

High-speed double diode

BAV74

■ Features

- Small plastic SMD package
- High switching speed: max.4 ns
- Continuous reverse voltage: max. 50 V
- Repetitive peak reverse voltage: max. 60 V
- Repetitive peak forward current: max. 450 mA

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

Parameter	Symbol	Conditions	Min	Max	Unit
Repetitive peak reverse voltage	V_{RRM}			60	V
Continuous reverse voltage	V_R			50	V
Continuous forward current	I_F	single diode loaded; Note 1		215	mA
		double diode loaded; Note 1		125	
Repetitive peak forward current	I_{FRM}			450	mA
Non-repetitive peak forward current	I_{FSM}	square wave; $T_j = 25^\circ\text{C}$ prior to surge;		4	A
		$t = 1 \mu\text{s}$		1	
		$t = 1 \text{s}$		0.5	
Total power dissipation	P_{tot}	$T_{amb} = 25^\circ\text{C}$; Note 1		250	mW
Storage temperature	T_{stg}		-65	+150	$^\circ\text{C}$
Junction temperature	T_j			150	$^\circ\text{C}$
thermal resistance from junction to tie-point	$R_{th\ j-tp}$			360	K/W
thermal resistance from junction to ambient	$R_{th\ j-a}$			500	K/W

Note

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

BAV74■ Electrical Characteristics $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Max	Unit
Forward voltage	V_F	$I_F = 1 \text{ mA}$	715	mV
		$I_F = 10 \text{ mA}$	855	mV
		$I_F = 100 \text{ mA}$	1.0	V
Reverse current	I_R	$V_R = 25 \text{ V}$	30	nA
		$V_R = 50 \text{ V}$	0.1	μA
		$V_R = 25 \text{ V}; T_j = 150^\circ\text{C}$	30	μA
		$V_R = 50 \text{ V}; T_j = 150^\circ\text{C}$	100	μA
Diode capacitance	C_d	$f = 1 \text{ MHz}; V_R = 1 \text{ V};$	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
Reverse recovery time	V_{fr}	when switched from $I_F = 10 \text{ mA}; t_r = 20 \text{ ns};$	1.75	V

■ Marking

Marking	JAp
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