Schottky Barrier Diodes

LBAT54XV2T1G

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

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



SOD–523



ORDERING INFORMATION

Device	Marking	Shipping
LBAT54XV2T1G	JV	3000/Tape & Reel
LBAT54XV2T3G	JV	10000/Tape & Reel

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

Rating	Symbol	Value	Unit
Reverse Voltage	V_R	30	V

THERMAL CHARACTERISTICS

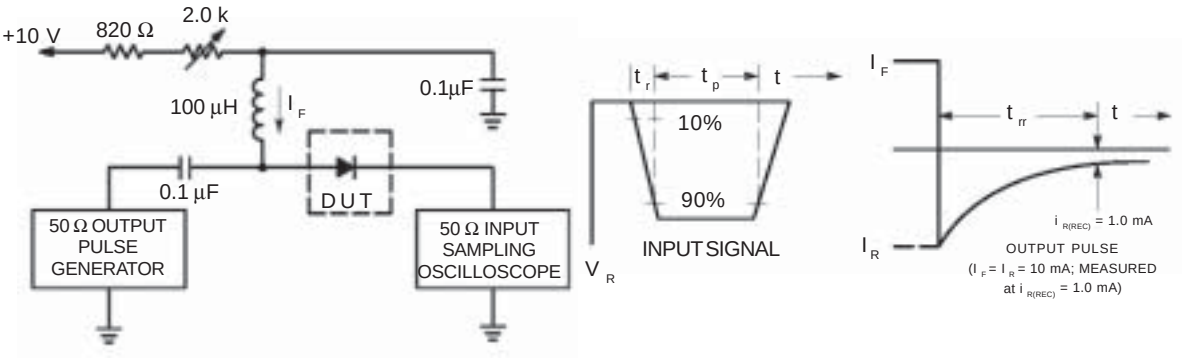
Characteristic	Symbol	Max	Unit
Total Device Dissipation FR-5 Board,* T_A = 25°C	P_D	200	mW
Derate above 25°C		1.57	mW/°C
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	635	°C/W
Junction Temperature	T_J	125	°C
Storage Temperature	T_{stg}	-40 to +125	°C

* FR-4 Minimum Pad

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	—	—	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 = 1.0 mAdc)	V_F	—	0.29	0.32	Vdc
Forward Voltage (I_F = 10 mAdc)	V_F	—	0.35	0.40	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 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

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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

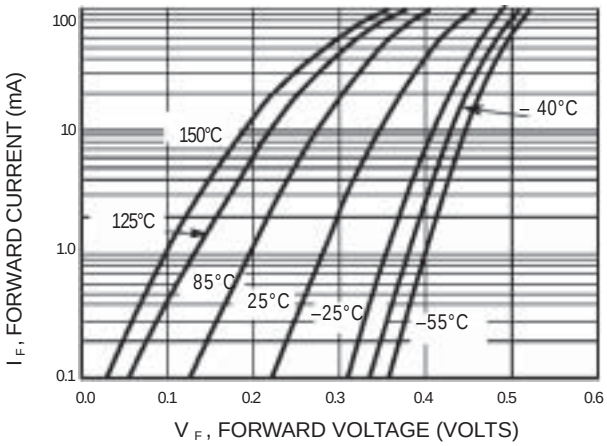


Figure 2. Forward Voltage

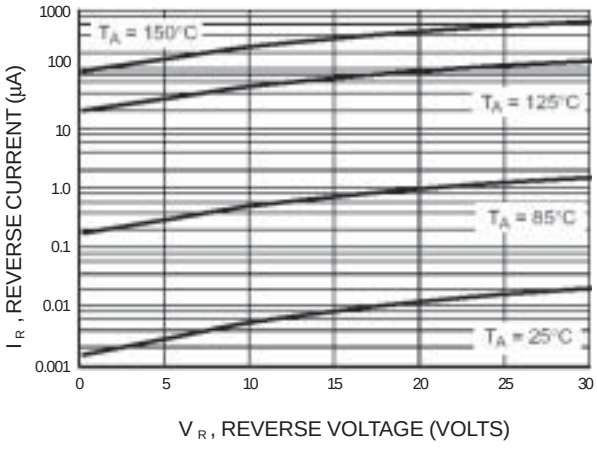


Figure 3. Leakage Current

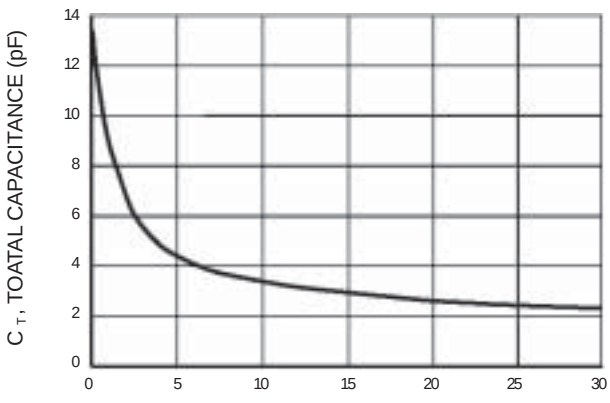
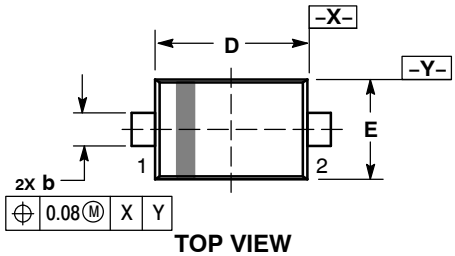


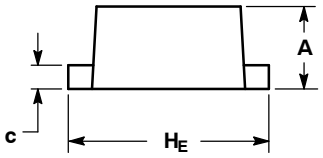
Figure 4. Total Capacitance

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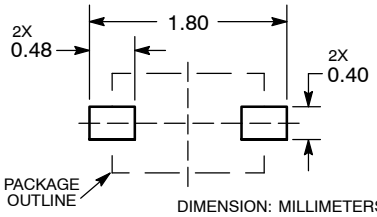


TOP VIEW



SIDE VIEW

RECOMMENDED SOLDERING FOOTPRINT*



DIMENSION: MILLIMETERS

NOTES:
1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 1994.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.
4. DIMENSIONS D AND E DO NOT INCLUDE MOLD FLASH, PROTRUSIONS, OR GATE BURRS.

	MILLIMETERS		
DIM	MIN	NOM	MAX
A	0.50	0.60	0.70
b	0.25	0.30	0.35
c	0.07	0.14	0.20
D	1.10	1.20	1.30
E	0.70	0.80	0.90
H_E	1.50	1.60	1.70
L		0.30 REF	
L2	0.15	0.20	0.25