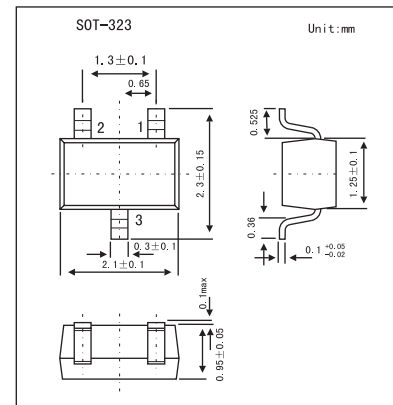


## High-speed diode

## BAL99W

## ■ Features

- Very small plastic SMD envelope
- High switching speed: max. 4 ns
- Continuous reverse voltage: max. 75 V
- Repetitive peak reverse voltage: max. 85 V
- Repetitive peak forward current: max. 500 mA.

■ Absolute Maximum Ratings  $T_a = 25^\circ\text{C}$ 

Parameter	Symbol	Conditions	Min	Max	Unit
repetitive peak reverse voltage	VRRM			85	V
continuous reverse voltage	VR			75	V
continuous forward current	IF			150	mA
repetitive peak forward current	IFRM			500	mA
non-repetitive peak forward current	IFSM	square wave; $T_j = 25^\circ\text{C}$ prior to surge; $t = 1 \mu\text{s}$ $t = 1 \text{ms}$ $t = 1 \text{s}$		4 1 0.5	A
total power dissipation	Ptot	$T_{a \text{ mb}} = 25^\circ\text{C}$		200	mW
Storage temperature range	Tstg		-65	+150	$^\circ\text{C}$
Junction temperature	$T_j$			150	$^\circ\text{C}$
thermal resistance from junction to tie-point	$R_{th \text{ j-t p}}$			300	K/W
thermal resistance from junction to ambient	$R_{th \text{ j-a}}$			625	K/W

**BAL99W**■ 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	$I_R$	$V_R = 25 \text{ V}$	30	nA
		$V_R = 75 \text{ V}$	1	$\mu\text{A}$
		$V_R = 25 \text{ V}, T_j = 150^\circ\text{C}$	30	$\mu\text{A}$
		$V_R = 25 \text{ V}, T_j = 150^\circ\text{C}$	50	$\mu\text{A}$
Diode capacitance	$C_d$	$f = 1.0 \text{ MHz}, V_R = 0$	1.5	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

## ■ Marking

Marking	JF
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