



## 200mA Surface Mount Schottky Barrier Rectifiers-30V SOD-323 Package

## BAT54HT1

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
- RoHS product for packing code suffix "G",  
Halogen free product for packing code suffix "H"
- Moisture Sensitivity Level 1
- Polarity: Color band denotes cathode end



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

Rating	Symbol	Value	Unit
Reverse Voltage	$V_R$	30	V

### THERMAL CHARACTERISTICS

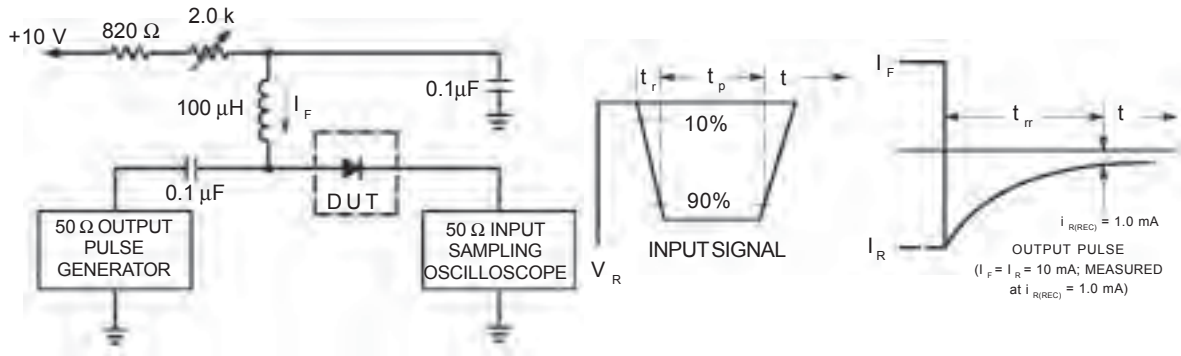
Characteristic	Symbol	Max	Unit
Total Device Dissipation FR-5 Board,* $T_A = 25^\circ\text{C}$	$P_D$	200	mW
Derate above $25^\circ\text{C}$		1.57	mW/ $^\circ\text{C}$
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	635	$^\circ\text{C}/\text{W}$
Operating Temperature	$T_J$	-55 to +125	$^\circ\text{C}$
Storage Temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$

\* FR-4 Minimum Pad



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

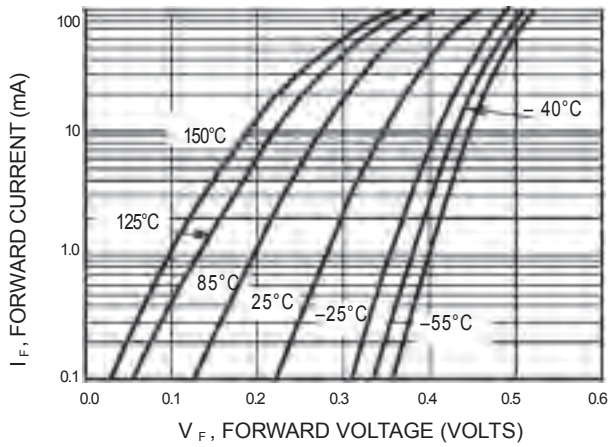
Characteristic	Symbol	Min	Typ	Max	Unit
Reverse Breakdown Voltage ( $I_R = 10 \mu\text{A}$ )	$V_{(BR)R}$	30	—	—	Volts
Total Capacitance ( $V_R = 1.0$ V, $f = 1.0$ MHz)	$C_T$	—	7.6	10	pF
Reverse Leakage ( $V_R = 25$ V)	$I_R$	—	0.5	2.0	$\mu\text{Adc}$
Forward Voltage ( $I_F = 0.1$ mAdc)	$V_F$	—	0.22	0.24	Vdc
Forward Voltage ( $I_F = 0.15$ mAdc)	$V_F$	—	0.24	0.26	Vdc
Forward Voltage ( $I_F = 0.15$ mAdc, $T_J = -25^\circ\text{C}$ )	$V_F$	—	0.33	0.35	Vdc
Forward Voltage ( $I_F = 0.15$ mAdc, $T_J = 85^\circ\text{C}$ )	$V_F$	—	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	1.0	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



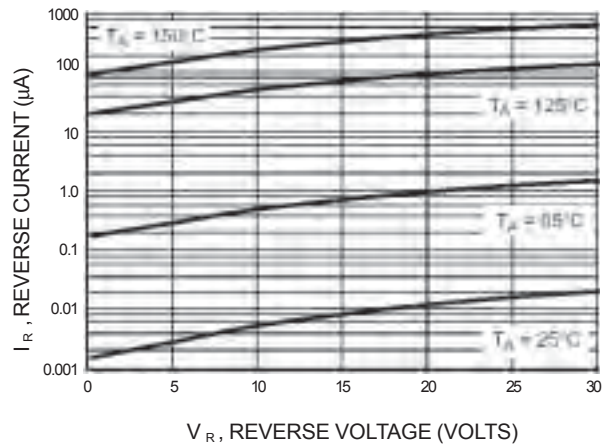
- Notes: 1. A 2.0 kΩ variable resistor adjusted for a Forward Current ( $I_F$ ) of 10mA.  
 2. Input pulse is adjusted so  $I_{R(peak)}$  is equal to 10mA.  
 3.  $t_p \gg t_{rr}$

**Figure 1. Recovery Time Equivalent Test Circuit**

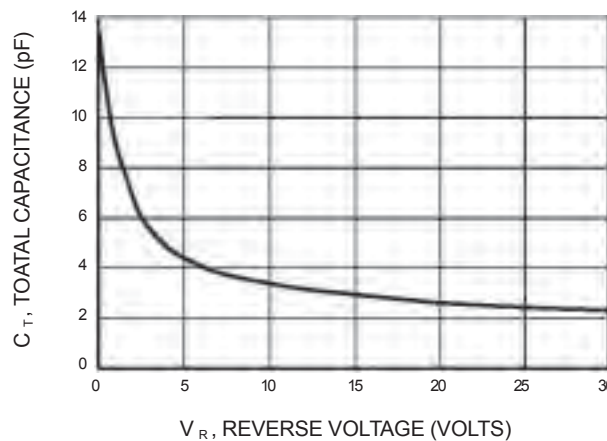
**TYPICAL CHARACTERISTICS**



**Figure 2. Forward Voltage**

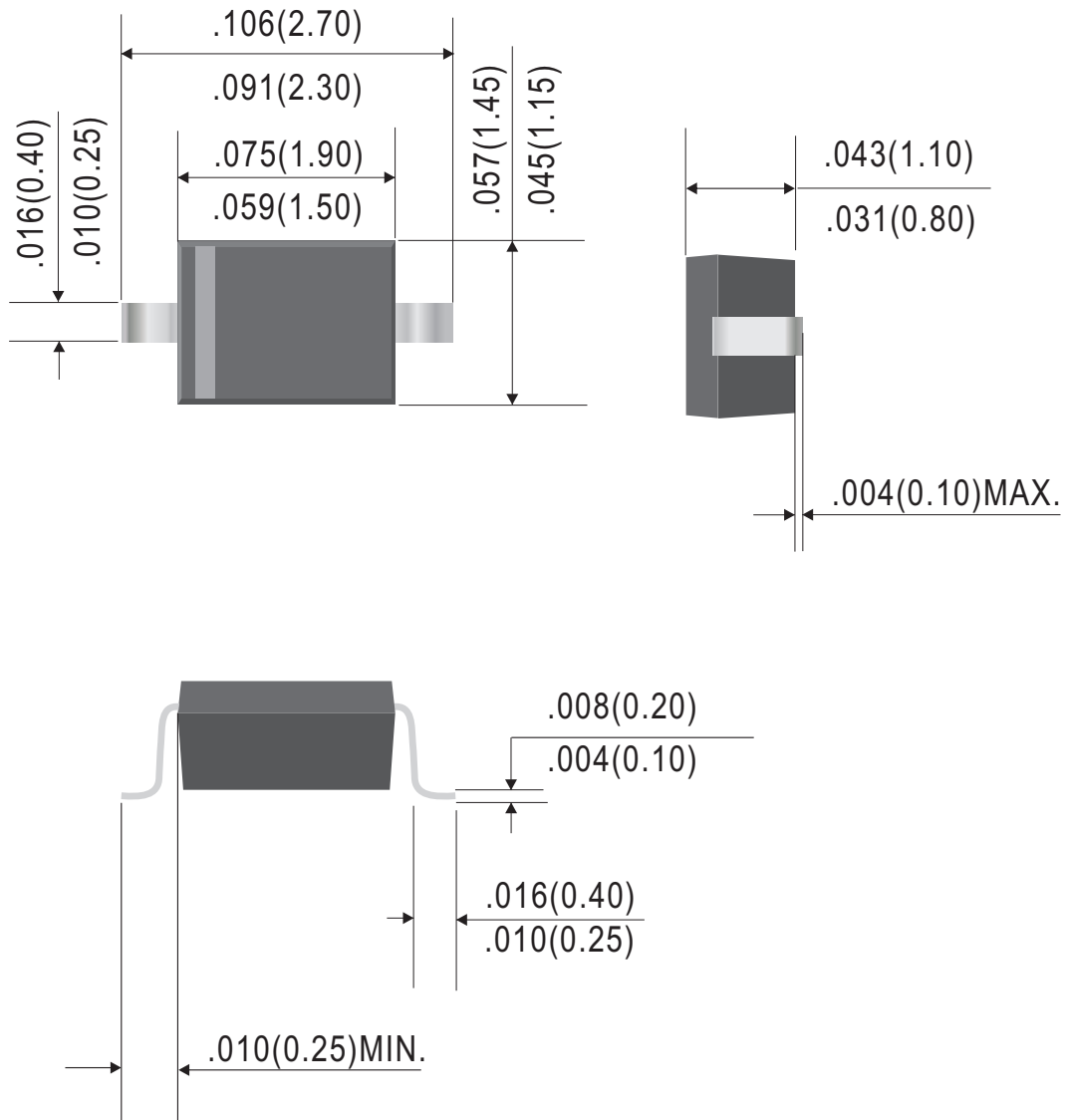


**Figure 3. Leakage Current**



**Figure 4. Total Capacitance**

SOD-323



Dimensions in inches and (millimeters)



### Ordering Information:

Device PN	Packing
BAT54HT1 -T <sup>(1)</sup> G <sup>(2)</sup> -WS	Tape&Reel: 3 Kpcs/Reel

Note: (1) Packing code, Tape & Reel Packing

(2) RoHS product for packing code suffix "G" ; Halogen free product for packing code suffix "H"

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