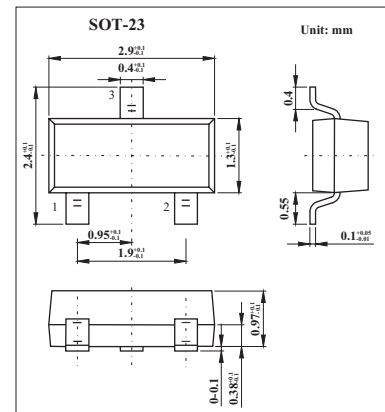


## High-speed diode

## BAL74

## ■ Features

- Small plastic SMD package
- High switching speed:Max. 4 ns
- Continuous reverse voltage:max. 50 V
- Repetitive peak reverse voltage:max. 50 V
- Repetitive peak forward current:max. 500 mA



## ■ Absolute Maximum Ratings Ta = 25°C

Parameter	Symbol	condition	Min	Max	Unit
Repetitive peak reverse voltage	V <sub>RM</sub>			50	V
Continuous reverse voltage	V <sub>R</sub>			50	V
Continuous forward current	I <sub>FM</sub>	Note 1		215	mA
Repetitive peak forward current	I <sub>O</sub>			500	mA
Non-repetitive peak forward current	I <sub>FSM</sub>	square wave; T <sub>J</sub> = 25 °C prior to surge; t = 1 μs t = 1ms t = 1 s		4 1 0.5	A
Total power dissipation	P <sub>tot</sub>	T <sub>amb</sub> 25 °C; note 1		250	mW
Storage temperature	T <sub>stg</sub>		-65	+150	°C
Junction temperature	T <sub>J</sub>			150	°C

Note

1. Device mounted on an FR4 printed-circuit board.

## High-speed diode

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■ Electrical Characteristics  $T_a = 25^\circ\text{C}$ 

Parameter	Symbol	Test Conditions	Max	Unit
Forward voltage	$V_F$	$I_F = 1 \text{ mA}$	715	mV
		$I_F = 10 \text{ mA}$	855	
		$I_F = 50 \text{ mA}$	1	V
		$I_F = 150 \text{ mA}$	1.25	
Reverse current	$I_R$	$V_R = 50 \text{ V}$	0.1	$\mu\text{A}$
		$V_R = 50 \text{ V}; T_j = 150$	100	
Diode capacitance	$C_d$	$f = 1 \text{ MHz}; V_R = 0;$	2	pF
reverse recovery time	$t_{rr}$	when switched from $I_F = 10 \text{ mA}$ to $I_R = 10 \text{ mA}; R_L = 100 \Omega$ ; measured at $I_R = 1 \text{ mA}$	4	ns
forward recovery voltage	$V_{fr}$	when switched from $I_F = 10 \text{ mA}; t_r = 20 \text{ ns};$	1.75	V
thermal resistance from junction to tie-point	$R_{th\ j-tp}$		330	K/W
thermal resistance from junction to ambient	$R_{th\ j-a}$		500	K/W

## ■ Marking

Marking	JCp
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