

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

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

ORDERING INFORMATION

Device	Package	Shipping
LBAT54ALT1	SOT-23	3000/Tape & Reel
LBAT54ALT1G	SOT-23	3000/Tape & Reel

DEVICE MARKING

LBAT54ALT1 = B6

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

Rating	Symbol	Max	Unit
Reverse Voltage	V _R	30	Volts
Forward Power Dissipation @ T _A = 25°C	P _F	225	mW
Derate above 25°C		1.8	mW/°C
Forward Current(DC)	I _F	200Max	mA
Junction Temperature	T _J	125Max	°C
Storage Temperature Range	T _{stg}	-55 to +150	°C

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

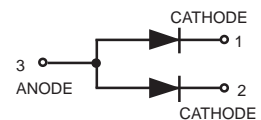
Characteristic	Symbol	Min	Typ	Max	Unit
Reverse Breakdown Voltage (I _R = 10 μA)	V _{(BR)R}	30	—	—	Volts
Total Capacitance (V _R = 1.0 V, f = 1.0 MHz)	C _T	—	7.6	10	pF
Reverse Leakage (V _R = 25 V)	I _R	—	0.5	2.0	μAdc
Forward Voltage (I _F = 0.1 mAdc)	V _F	—	0.22	0.24	Vdc
Forward Voltage (I _F = 30 mAdc)	V _F	—	0.41	0.5	Vdc
Forward Voltage (I _F = 100 mAdc)	V _F	—	0.52	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

LBAT54ALT1

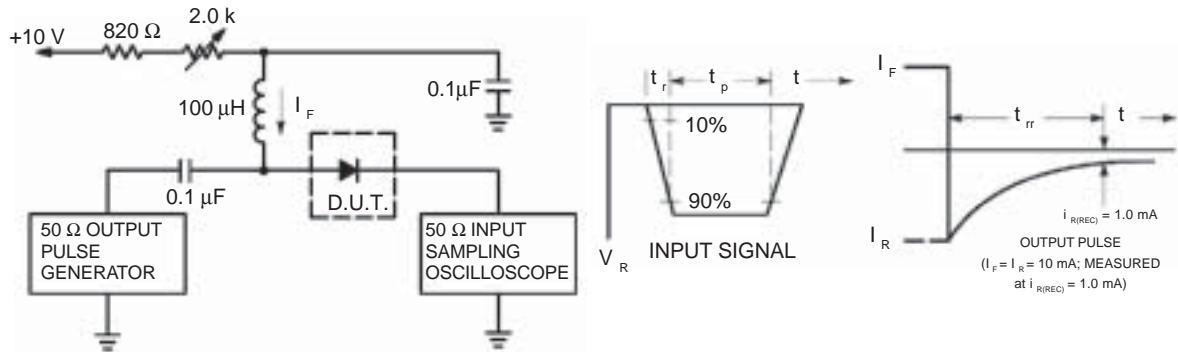
30 VOLTS SCHOTTKY BARRIER
DETECTOR AND SWITCHING
DIODES



SOT-23 (TO-236AB)



LBAT54ALT1



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

Figure 1. Recovery Time Equivalent Test Circuit

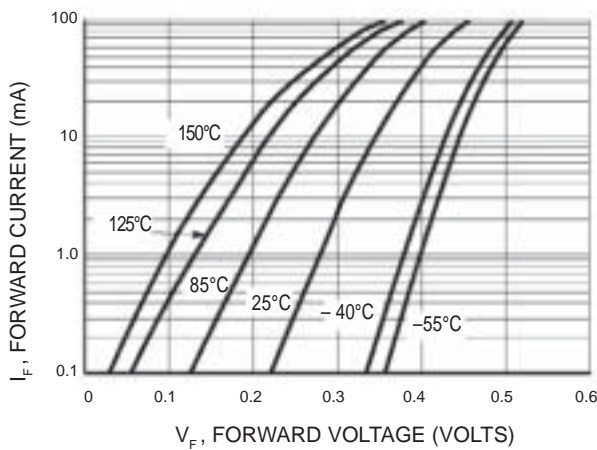


Figure 2. Forward Voltage

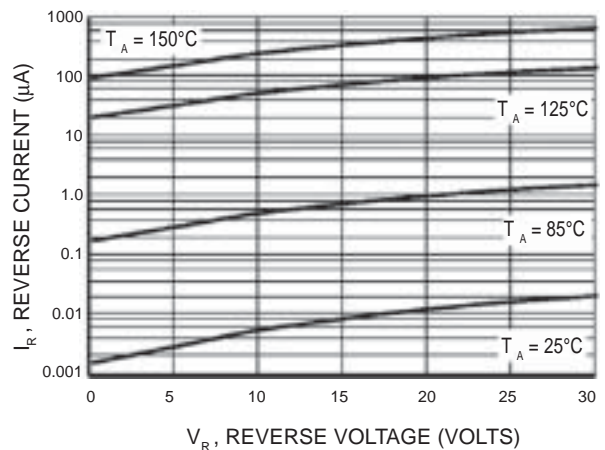


Figure 3. Leakage Current

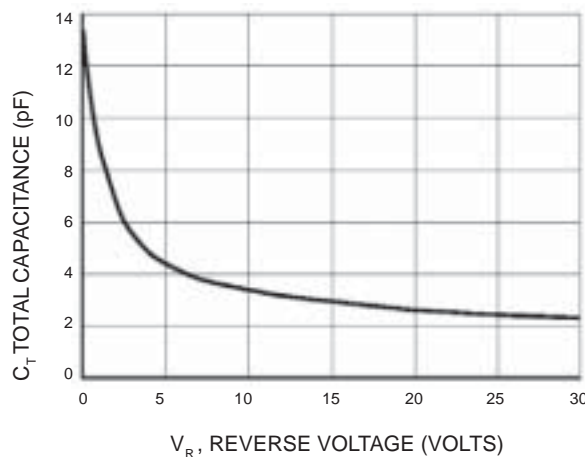
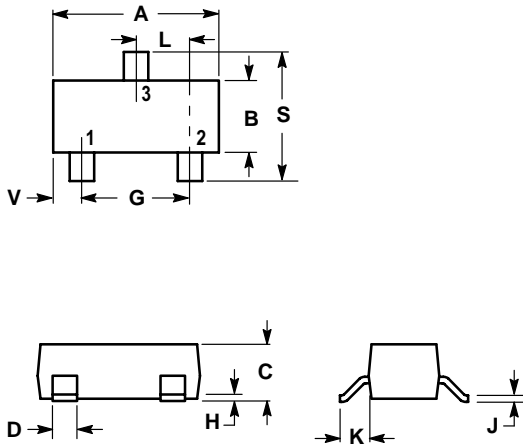


Figure 4. Total Capacitance

SOT-23



NOTES:

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

DIM	INCHES		MILLIMETERS	
	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

