SEMICONDUCTOR

DATA SHEET

BAT54H

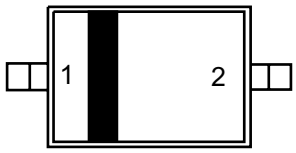
Schottky Barrier Diodes

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 mAdc
- Device Marking: JV

Pb-Free Package May be Available. The G.Suffix Denotes a Pb-Free Lead Finish

SOD–323



CATHODE ANODE

ODERING INFORMATION

Device	Marking	Shipping
BAT54H	JV	3000/Tape & Reel

MAXIMUM RATINGS (T_J =125°C unless otherwise noted)

Rating	Symbol	Value	Unit
Reverse Voltage	V_R	30	V

THERMAL CHARACTERISTICS

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

* FR-4 Minimum Pad

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted) (EACH DIODE)

Characteristic	Symbol	Min	Typ	Max	Unit
Reverse Breakdown Voltage (I_R = 10 µA)	$V_{(BR)R}$	30	—	—	Volts
Total Capacitance (V_R = 1.0 V, f = 1.0 MHz)	C_T	—	7.6	10	pF
Reverse Leakage (V_R = 25 V)	I_R	—	0.5	2.0	µAdc
Forward Voltage (I_F = 0.1 mAdc)	V_F	—	0.22	0.24	Vdc
Forward Voltage (I_F = 0.15 mAdc)	V_F	—	0.24	0.26	Vdc
Forward Voltage (I_F = 0.15 mAdc, T_j =-25°C)	V_F	—	0.33	0.35	Vdc
Forward Voltage (I_F = 0.15 mAdc, T_j =85°C)	V_F	—	0.16	0.18	Vdc
Forward Voltage (I_F = 30 mAdc)	V_F	—	0.41	0.5	Vdc
Forward Voltage (I_F = 100 mAdc)	V_F	—	0.52	0.8	Vdc
Reverse Recovery Time (I_F = I_R = 10 mAdc, $I_{R(REC)}$ = 1.0 mAdc, Figure 1)	t_{rr}	—	—	5.0	ns
Forward Voltage (I_F = 1.0 mAdc)	V_F	—	0.29	0.32	Vdc
Forward Voltage (I_F = 10 mAdc)	V_F	—	0.35	0.40	Vdc
Forward Current (DC)	I_F	—	—	200	mAdc
Repetitive Peak Forward Current	I_{FRM}	—	—	300	mAdc
Non–Repetitive Peak Forward Current (t < 1.0 s)	I_{FSM}	—	—	600	mAdc

DEVICE CHARACTERISTICS

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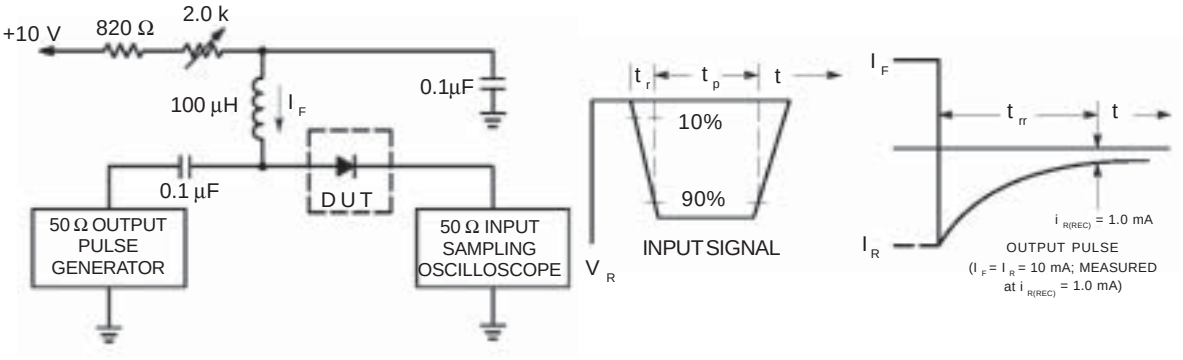


Notes: 1. A 2.0 kΩ variable resistor adjusted for a Forward Current (I_F) of 10mA.
2. Input pulse is adjusted so $I_{R(peak)}$ is equal to 10mA.
3. $t_p \gg t_{rr}$

Figure 1. Recovery Time Equivalent Test Circuit

TYPICAL CHARACTERISTICS

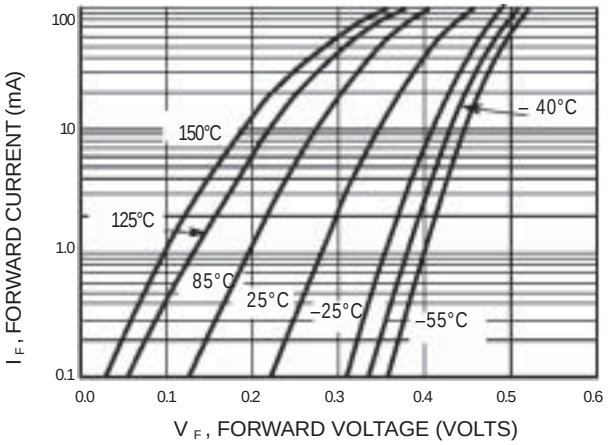


Figure 2. Forward Voltage

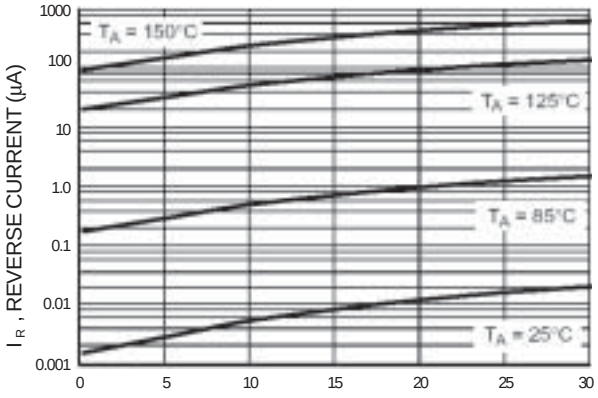


Figure 3. Leakage Current

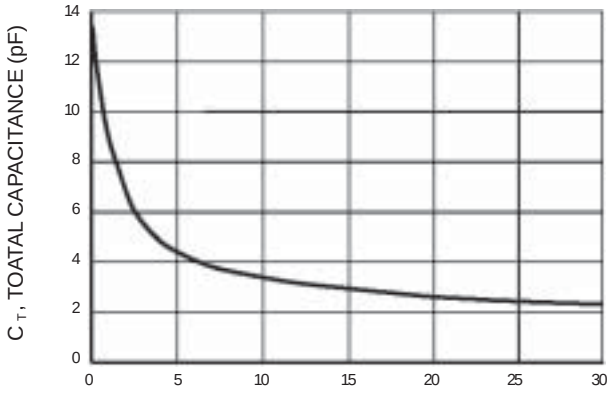
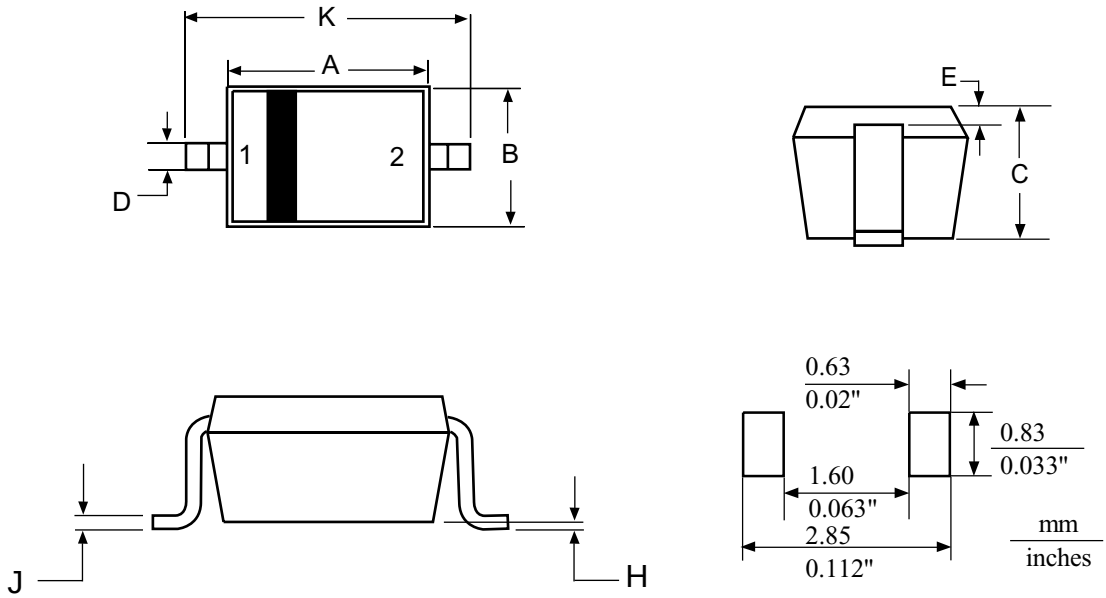


Figure 4. Total Capacitance

PACKAGE OUTLINE & DIMENSIONS

BAT54H



NOTES:

1. DIMENSIONING AND TOLERANCING
   PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETERS

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	1.60	1.80	0.063	0.071
B	1.15	1.35	0.045	0.053
C	0.80	1.00	0.031	0.039
D	0.25	0.40	0.010	0.016
E	0.15 REF		0.006 REF	
H	0.00	0.10	0.000	0.004
J	0.089	0.177	0.0035	0.0070
K	2.30	2.70	0.091	0.106

PIN:1:CATHODE
2:ANODE