

High-speed diode

BAS16

■ Features

- Small plastic SMD package
- High switching speed: max. 4ns
- 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	V_{RRM}			60	V
Continuous reverse voltage	V_R			60	V
Continuous forward current	I_F	Note 1		250	mA
Repetitive peak forward current	I_{FRM}			600	mA
Non-repetitive peak forward current	I_{FSM}	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	P_{tot}	$T_{mab} = 25^\circ\text{C}$; Note 1		250	mW
Storage temperature	T_{stg}		-65	+150	$^\circ\text{C}$
Junction temperature	T_j			150	$^\circ\text{C}$

Note

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

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■ 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	
		$I_F = 50\text{ mA};$	1	V
		$I_F = 100\text{ mA};$	1.25	
Reverse current	I_R	$V_R = 25\text{ V};$	30	nA
		$V_R = 75\text{ V};$	1	$\mu\text{ A}$
		$V_R = 75\text{ V}; T_j = 150^\circ\text{C}$	30	$\mu\text{ A}$
		$V_R = 75\text{ V}; T_j = 150^\circ\text{C}$	50	$\mu\text{ A}$
Diode capacitance	C_d	$f = 1\text{ MHz}; V_R = 0;$	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	A6p
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