BAL99LT1G

Switching Diode

Features

- These Devices are Pb−Free, Halogen Free/BFR Free and are RoHS Compliant

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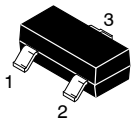


SOT−23
CASE 318
STYLE 18

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Continuous Reverse Voltage	V_R	70	Vdc
Peak Forward Current	I_F	100	mAdc

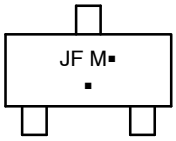
Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Total Device Dissipation FR−5 Board (Note 1), T_A = 25°C Derate above 25°C	P_D	225 1.8	mW mW/°C
Thermal Resistance, Junction−to−Ambient	$R_{\theta JA}$	556	°C/W
Total Device Dissipation Alumina Substrate, (Note 2) T_A = 25°C Derate above 25°C	P_D	300 2.4	mW mW/°C
Thermal Resistance, Junction−to−Ambient	$R_{\theta JA}$	417	°C/W
Junction and Storage Temperature	T_J, T_{stg}	−55 to +150	°C

1. FR−5 = 1.0 × 0.75 × 0.062 in.
2. Alumina = 0.4 × 0.3 × 0.024 in 99.5% alumina.

MARKING DIAGRAM



JF = Specific Device Code
M = Date Code*
▪ = Pb−Free Package
(Note: Microdot may be in either location)

*Date Code orientation and/or overbar may vary depending upon manufacturing location.

ORDERING INFORMATION

Device	Package	Shipping†
BAL99LT1G	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.

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

Characteristic	Symbol	Min	Max	Unit
OFF CHARACTERISTICS				
Reverse Voltage Leakage Current	I_R			μAdc
(V_R = 70 Vdc)		–	2.5	
(V_R = 25 Vdc, T_J = 150°C)		–	30	
(V_R = 70 Vdc, T_J = 150°C)		–	50	
Reverse Breakdown Voltage, (I_R = 100 μAdc)	$V_{(BR)}$	70	–	Vdc
Forward Voltage,	V_F			mV
(I_F = 1.0 mAdc)		–	715	
(I_F = 10 mAdc)		–	855	
(I_F = 50 mAdc)		–	1000	
(I_F = 150 mAdc)		–	1250	
Recovery Current, (I_F = 10 mAdc, V_R = 5.0 Vdc, R_L = 500 Ω)	Q_S	–	45	pC
Diode Capacitance, (V_R = 0, f = 1.0 MHz)	C_D	–	1.5	pF
Reverse Recovery Time, (I_F = I_R = 10 mAdc, R_L = 100 Ω, measured at I_R = 1.0 mAdc)	t_{rr}	–	6.0	ns
Forward Recovery Voltage, (I_F = 10 mAdc, t_r = 20 ns)	V_{FR}	–	1.75	Vdc

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

TYPICAL CHARACTERISTICS

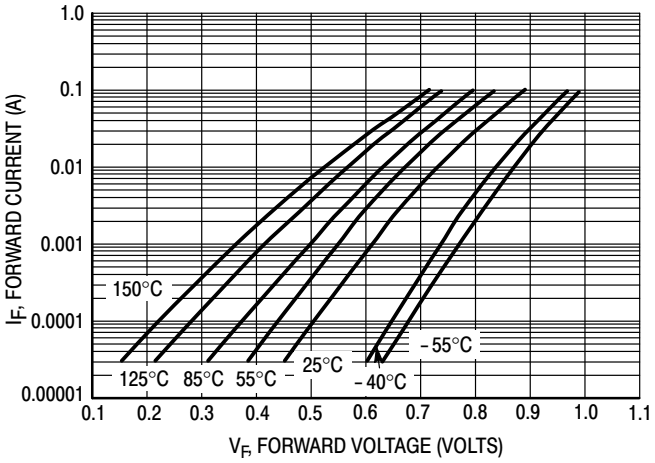


Figure 1. Forward Voltage

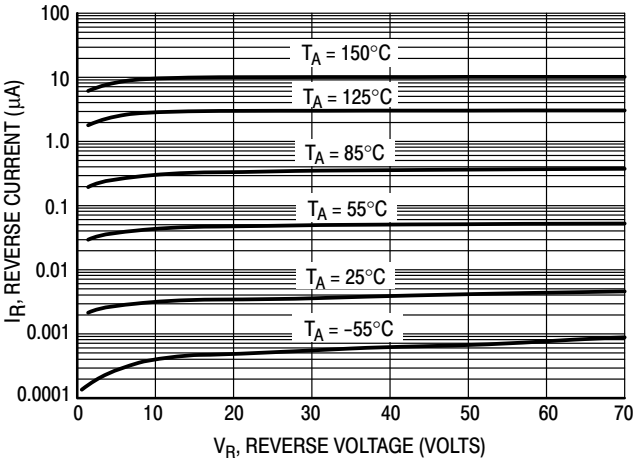


Figure 2. Leakage Current

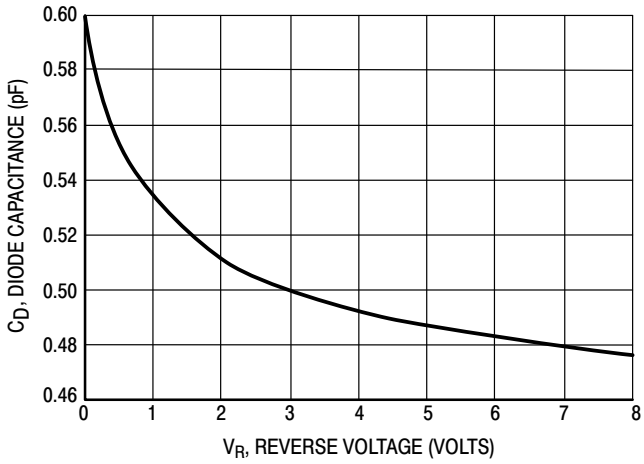


Figure 3. Capacitance

ADDITIONAL INFORMATION

TECHNICAL PUBLICATIONS:
Technical Library: www.onsemi.com/design/resources/technical−documentation
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