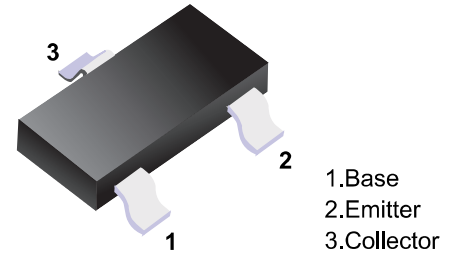


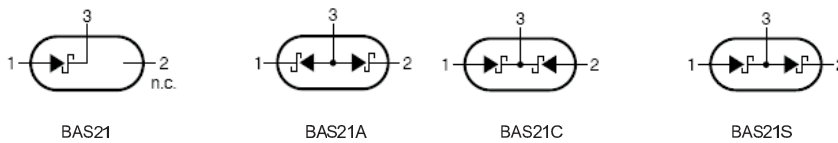
■ **Switching Diodes**

■ **Features**

- Fast Switching Speed
- Surface Mount Package Ideally Suited for Automatic Insertion
- High Conductance
- For General Purpose Switching Applications



■ **Simplified outline(SOT-23)**



■ **Absolute Maximum Ratings Ta = 25°C**

Parameter	Symbol	Rating	Unit
Reverse Voltage	V <sub>R</sub>	250	V
Forward Current	I <sub>F</sub>	200	mA
Power Dissipation	P <sub>D</sub>	200	mW
Operating Junction Temperature Range	T <sub>J</sub>	-55 to +150	°C
Storage Temperature Range	T <sub>stg</sub>	-55 to +150	°C

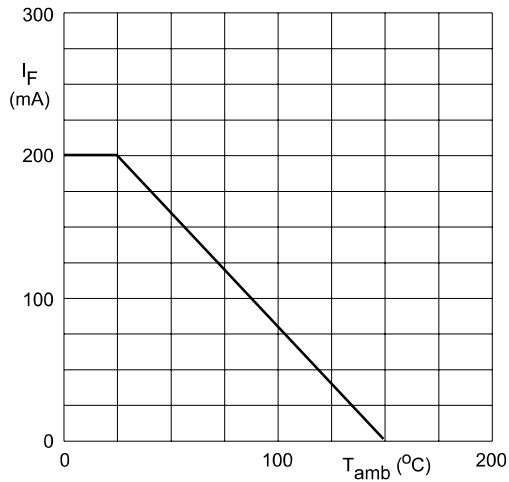
■ **Electrical Characteristics Ta = 25°C**

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Reverse Breakdown Voltage	V(BR)	I <sub>R</sub> =100 μ A	250			V
Forward Voltage	V <sub>F</sub>	I <sub>F</sub> =100mA I <sub>F</sub> =200mA			1.0 1.25	V
Reverse Leakage	I <sub>R</sub>	V <sub>R</sub> =200V			100	nA
Junction Capacitance	C <sub>j</sub>	V <sub>R</sub> =0V, f=1.0MHz			5.0	pF
Reverse Recover Time	T <sub>rr</sub>				50	nS

■ **Marking**

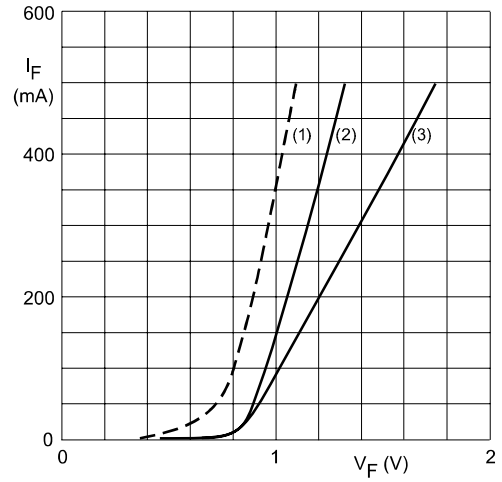
NO.	BAS21	BAS21A	BAS21C	BAS21S
Marking	JS	JS2	JS3	JS4

■ Typical Characteristics



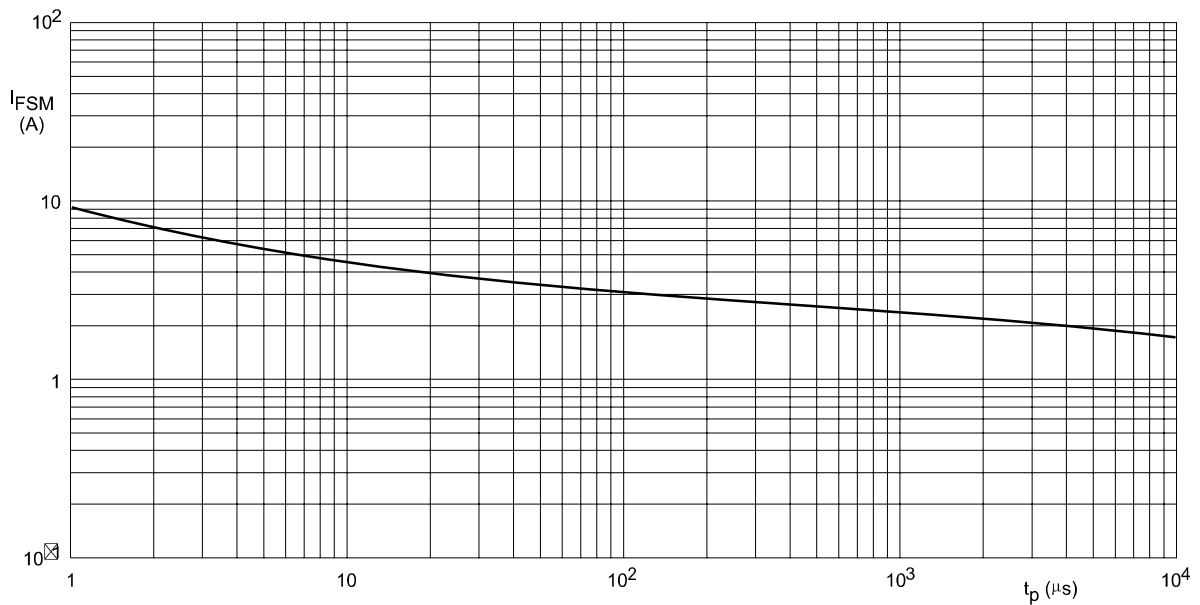
Device mounted on an FR4 printed-circuit board.

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



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

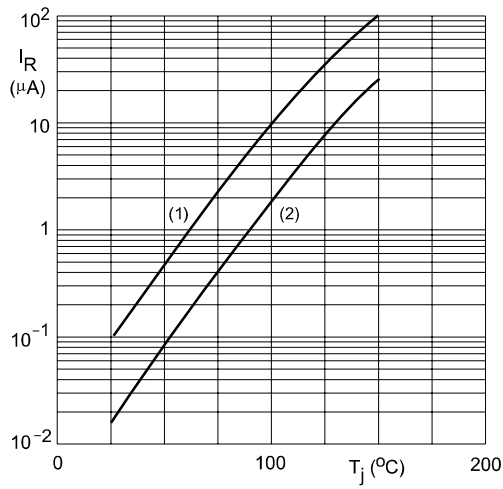
Fig.2 Forward current as a function of forward voltage.



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

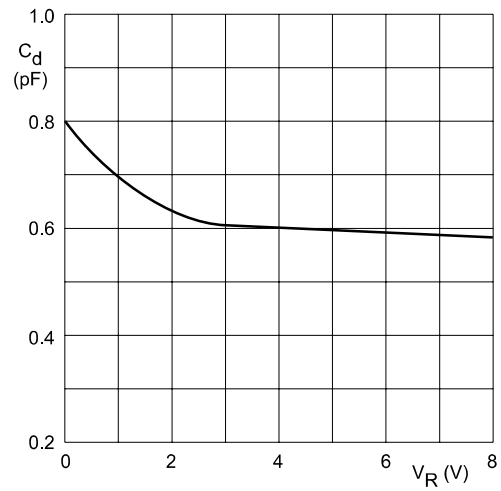
Fig.3 Maximum permissible non-repetitive peak forward current as a function of pulse duration.

■ Typical Characteristics



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

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



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

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

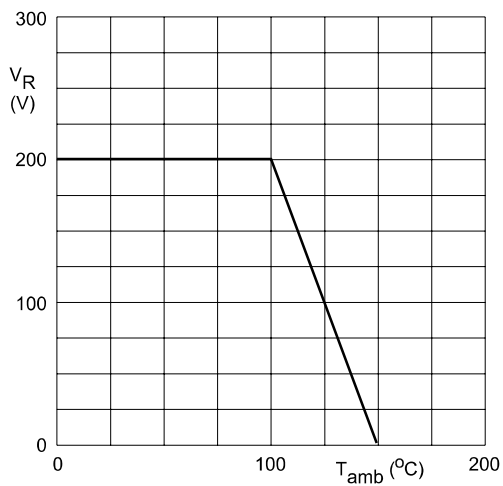
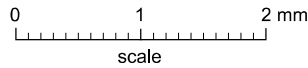
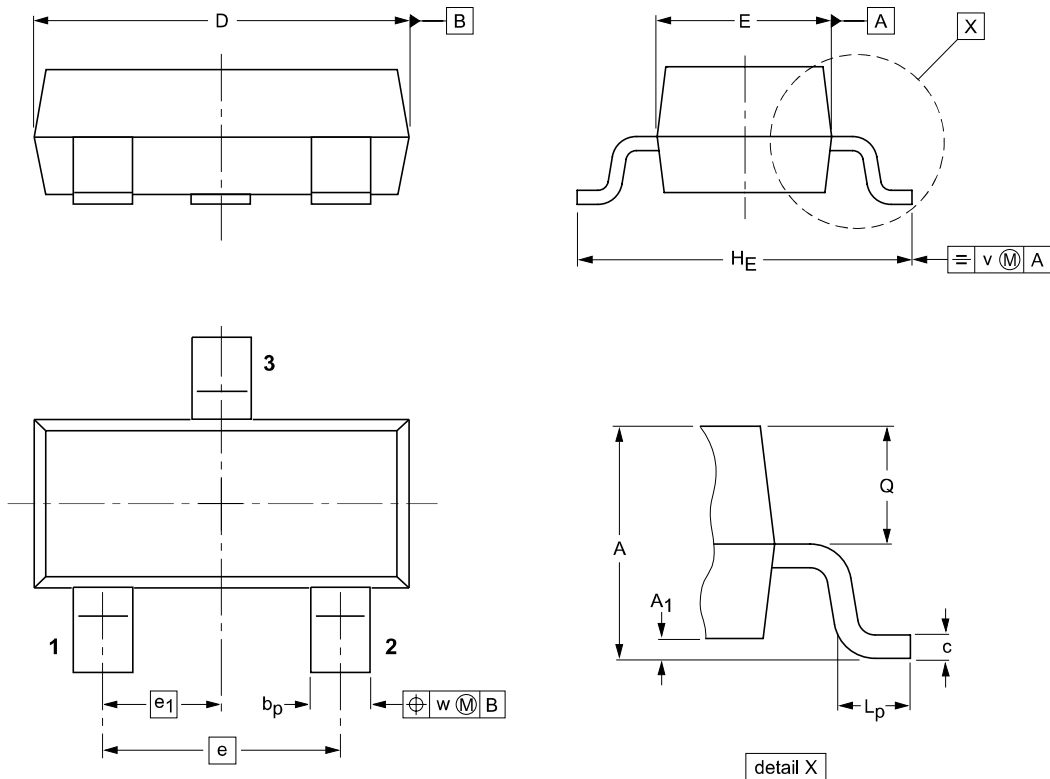


Fig.7 Maximum permissible continuous reverse voltage as a function of the ambient temperature.

**Package Outline**

**SOT-23**



**DIMENSIONS (mm are the original dimensions)**

UNIT	A	A <sub>1</sub> max.	b <sub>p</sub>	c	D	E	e	e <sub>1</sub>	H <sub>E</sub>	L <sub>p</sub>	Q	v	w
mm	1.1 0.9	0.1	0.48 0.38	0.15 0.09	3.0 2.8	1.4 1.2	1.9	0.95	2.5 2.1	0.45 0.15	0.55 0.45	0.2	0.1

**Summary of Packing Options**

Package	Packing Description	Packing Quantity	Industry Standard
SOT-23	Tape/Reel,7"reel	3000	EIA-481-1