



# DATA SHEET

## BAS21A/C/S

### SURFACE MOUNT, HIGH VOLTAGE, DUAL SWITCHING DIODES

<b>VOLTAGE</b>	<b>250 Volts</b>	<b>POWER</b>	<b>250mWatts</b>	<b>SOT-23</b>	Unit: inch (mm)
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#### FEATURES

- High reverse bearkdown voltage.
- Fast switching speed.
- Low reverse leakage current.
- Surface mount package ideally suited for automatic insertion.
- Galvanically isolated dual configurations to save board space.
- Both normal and Pb free product are available :  
Normal : 80~95% Sn, 5~20% Pb  
Pb free: 98.5% Sn above

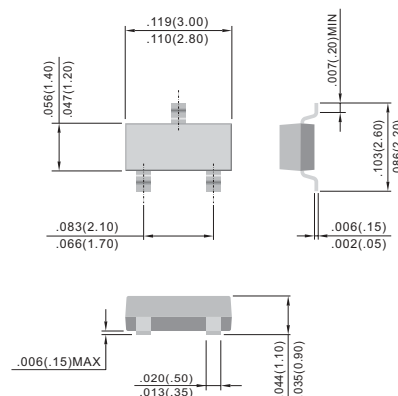
#### MECHANICAL DATA

Case: SOT-23, Plastic

Terminals: Solderable per MIL-STD-202, Method 208

Approx. Weight: 0.008 gram

Marking : BAS21A:21A, BAS21C:21C, BAS21S:21S

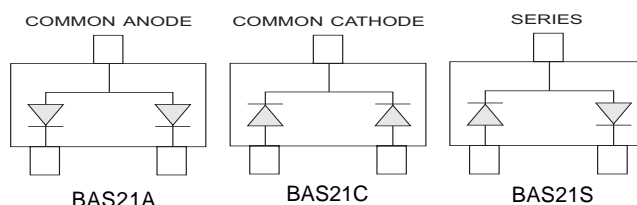


#### ABSOLUTE RATINGS

PARAMETER	Symbol	Value	Units
Maximum Reverse Voltage	$V_R$	250	V
Peak Reverse Voltage	$V_{RRM}$	250	V
Average Rectified Current at Temp=25°C	$I_o$	0.2	A
Non-repetitive Peak Forward Surge Current at t=1.0 s	$I_{FSM}$	2.5	A

#### THERMAL CHARACTERISTICS

PARAMETER	Symbol	Value	Units
Power Dissipation	$P_{TOT}$	250	mW
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	357	°C/W
Junction Temperature	$T_J$	150	°C
Storage Temperature	$T_{STG}$	-55 to 150	°C





## ELECTRICAL CHARACTERISTICS

PARAMETER	Symbol	Test Condition	MIN.	TYP.	MAX.	Units
Reverse Breakdown Voltage	$V_{(BR)}$	$I_R=100\text{ }\mu\text{A}$	--	--	250	V
Reverse Current	$I_R$	$V_R=200\text{ V}$ $V_R=200\text{ V}, T_J = 150^\circ\text{C}$	--	--	0.1 100	$\mu\text{A}$
Forward Voltage	$V_F$	$I_F=1.0\text{ mA}$ $I_F=100\text{ mA}$	--	--	0.70 1.00	V
Maximum Junction Capacitance	$C_J$	$V_R=0\text{ V}, f=1.0\text{ MHz}$	--	--	5.0	pF
Reverse Recovery Time	$T_{rr}$	$I_F=I_R=30\text{ mA}, R_L=100\Omega$	--	--	50	ns

## ELECTRICAL CHARACTERISTICS CURVES

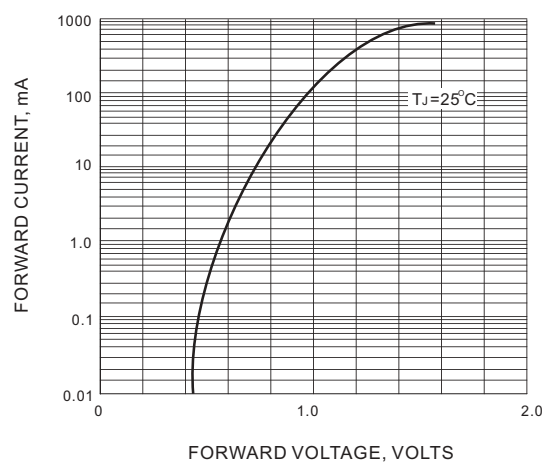


FIG. 1-TYPICAL FORWARD CHARACTERISTIC

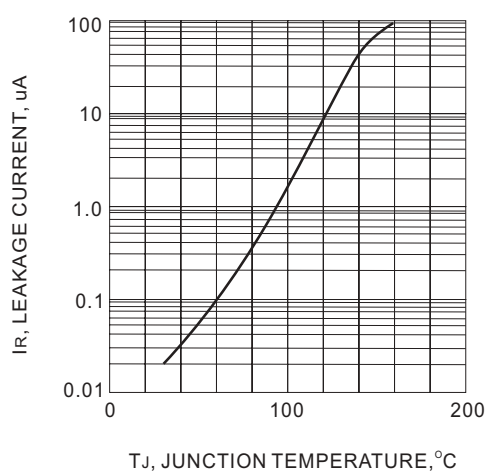


Fig.2 LEAKAGE CURRENT vs JUNCTION TEMPERATURE

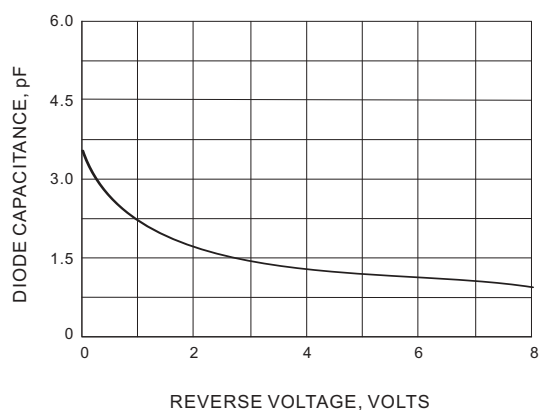


FIG. 3 TYPICAL JUNCTION CAPACITANCE

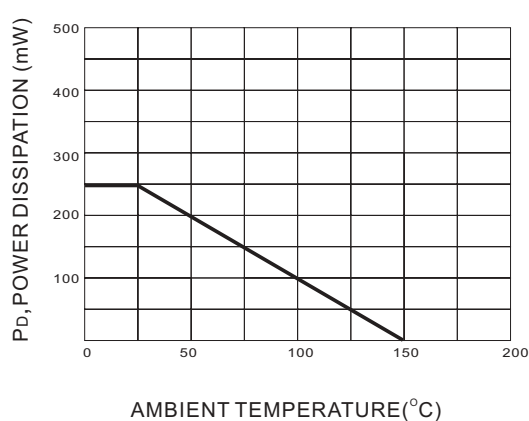


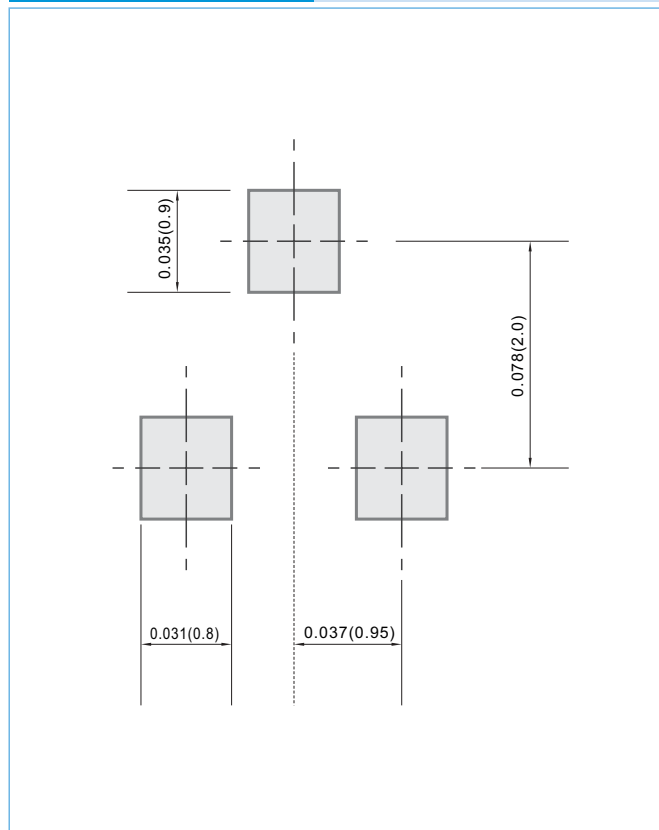
FIG. 4 POWER DERATING CURVE



## MOUNTING PAD LAYOUT

SOT-23

Unit: inch (mm)



## ORDER INFORMATION

- Packing information

T/R - 12K per 13" plastic Reel

T/R - 3.0K per 7" plastic Reel

## LEGAL STATEMENT

### IMPORTANT NOTICE

This information is intended to unambiguously characterize the product in order to facilitate the customer's evaluation of the device in the application. The information will help the customer's technical experts determine that the device is compatible and interchangeable with similar devices made by other vendors. The information in this data sheet is believed to be reliable and accurate. The specifications and information herein are subject to change without notice. New products and improvements in products and product characterization are constantly in process. Therefore, the factory should be consulted for the most recent information and for any special characteristics not described or specified.

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