

Surface mount switching diode

BAS21W/AW//SW

FEATURES

- Fast switching speed.
- Low capacitance : $C_d \leq 2\text{pF}$.
- package ideally suited for
- Very small SMD plastic package
- Low leakage current.
- High reverse voltage: $V_R \leq 250\text{V}$.

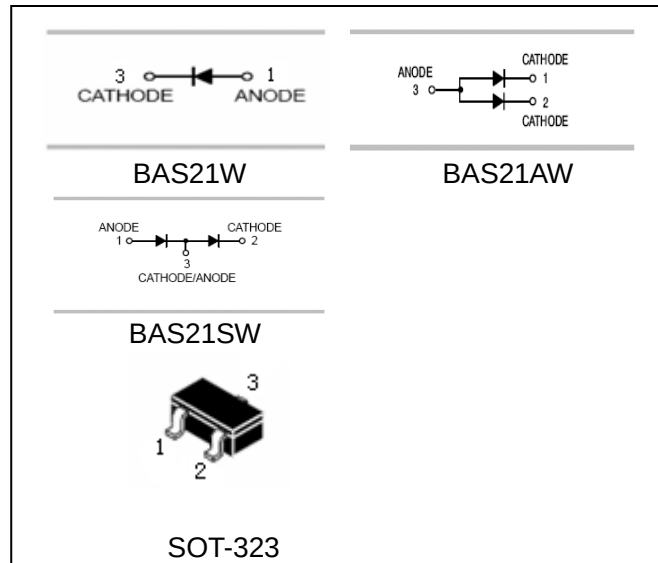
HF

APPLICATIONS

- High speed switching application.

ORDERING INFORMATION

Type No.	Marking	Package Code
BAS21W	KT3	SOT-323
BAS21AW	X6	SOT-323
BAS21SW	X5	SOT-323



MAXIMUM RATING @ $T_a=25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	V_R	250	V
Forward Continuous Current	I_F	225	mA
Power Dissipation	P_{tot}	200	mW
Thermal Resistance Junction to Ambient Air	$R_{\theta JA}$	625	K/W
Thermal Resistance Junction to solder point	$R_{\theta JS}$	300	K/W
Operating Junction Temperature Range	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-65 to +150	$^\circ\text{C}$
Ambient Temperature Range	T_{amb}	-55 to +150	$^\circ\text{C}$
Repetitive peak forward current	I_{FRM}	625	mA

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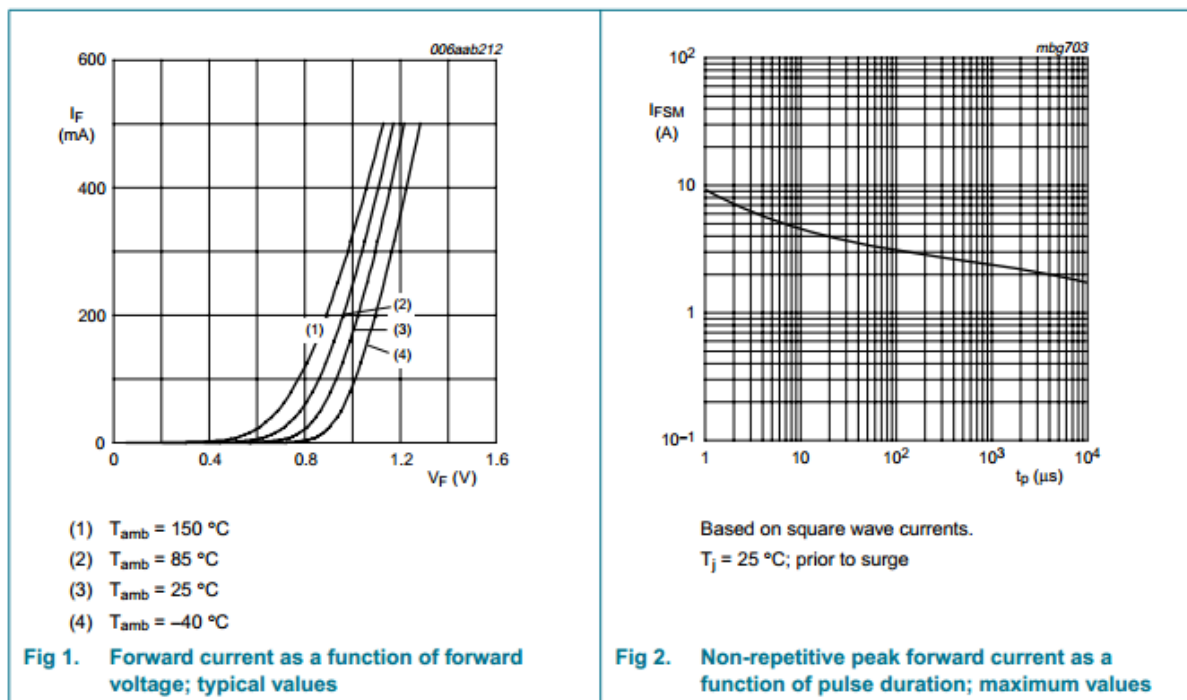
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Non-repetitive peak forward current				
$T_p=1\mu s$	I_{FSM}	9	A	
$T_p=100\mu s$		3		
$T_p=10ms$		1.7		

ELECTRICAL CHARACTERISTICS @ $T_a=25^\circ C$ unless otherwise specified

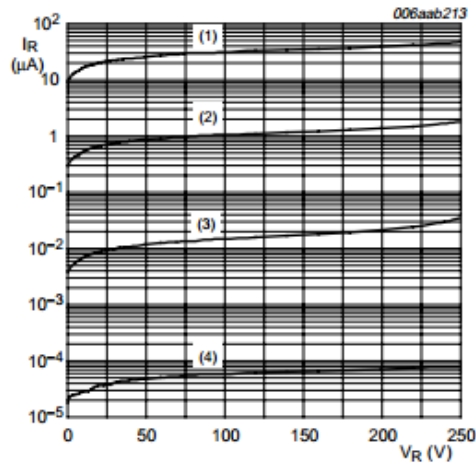
Characteristic	Symbol	Min	MAX	UNIT	Test Condition
Reverse Leakage Current	I_R	-	0.1	μA	$V_R=200V$
Forward voltage	V_F	-	1 1.25	V	$I_F=100mA$ $I_F=200mA$
Diode Capacitance	C_D	-	2.0	pF	$V_R=0V, f=1.0MHz$
Reverse Recovery Time	t_{rr}	-	50	ns	$I_F=I_R=10mA, I_R=1mA$

TYPICAL CHARACTERISTICS @ $T_a=25^\circ C$ unless otherwise specified



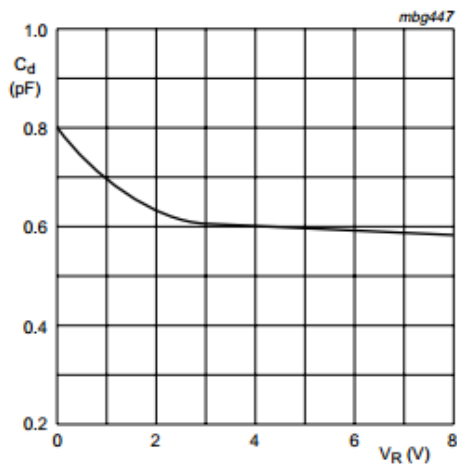
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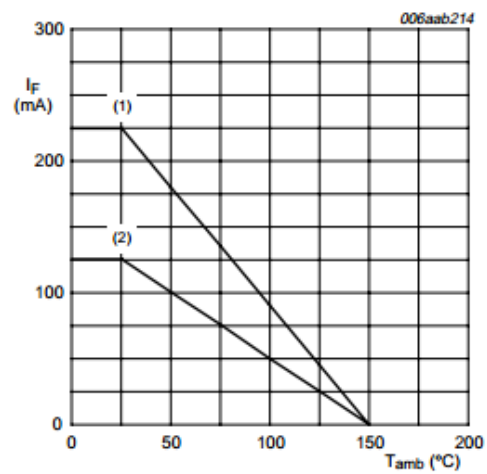
- (1) $T_{amb} = 150\text{ }^{\circ}\text{C}$
- (2) $T_{amb} = 85\text{ }^{\circ}\text{C}$
- (3) $T_{amb} = 25\text{ }^{\circ}\text{C}$
- (4) $T_{amb} = -40\text{ }^{\circ}\text{C}$

Fig 3. Reverse current as a function of reverse voltage; typical values



$f = 1\text{ MHz}; T_{amb} = 25\text{ }^{\circ}\text{C}$

Fig 4. Diode capacitance as a function of reverse voltage; typical values



FR4 PCB, standard footprint

- (1) Single diode loaded.
- (2) Double diode loaded.

Fig 5. Forward current as a function of ambient temperature; derating curve

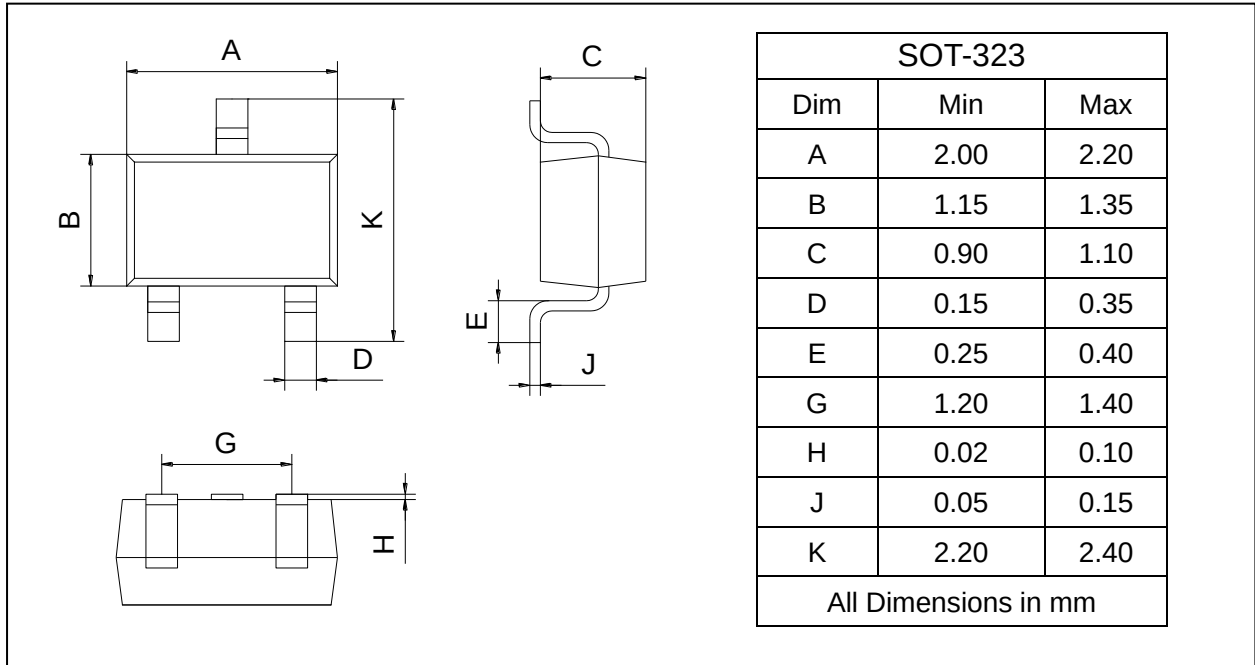
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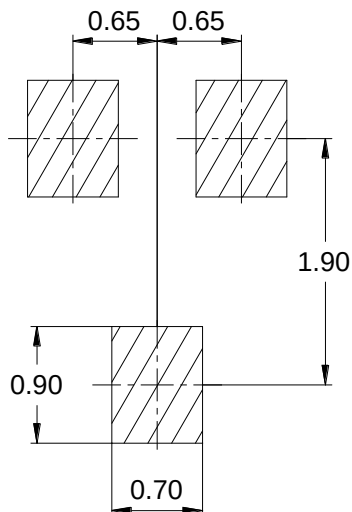
PACKAGE OUTLINE

Plastic surface mounted package

SOT-323



SOLDERING FOOTPRINT



Unit: mm

PACKAGE INFORMATION

Device	Package	Shipping
BAS21W/AW/SW	SOT-323	3000 pcs / Tape & Reel