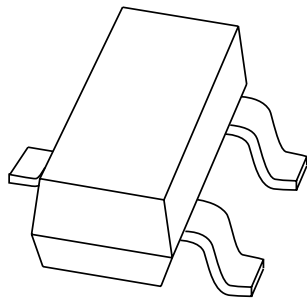


DATA SHEET



BAS19; BAS20; BAS21 General purpose diodes

Product specification

General purpose diodes

BAS19; BAS20; BAS21

FEATURES

- Small plastic SMD package
- Switching speed: max. 50 ns
- General application
- Continuous reverse voltage: max. 100 V; 150 V; 200 V
- Repetitive peak reverse voltage: max. 120 V; 200 V; 250 V
- Repetitive peak forward current: max. 625 mA.

APPLICATIONS

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

DESCRIPTION

The BAS19, BAS20 and BAS21 are general purpose diodes fabricated in planar technology, and encapsulated in a small SOT23 plastic SMD package.

MARKING

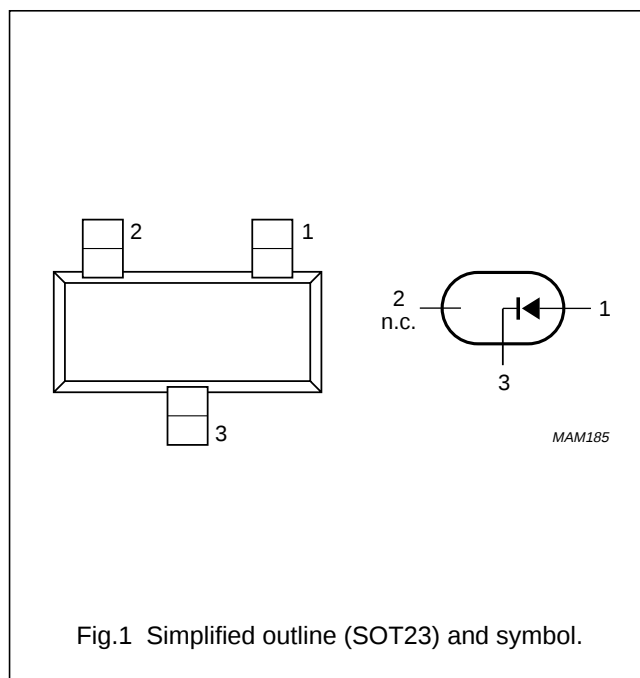
TYPE NUMBER	MARKING CODE ⁽¹⁾
BAS19	JP*
BAS20	JR*
BAS21	JS*

Note

- * = p: Made in Hong Kong.
 * = t: Made in Malaysia.
 * = W: Made in China.

PINNING

PIN	DESCRIPTION
1	anode
2	not connected
3	cathode



General purpose diodes

BAS19; BAS20; BAS21

LIMITING VALUES

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V_{RRM}	repetitive peak reverse voltage				
	BAS19		–	120	V
	BAS20		–	200	V
	BAS21		–	250	V
V_R	continuous reverse voltage				
	BAS19		–	100	V
	BAS20		–	150	V
	BAS21		–	200	V
I_F	continuous forward current	see Fig.2; note 1	–	200	mA
I_{FRM}	repetitive peak forward current		–	625	mA
I_{FSM}	non-repetitive peak forward current	square wave; $T_j = 25\text{ °C}$ 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	$T_{amb} = 25\text{ °C}$; note 1	–	250	mW
T_{stg}	storage temperature		–65	+150	°C
T_j	junction temperature		–	150	°C

Note

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

General purpose diodes

BAS19; BAS20; BAS21

ELECTRICAL 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 BAS19 BAS20 BAS21	see Fig.5 $V_R = 100\text{ V}$ $V_R = 100\text{ V}; T_j = 150\text{ }^{\circ}\text{C}$ $V_R = 150\text{ V}$ $V_R = 150\text{ V}; T_j = 150\text{ }^{\circ}\text{C}$ $V_R = 200\text{ V}$ $V_R = 200\text{ V}; T_j = 150\text{ }^{\circ}\text{C}$	100 100 100 100 100 100	nA μA nA μA nA μA
C_d	diode capacitance	$f = 1\text{ MHz}; V_R = 0$; see Fig.6	5	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
$R_{th\ j-tp}$	thermal resistance from junction to tie-point		330	K/W
$R_{th\ j-a}$	thermal resistance from junction to ambient	note 1	500	K/W

Note

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

General purpose diodes

BAS19; BAS20; BAS21

PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT23

