

# 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

## FEATURES

- We declare that the material of product compliance with RoHS requirements.
- S- Prefix for automotive and other applications requiring unique site and control change requirements; AEC-Q101 qualified and PPAP capable.

## ORDERING INFORMATION

Device	Marking	Shipping
LBAT54ALT1G S-LBAT54ALT1G	B6	3000/Tape & Reel
LBAT54ALT3G S-LBAT54ALT3G	B6	10000/Tape & Reel

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

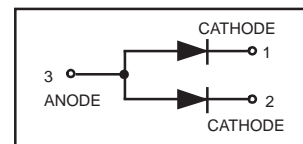
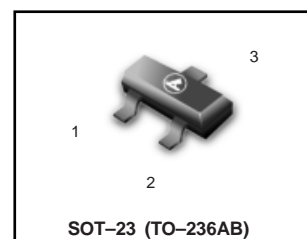
Rating	Symbol	Max	Unit
Reverse Voltage	$V_R$	30	Volts
Forward Power Dissipation @ $T_A = 25^\circ\text{C}$	$P_F$	225	mW
Derate above $25^\circ\text{C}$		1.8	mW/ $^\circ\text{C}$
Forward Current(DC)	$I_F$	200Max	mA
Junction Temperature	$T_J$	125Max	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$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

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

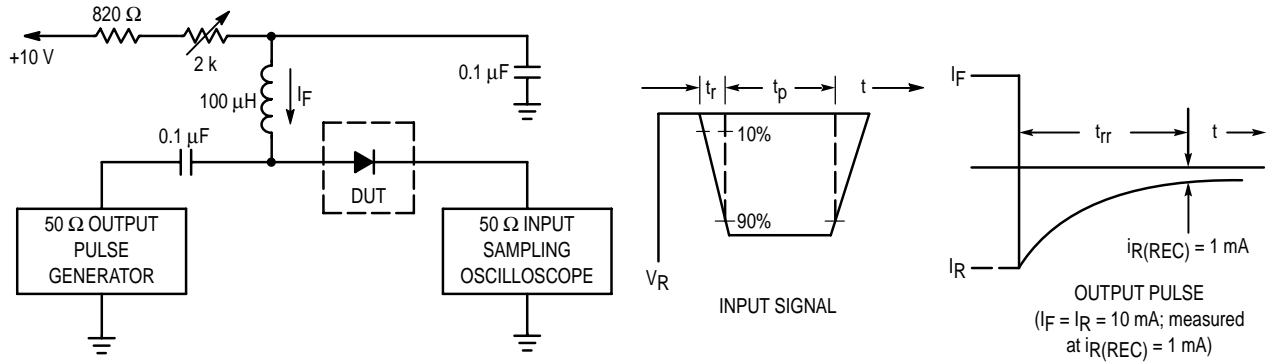
Characteristic	Symbol	Min	Typ	Max	Unit
Reverse Breakdown Voltage ( $I_R = 10 \mu\text{A}$ )	$V_{(BR)R}$	30	—	—	Volts
Total Capacitance ( $V_R = 1.0$ V, $f = 1.0$ MHz)	$C_T$	—	—	10	pF
Reverse Leakage ( $V_R = 25$ V)	$I_R$	—	0.5	2.0	$\mu\text{Adc}$
Forward Voltage ( $I_F = 0.1$ mAdc)	$V_F$	—	0.22	0.24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

## LBAT54ALT1G S-LBAT54ALT1G

30 VOLTS SCHOTTKY BARRIER  
DETECTOR AND SWITCHING  
DIODES



**LBAT54ALT1G , S-LBAT54ALT1G**



- 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.  $t_p \gg t_{rr}$

Fig.1 RECOVERY TIME EQUIVALENT TEST CIRCUIT

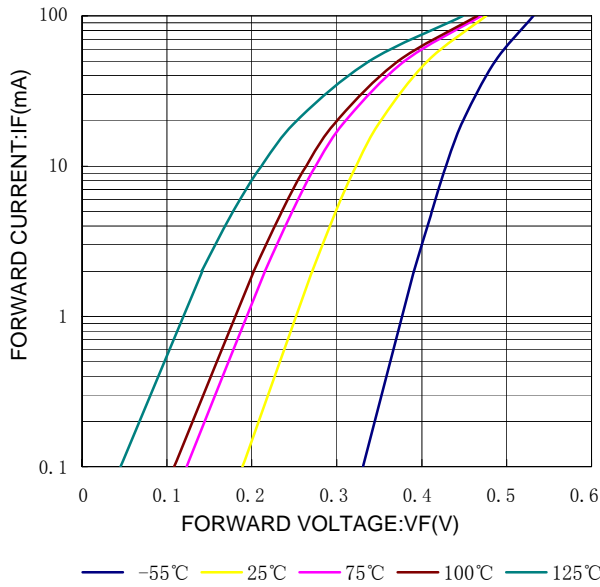


Fig.2 FORWARD CHARACTERISTICS

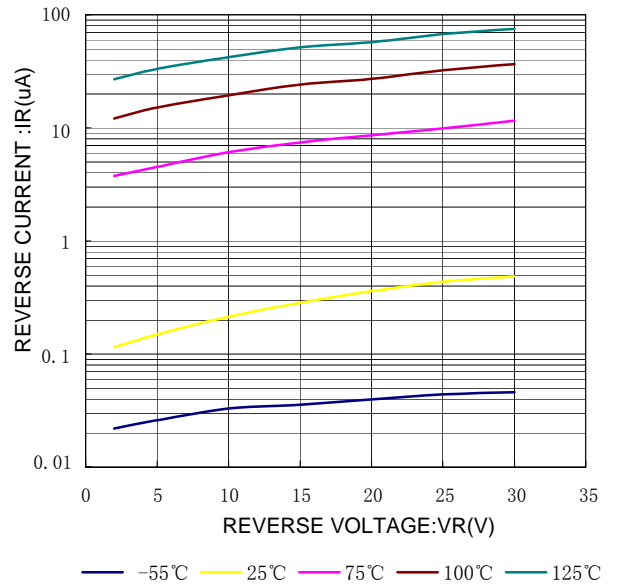


Fig.3 REVERSE CHARACTERISTICS

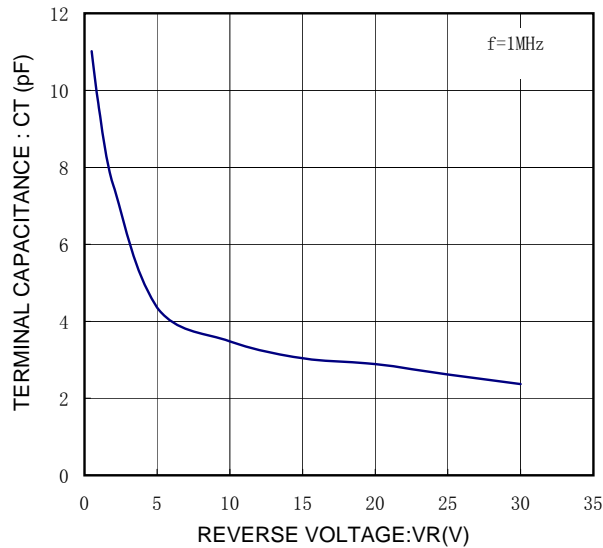
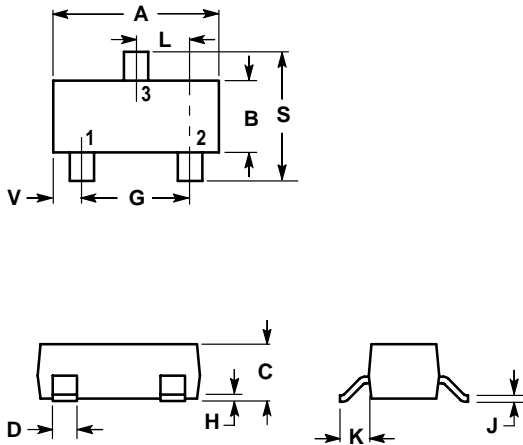


Fig.4 VR-CT CHARACTERISTICS

**LBAT54ALT1G , S-LBAT54ALT1G**
**SOT-23**

Dimension Outline:



NOTES:

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

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

Soldering Footprint:

