

- Small plastic SMD package
- Switching speed: max. 50 ns
- General application
- Continuous reverse voltage: max. 200 V
- Repetitive peak reverse voltage: max. 250 V
- Repetitive peak forward current: max. 625 mA.

APPLICATIONS

- General purpose switching in e.g. surface mounted circuits.

DESCRIPTION

The BAS321 is a general purpose diode fabricated in planar technology and encapsulated in a plastic SOD323 package.

ORDERING INFORMATION

TYPE NUMBER	PACKAGE		
	NAME	DESCRIPTION	VERSION
BAS321	-	plastic surface mounted package; 2 leads	SOD323

LIMITING VALUES

In accordance with the Absolute Maximum Rating System (IEC 60134).

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V_{RRM}	repetitive peak reverse voltage		-	250	V
V_R	continuous reverse voltage		-	200	V
I_F	continuous forward current	see Fig.2; note 1	-	250	mA
I_{FRM}	repetitive peak forward current	$t_p < 0.5 \text{ ms}; \delta \leq 0.25$	-	625	mA
I_{FSM}	non-repetitive peak forward current	square wave; $T_j = 25^\circ\text{C}$ prior to surge; see Fig.4 $t = 1 \text{ }\mu\text{s}$ $t = 100 \text{ }\mu\text{s}$ $t = 10 \text{ ms}$	-	9	A
P_{tot}	total power dissipation	$T_{amb} = 25^\circ\text{C}$; note 1	-	300	mW
T_{stg}	storage temperature		-65	+150	°C
T_j	junction temperature		-	150	°C

Note

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

PIN	DESCRIPTION
1	cathode
2	anode

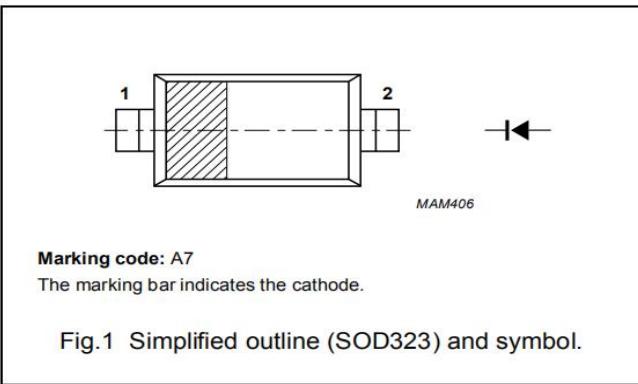


Fig.1 Simplified outline (SOD323) and symbol.

CHARACTERISTICS

$T_j = 25^\circ\text{C}$ unless otherwise specified.

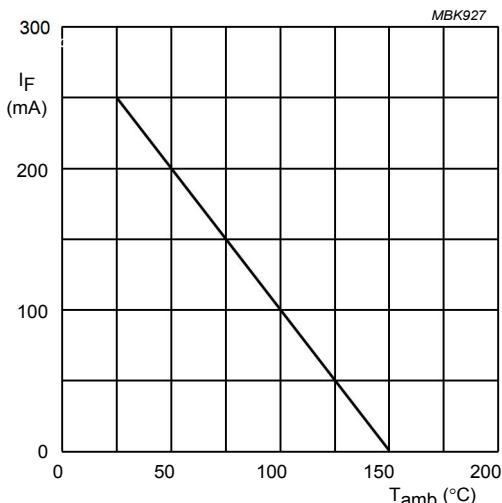
SYMBOL	PARAMETER	CONDITIONS	MAX.	UNIT
V_F	forward voltage	see Fig.3 $I_F = 100 \text{ mA}$ $I_F = 200 \text{ mA}$	1 1.25	V V
I_R	reverse current	see Fig.5 $V_R = 200 \text{ V}$ $V_R = 200 \text{ V}; T_j = 150^\circ\text{C}$	100 100	nA μA
C_d	diode capacitance	$f = 1 \text{ MHz}; V_R = 0$; see Fig.6	2	pF
t_{rr}	reverse recovery time	when switched from $I_F = 30 \text{ mA}$ to $I_R = 30 \text{ mA}; R_L = 100 \Omega$; measured at $I_R = 3 \text{ mA}$; see Fig.8	50	ns

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$R_{th(j-s)}$	thermal resistance from junction to soldering point	$T_s = 90^\circ\text{C}$; note 1	130	K/W
$R_{th(j-a)}$	thermal resistance from junction to ambient	note 2	366	K/W

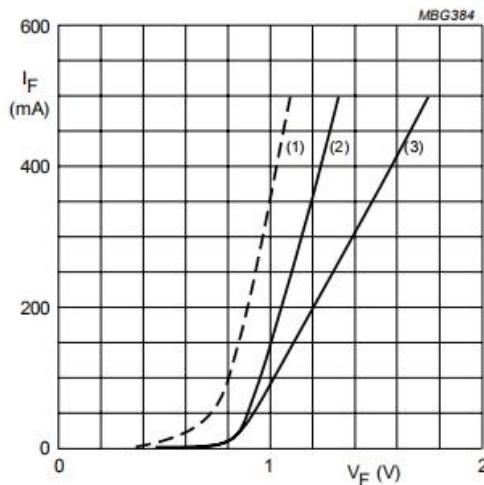
Notes

1. Soldering point of cathode tab.
2. Device mounted on an FR4 printed circuit board.

GRAPHICAL DATA


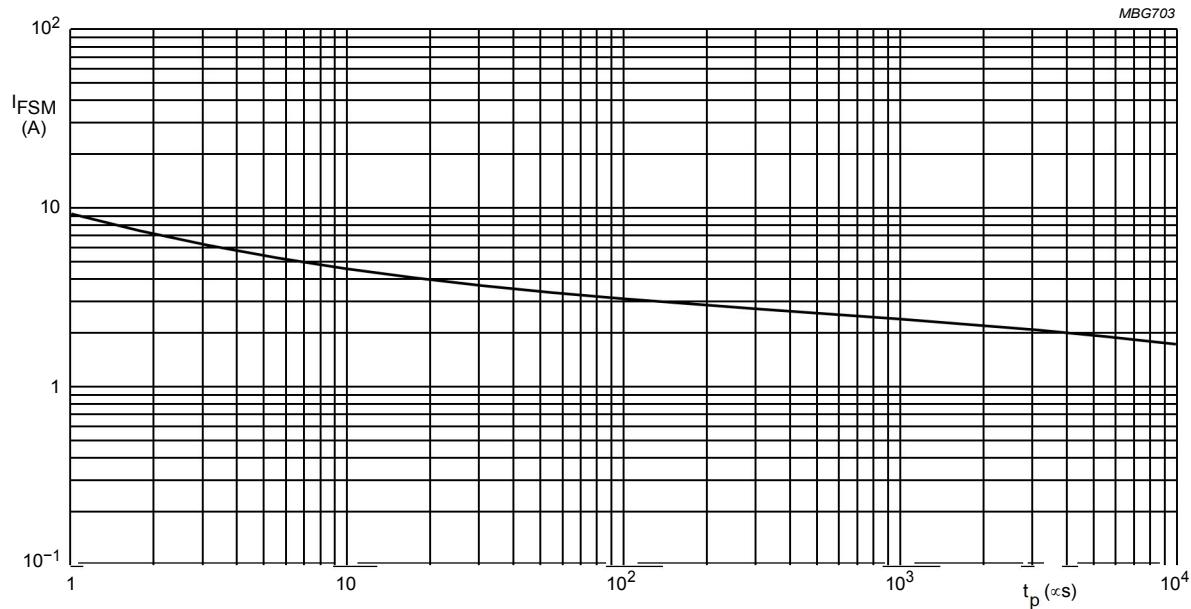
Device mounted on an FR4 printed-circuit board.

Fig.2 Maximum permissible continuous forward current as a function of ambient temperature.



- (1) $T_j = 150$ °C; typical values.
- (2) $T_j = 25$ °C; typical values.
- (3) $T_j = 25$ °C; maximum values.

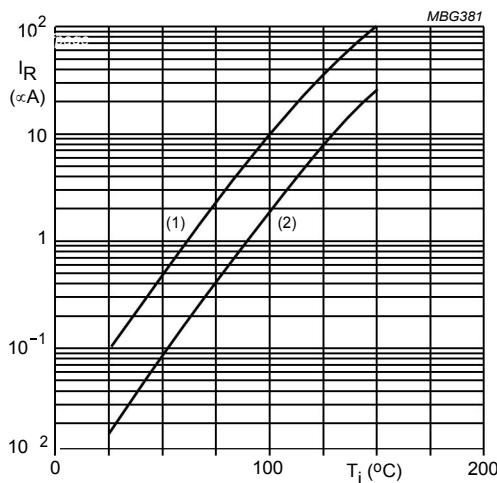
Fig.3 Forward current as a function of forward voltage.



Based on square wave currents.

$T_j = 25$ °C prior to surge.

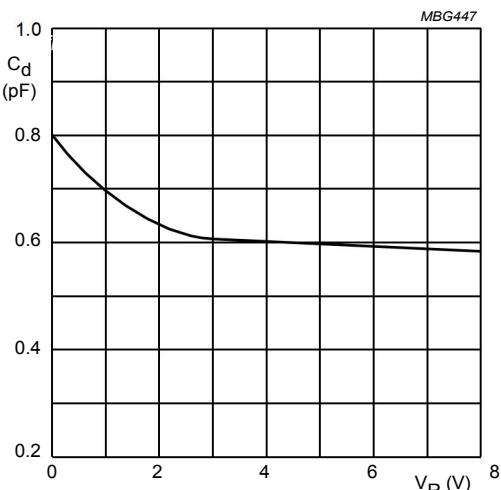
Fig.4 Maximum permissible non-repetitive peak forward current as a function of pulse duration.



(1) $V_R = V_{R\max}$; maximum values.

(2) $V_R = V_{R\max}$; typical values.

Fig.5 Reverse current as a function of junction temperature.



$f = 1$ MHz; $T_j = 25$ °C.

Fig.6 Diode capacitance as a function of reverse voltage; typical values.

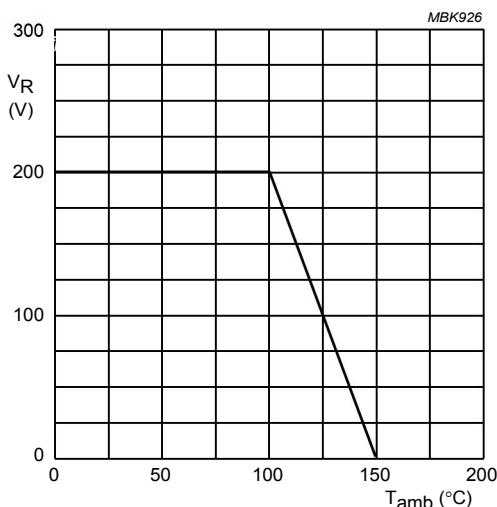


Fig.7 Maximum permissible continuous reverse voltage as a function of the ambient temperature.