

- 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

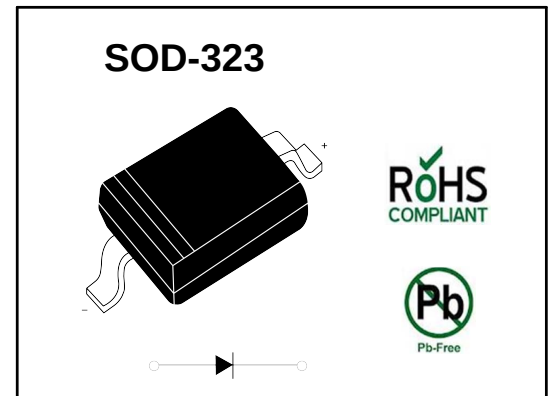
- General purpose switching in e.g. surface mounted circuits.

DESCRIPTION

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

PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode



Marking Code: "A7"

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			
		$t = 1 \text{ } \mu\text{s}$	-	9	A
		$t = 100 \text{ } \mu\text{s}$	-	3	A
		$t = 10 \text{ ms}$	-	1.7	A
P_{tot}	total power dissipation	$T_{amb} = 25^\circ\text{C}$; note 1	-	300	mW
T_{stg}	storage temperature		-65	+150	$^\circ\text{C}$
T_j	junction temperature		-	150	$^\circ\text{C}$

Note

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

Typical Characteristics

CHARACTERISTICS

$T_j = 25\text{ }^{\circ}\text{C}$ 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 $V_R = 200\text{ V}$ $V_R = 200\text{ V}; T_j = 150\text{ }^{\circ}\text{C}$	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 $I_R = 30\text{ mA}; R_L = 100\text{ }\Omega$; measured at $I_R = 3\text{ mA}$; see Fig.8	50	ns

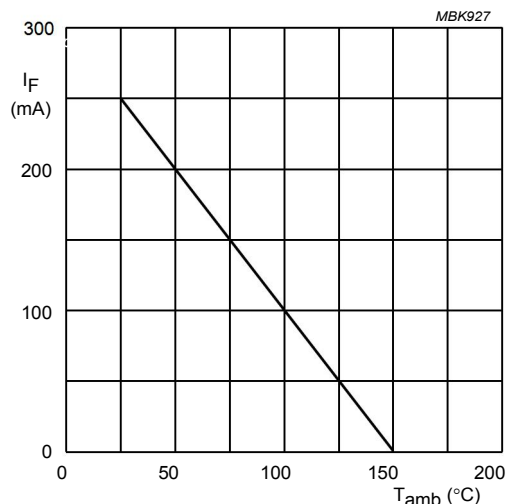
THERMAL CHARACTERISTICS

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

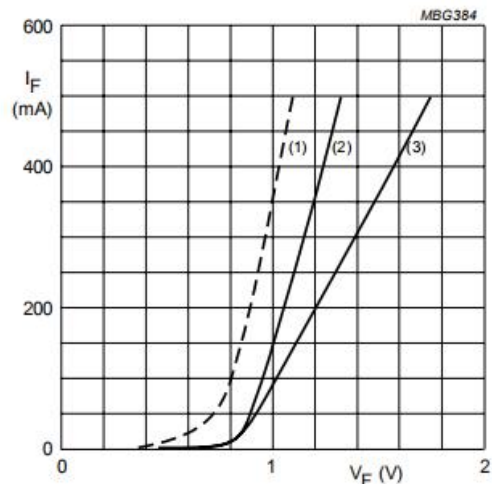
1. Soldering point of cathode tab.
2. Device mounted on an FR4 printed circuit board.

GRAPHICAL DATA



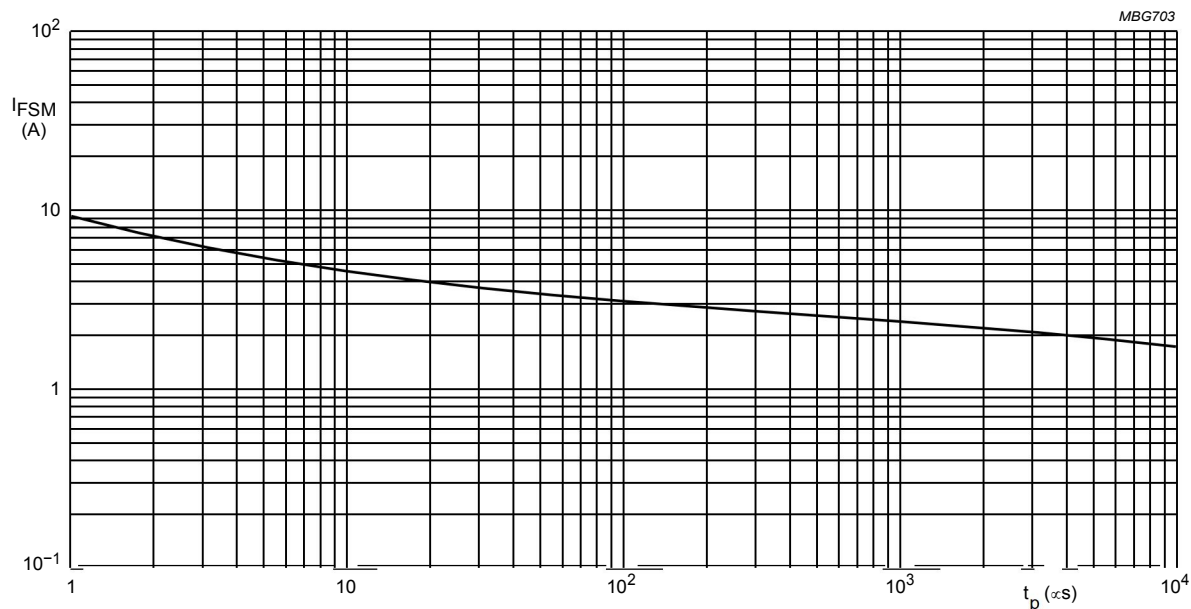
Device mounted on an FR4 printed-circuit board.

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



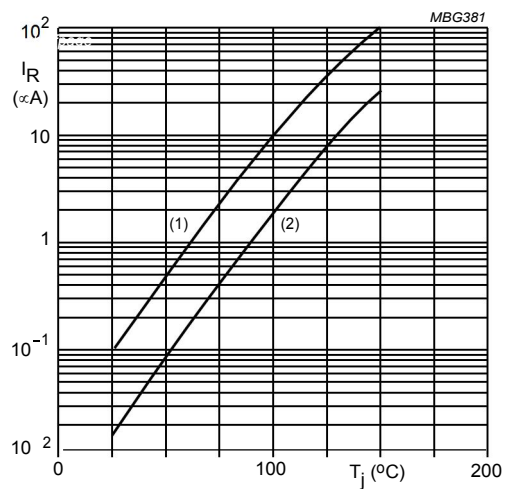
- (1) $T_J = 150^{\circ}\text{C}$; typical values.
- (2) $T_J = 25^{\circ}\text{C}$; typical values.
- (3) $T_J = 25^{\circ}\text{C}$; maximum values.

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



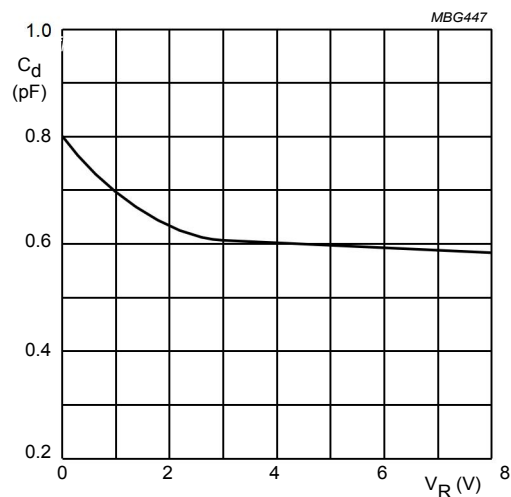
Based on square wave currents.
 $T_J = 25^{\circ}\text{C}$ prior to surge.

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



- (1) $V_R = V_{Rmax}$; maximum values.
 (2) $V_R = V_{Rmax}$; typical values.

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



$f = 1 \text{ MHz}$; $T_j = 25 \text{ }^{\circ}\text{C}$.

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

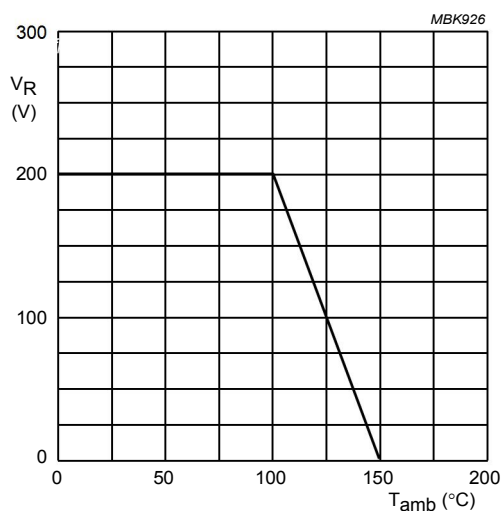
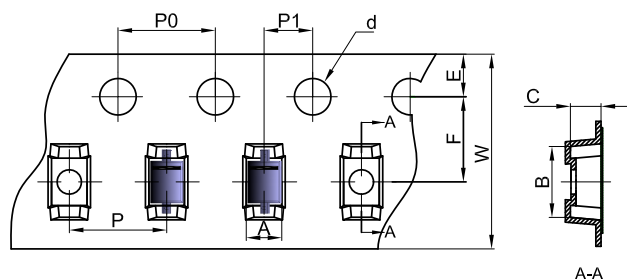


Fig.7 Maximum permissible continuous reverse voltage as a function of the ambient temperature.

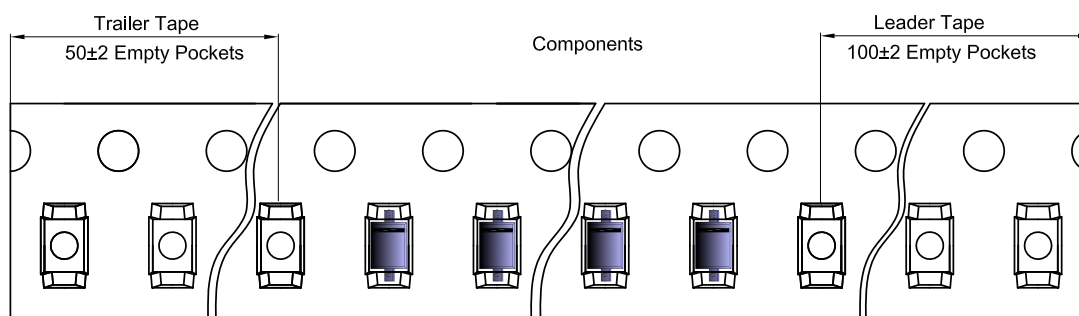
SOD-323 Tape and Reel

SOD-323 Embossed Carrier Tape

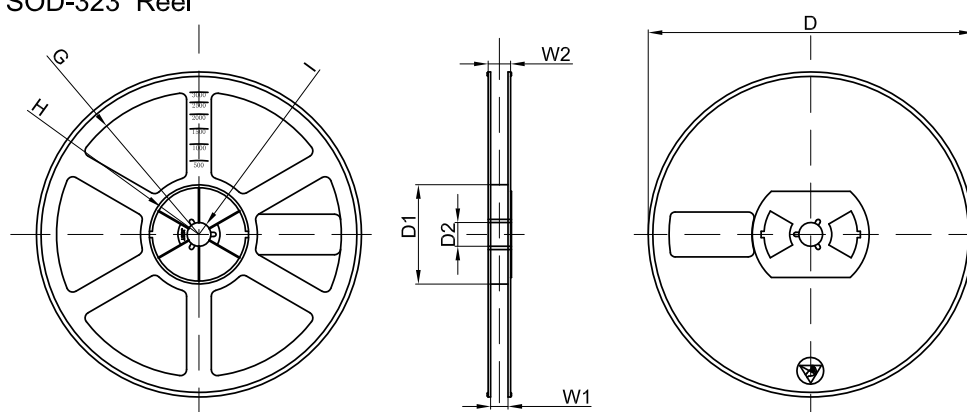


Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOD-323	1.48	3.3	1.25	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00

SOD-323 Tape Leader and Trailer



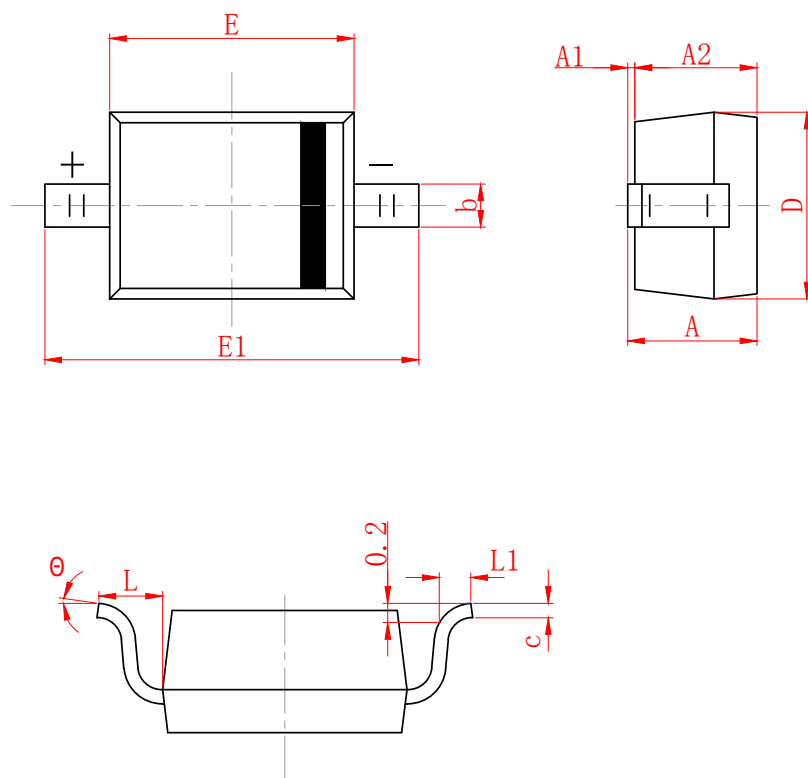
SOD-323 Reel



Dimensions are in millimeter								
Reel Option	D	D1	D2	G	H	I	W1	W2
7"Dia	Ø178.00	54.40	13.00	R78.00	R25.60	R6.50	9.50	12.30

REEL	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)	G.W.(kg)
3000 pcs	7 inch	45,000 pcs	203×203×195	180,000 pcs	438×438×220	

SOD-323 Package Outline Dimensions



SYMBOL	MILLIMETER	
	MIN	MAX
A		1.000
A1	0.000	0.100
A2	0.800	0.900
b	0.250	0.350
c	0.008	0.150
D	1.200	1.400
E	1.600	1.800
E1	2.500	2.700
L	0.475 (REF)	
L1	0.250	0.400
θ	0°	8°

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