BAT54SLT1

Preferred Device

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 V (Typ) @ I_F = 10 mAdc
- Pb−Free Package May be Available. The G−Suffix Denotes a Pb−Free Lead Finish

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

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

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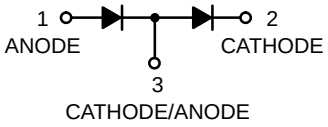
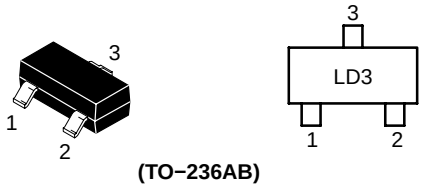
30 VOLT DUAL HOT−CARRIER DETECTOR AND SWITCHING DIODES



MARKING DIAGRAM



(TO−236AB)
SOT−23
CASE 318
Style 11

ORDERING INFORMATION

Device	Package	Shipping†
BAT54SLT1	SOT−23	3000/Tape & Reel
BAT54SLT1G	SOT−23 (Pb−Free)	3000/Tape & Reel

†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

Preferred devices are recommended choices for future use and best overall value.

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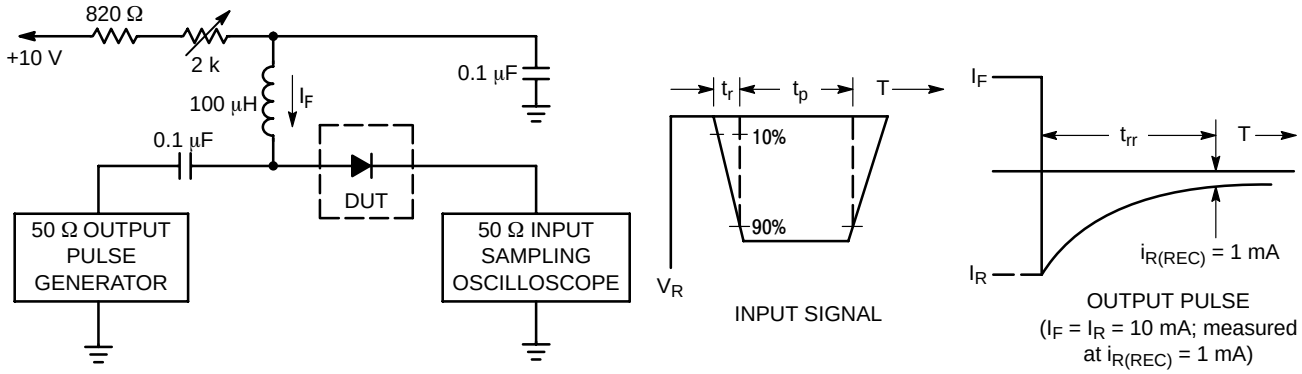
ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted) (EACH DIODE)

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 = 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



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

Figure 1. Recovery Time Equivalent Test Circuit

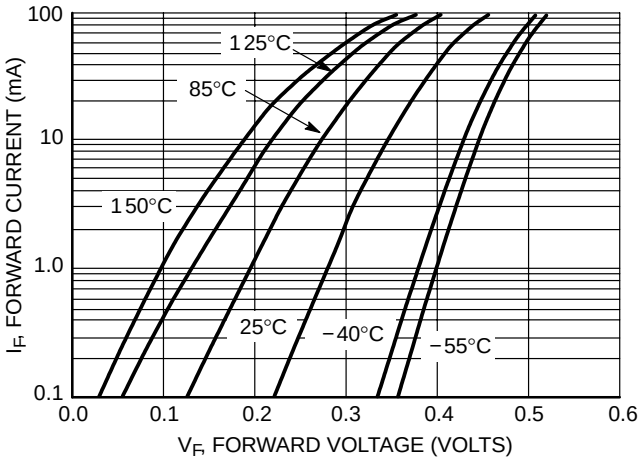


Figure 2. Forward Voltage

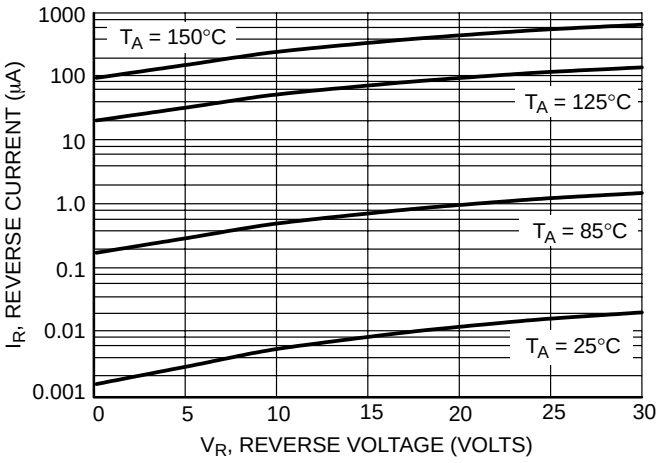


Figure 3. Leakage Current

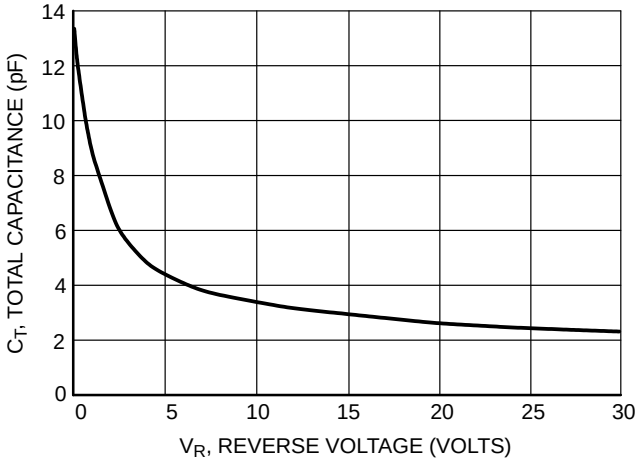
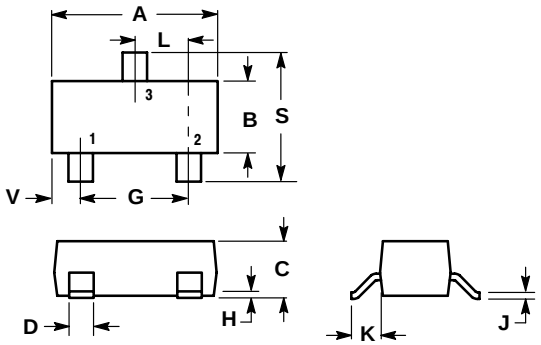


Figure 4. Total Capacitance

PACKAGE DIMENSIONS

SOT−23 (TO−236)
CASE 318−08
ISSUE AH



NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH THICKNESS. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.
4. 318−03 AND −07 OBSOLETE, NEW STANDARD 318−08.

	INCHES		MILLIMETERS	
DIM	MIN	MAX	MIN	MAX
A	0.1102	0.1197	2.80	3.04
B	0.0472	0.0551	1.20	1.40
C	0.0350	0.0440	0.89	1.11
D	0.0150	0.0200	0.37	0.50
G	0.0701	0.0807	1.78	2.04
H	0.0005	0.0040	0.013	0.100
J	0.0034	0.0070	0.085	0.177
K	0.0140	0.0285	0.35	0.69
L	0.0350	0.0401	0.89	1.02
S	0.0830	0.1039	2.10	2.64
V	0.0177	0.0236	0.45	0.60

STYLE 11:
PIN 1. ANODE
2. CATHODE
3. CATHODE−ANODE

SOLDERING FOOTPRINT*

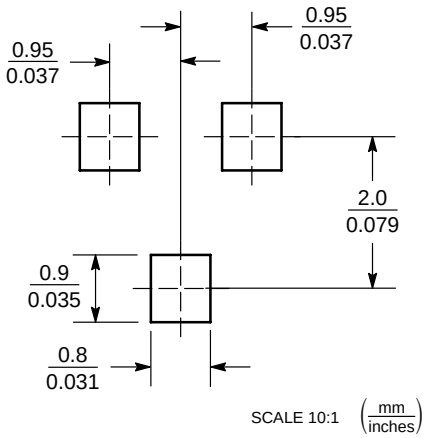


Figure 5. SOT−23

*For additional information on our Pb−Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

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BAT54SLT1/D