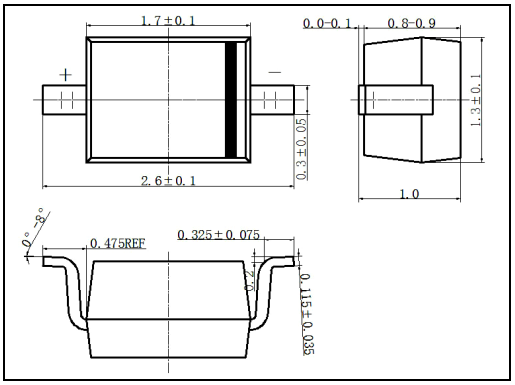
SHENZHEN LONG JING MICRO-ELECTRONICS CO., LTD.

SOD-323 Plastic-Encapsulate Diodes

BAS321



Features

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

Description

The BAS321 is a general purpose diode fabricated in planar technology and encapsulated in a plastic SOD-80C package.

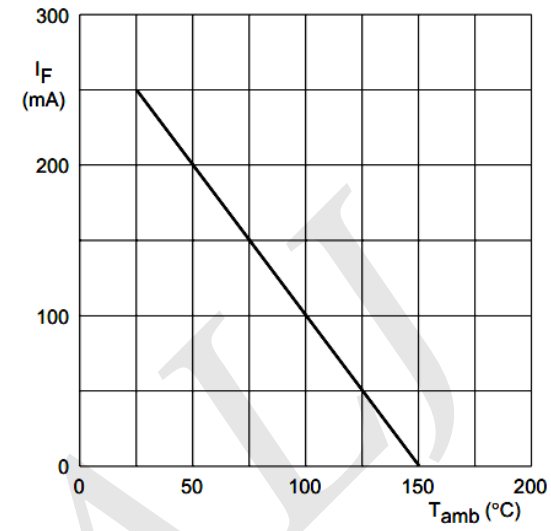
Maximum Ratings (T_a=25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{RRM}	Peak repetitive reverse voltage	250	V
V_R	DC blocking voltage	200	V
I_F	Continuous forward current, see Fig.1	250	mA
I_{FRM}	Repetitive peak forward current @ t_p < 0.5 ms; δ ≤ 0.25	625	mA
I_{FSM}	Non-repetitive peak forward current square wave; T_j = 25 °C prior to surge; see Fig.3 t = 1μs t = 100μs t = 10ms	 9 3 1.7	 A A A
P_{tot}	Total power dissipation, T_{amb} = 25 °C;	300	mW
$V_{R(RMS)}$	RMS reverse voltage	35	V
T_j	Junction temperature	150	°C
T_{stg}	Storage temperature	-65~+150	°C
$R_{θJA}$	Thermal resistance from junction to ambient	366	K/W
$R_{θJS}$	Thermal resistance from junction to soldering point, T_s = 90°C	130	K/W

Electrical Characteristics (T_a=25°C unless otherwise specified)

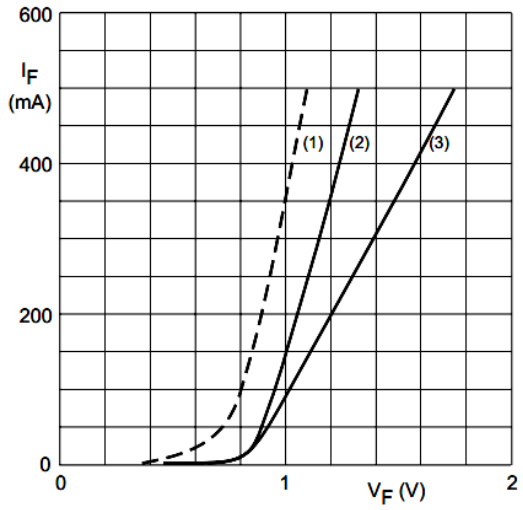
Symbol	Parameter	Test Conditions	Min	Max	Unit
V_F	Forward voltage, see Fig.2	I_F = 100 mA		1	V
		I_F = 200 mA		1.25	V
I_R	Reverse current, see Fig.4	V_R = 200V		100	nA
		V_R = 200V, T_j = 150°C		100	μA
C_d	Diode capacitance, see Fig.5	f = 1MHz; V_R = 0;		2	pF
t_{rr}	Reverse recovery time, see Fig.7	when switched from IF = 30 mA to I_R = 30 mA; R_L = 100 Ω; measured at I_R = 3 mA;			

Typical Characteristics



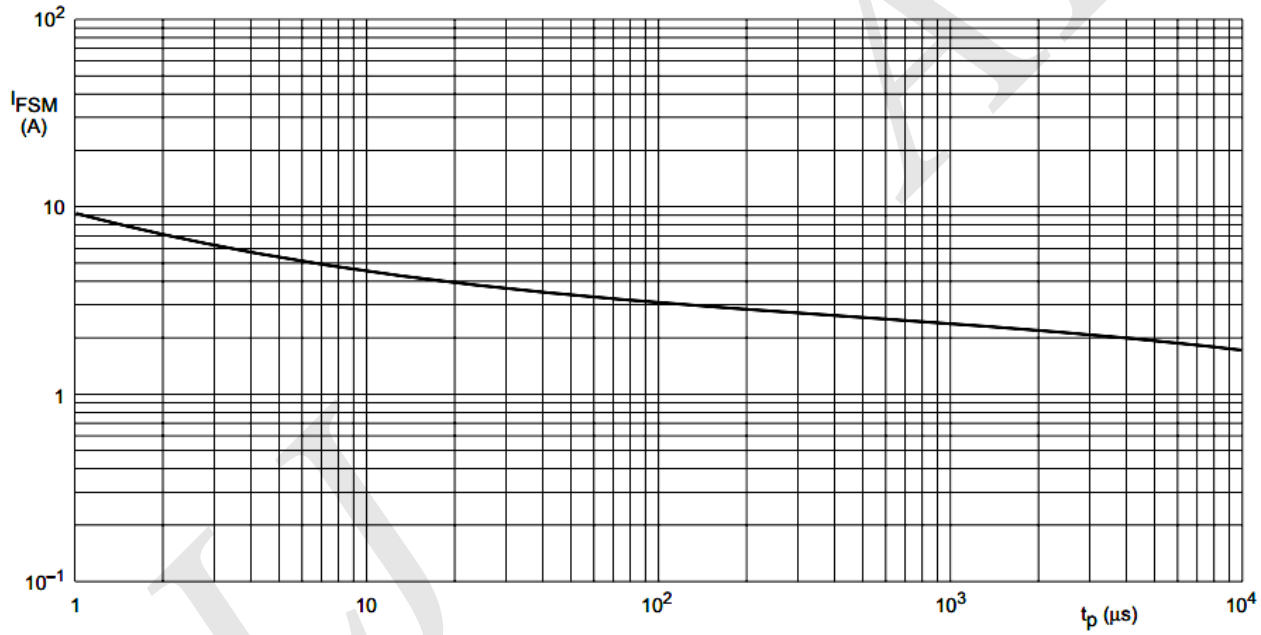
Device mounted on an FR4 printed-circuit board.

Fig.1 Maximum permissible continuous forward current as a function of ambient temperature.



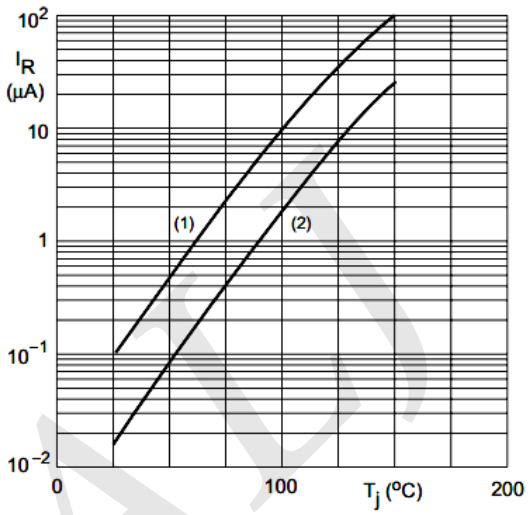
(1) T_j = 150 °C; typical values.
(2) T_j = 25 °C; typical values.
(3) T_j = 25 °C; maximum values.

Fig.2 Forward current as a function of forward voltage.



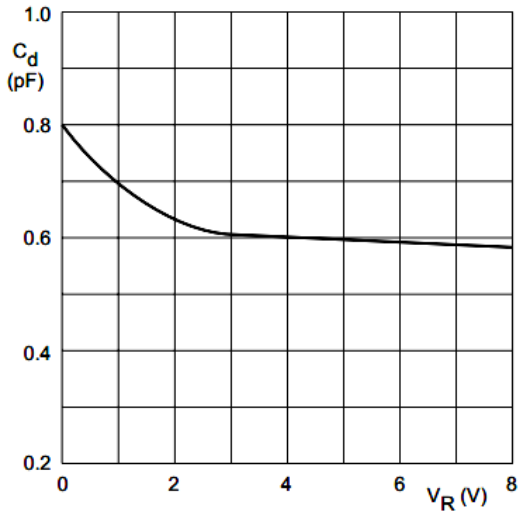
Based on square wave currents.
T_j = 25 °C prior to surge.

Fig.3 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.4 Reverse current as a function of junction temperature.



f = 1 MHz; T_j = 25 C.

Fig.5 Diode capacitance as a function of reverse voltage; typical values.

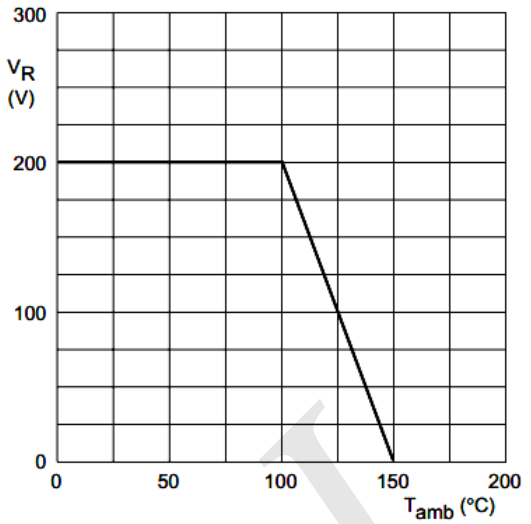


Fig.6 Maximum permissible continuous reverse voltage as a function of the ambient temperature.