



DATA SHEET

SEMICONDUCTOR

BAT54CW

Dual Series Schottky Barrier Diodes

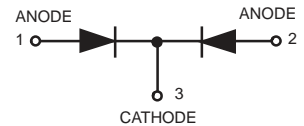


These Schottky barrier diodes are designed for high speed switching applications, circuit protection, and voltage clamping. Extremely low forward voltage reduces conduction loss. Miniature surface mount package is excellent for hand held and portable applications where space is limited.

- Extremely Fast Switching Speed
- Low Forward Voltage — 0.35 Volts (Typ) @ $I_F = 10$ mAdc

We declare that the material of product compliance with RoHS requirements.

SOT-323 (SC-70)



ORDERING INFORMATION

Device	Marking	Shipping
BAT54CW	5C	3000/Tape & Reel

DEVICE MARKING

BAT54CW = 5C

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

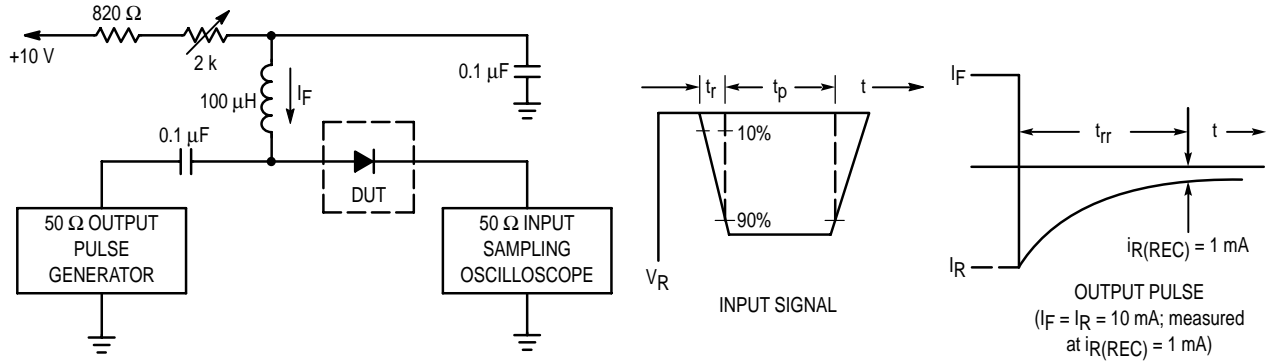
Rating	Symbol	Value	Unit
Reverse Voltage	V_R	30	Volts
Forward Power Dissipation @ $T_A = 25^\circ\text{C}$	P_F	225	mW
Derate above 25°C		1.8	mW/ $^\circ\text{C}$
Forward Current(DC)	I_F	200Max	mA
Junction Temperature	T_J	125Max	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55 to +150	$^\circ\text{C}$

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

Characteristic	Symbol	Min	Typ	Max	Unit
Reverse Breakdown Voltage ($I_R = 10$ A)	$V_{(BR)R}$	30	—	—	Volts
Total Capacitance ($V_R = 1.0$ V, $f = 1.0$ MHz)	C_T	—	—	10	pF
Reverse Leakage ($V_R = 25$ V)	I_R	—	0.5	2.0	Adc
Forward Voltage ($I_F = 0.1$ mAdc)	V_F	—	0.22	0.24	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	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

ELECTRICAL CHARACTERISTICS

BAT54CW



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

Figure 1. Recovery Time Equivalent Test Circuit

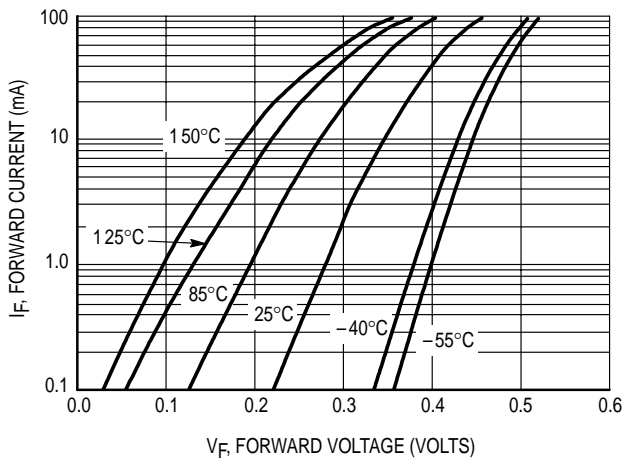


Figure 2. Forward Voltage

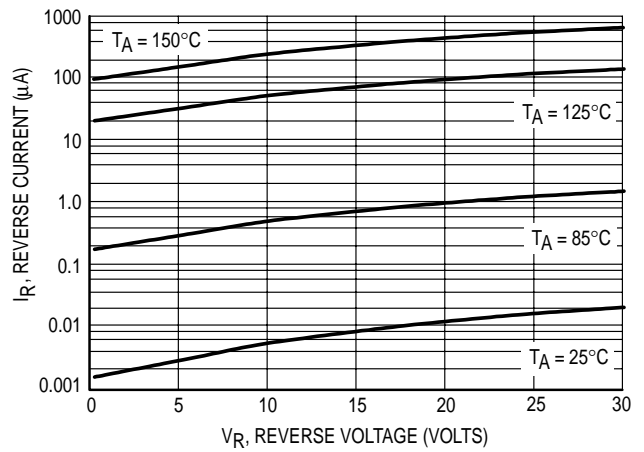


Figure 3. Leakage Current

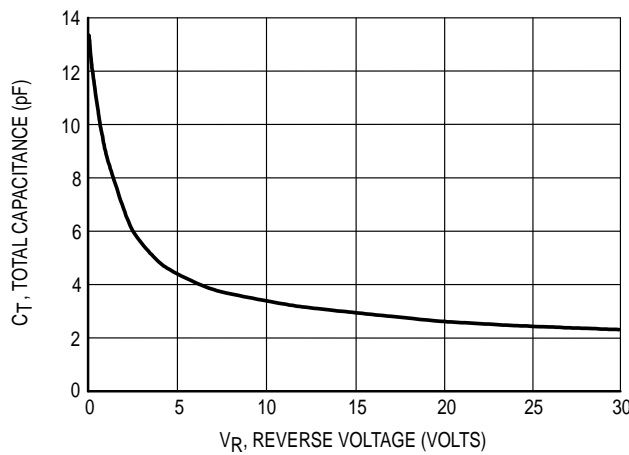


Figure 4. Total Capacitance

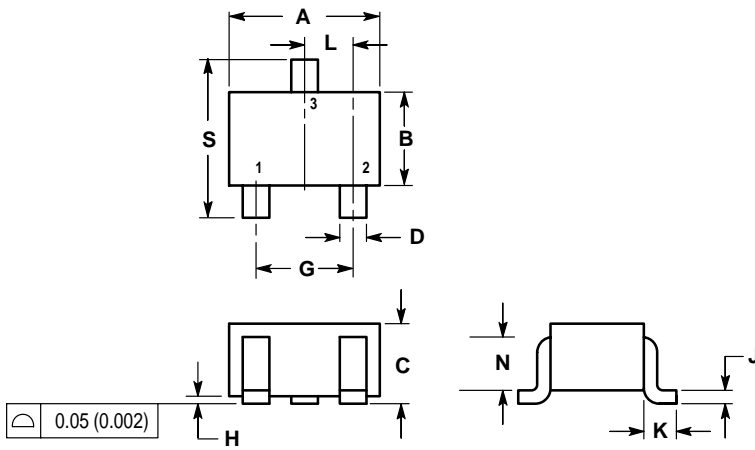
PACKAGE OUTLINE AND DIMENSIONS

BAT54CW

SC-70 / SOT-323

NOTES:

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



DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.071	0.087	1.80	2.20
B	0.045	0.053	1.15	1.35
C	0.032	0.040	0.80	1.00
D	0.012	0.016	0.30	0.40
G	0.047	0.055	1.20	1.40
H	0.000	0.004	0.00	0.10
J	0.004	0.010	0.10	0.25
K	0.017 REF		0.425 REF	
L	0.026 BSC		0.650 BSC	
N	0.028 REF		0.700 REF	
S	0.079	0.095	2.00	2.40

