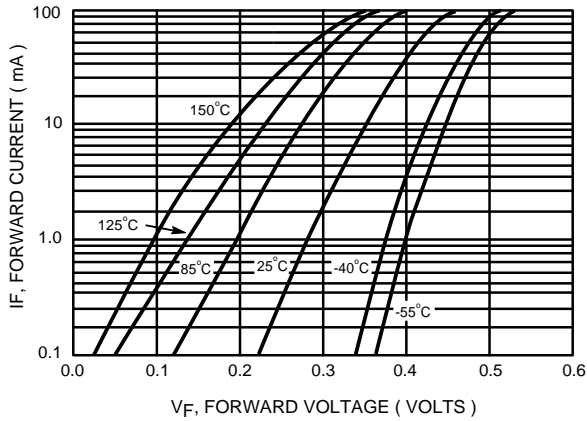


FIGURE 3. LEAKAGE CURRENT

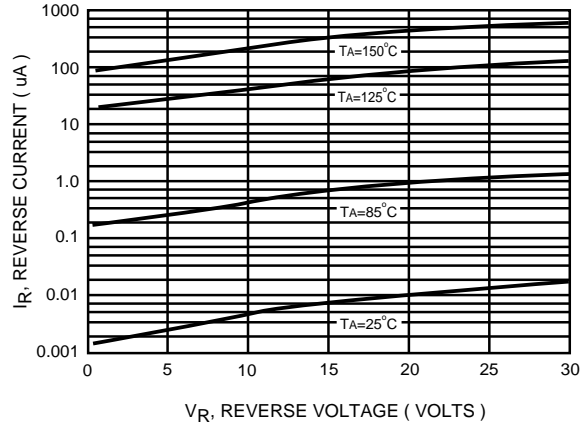


FIGURE 4. CAPACITANCE

