

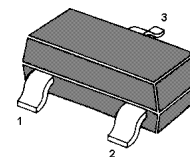
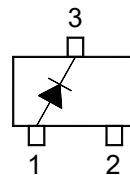
BAS19, BAS20, BAS21-AH

Silicon Epitaxial Planar Diodes

High Voltage Switching Diodes

Features

- AEC-Q101 Qualified and PPAP Capable
- Halogen and Antimony Free(HAF), RoHS compliant



SOT-23 Plastic Package

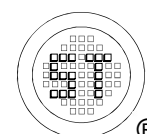
Absolute Maximum Ratings ($T_a = 25\text{ }^\circ\text{C}$)

Parameter	Symbol	Value	Unit
Reverse Voltage	BAS19 BAS20 BAS21 V_R	120 200 250	V
Continuous Forward Current	$I_{F(AV)}$	200	mA
Repetitive Peak Forward Current	I_{FRM}	625	mA
Non-repetitive Peak Forward Surge Current	at $t = 1\text{ s}$ at $t = 1\text{ }\mu\text{s}$ I_{FSM}	0.5 2.5	A
Total Device Dissipation	P_{tot}	350	mW
Junction and Storage Temperature Range	T_j, T_{stg}	- 55 to + 150	$^\circ\text{C}$

Thermal Characteristics

Parameter	Symbol	Max.	Unit
Thermal Resistance from Junction to Ambient ¹⁾	$R_{\theta JA}$	357	$^\circ\text{C/W}$

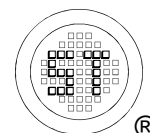
¹⁾ Device mounted on FR-4 PCB with minimum recommended pad layout.



BAS19, BAS20, BAS21-AH

Characteristics at $T_a = 25\text{ }^\circ\text{C}$

Parameter	Symbol	Min.	Max.	Unit
Forward Voltage at $I_F = 100\text{ mA}$ at $I_F = 200\text{ mA}$	V_F	- -	1 1.25	V V
Reverse Breakdown Voltage at $I_R = 100\text{ }\mu\text{A}$ at $I_R = 100\text{ }\mu\text{A}$ at $I_R = 100\text{ }\mu\text{A}$	$V_{(BR)}$	120 200 250	- - -	V V V
Reverse Current at $V_R = 100\text{ V}$ at $V_R = 150\text{ V}$ at $V_R = 200\text{ V}$ at $V_R = 100\text{ V}, T_j = 150\text{ }^\circ\text{C}$ at $V_R = 150\text{ V}, T_j = 150\text{ }^\circ\text{C}$ at $V_R = 200\text{ V}, T_j = 150\text{ }^\circ\text{C}$	I_R	- - - - - -	0.1 0.1 0.1 100 100 100	μA μA μA μA μA μA
Total Capacitance at $V_R = 0, f = 1\text{ MHz}$	C_{tot}	-	5	pF
Reverse Recovery Time at $I_F = I_R = 30\text{ mA}, I_{rr} = 0.1 \times I_R, R_L = 100\text{ }\Omega$	t_{rr}	-	50	ns



Electrical Characteristic Curve

Fig 1. Power Derating Curve

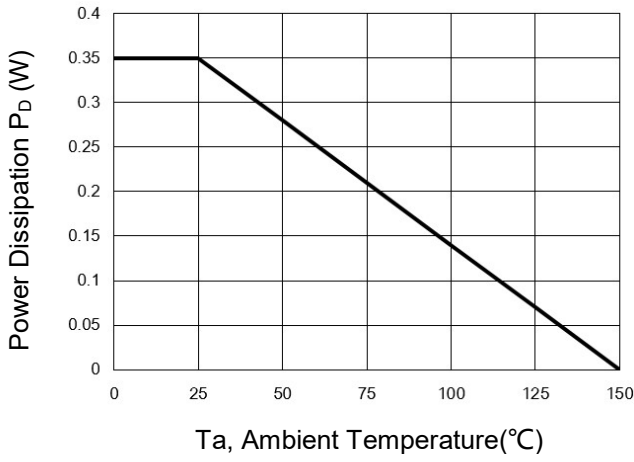


Fig 2. Forward Characteristic Curve

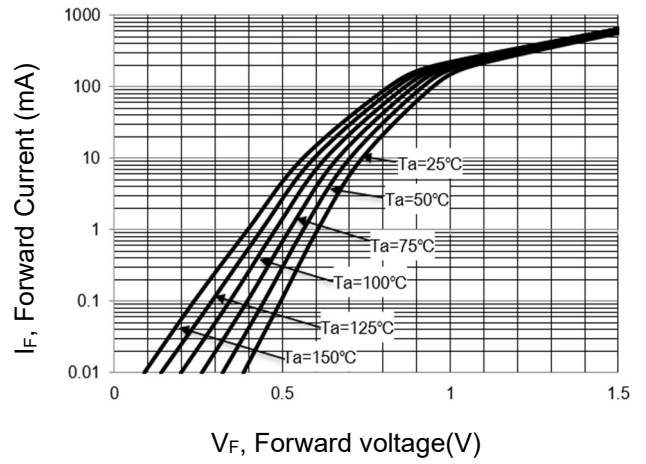


Fig 3. Reverse Characteristic Curve

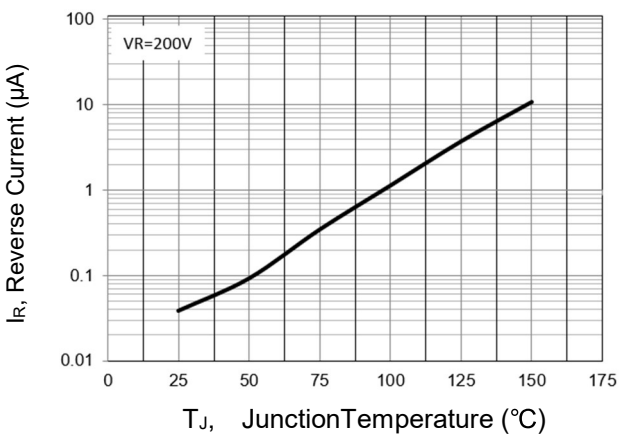
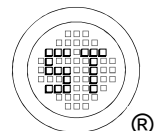
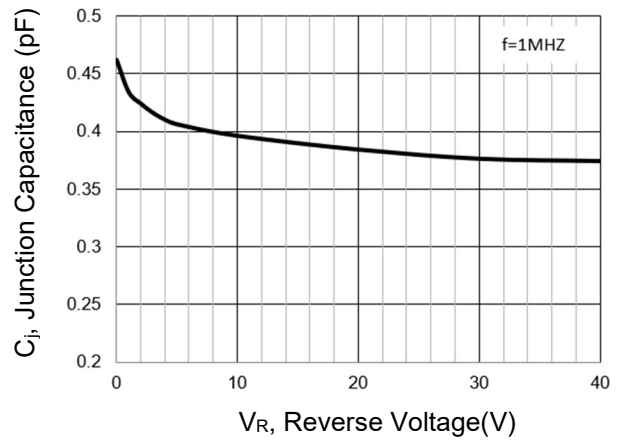


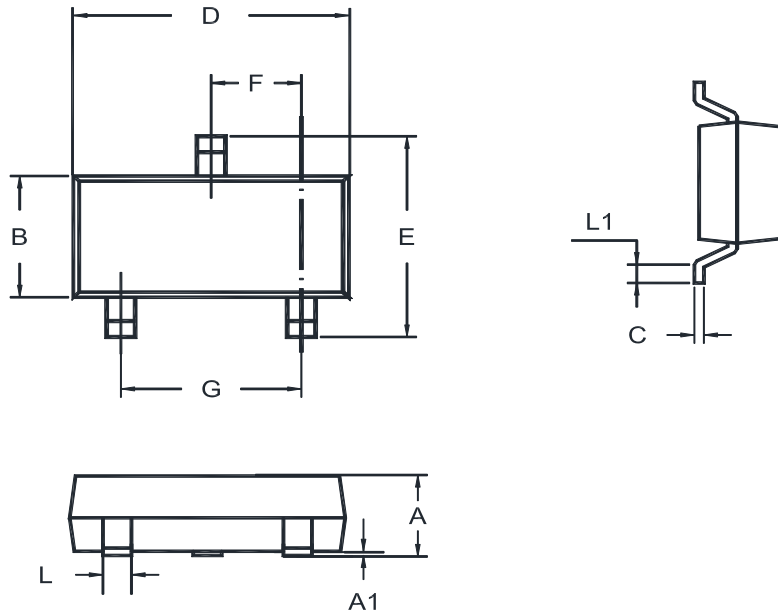
Fig 4. Junction Capacitance



BAS19, BAS20, BAS21-AH

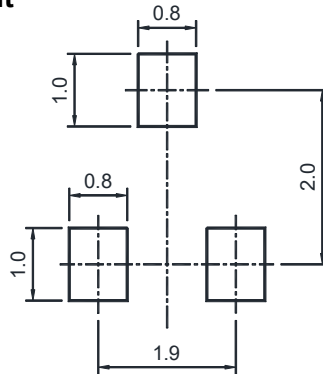
Package Outline (Dimensions in mm)

SOT-23



Unit	A	A1	B	C	D	E	F	G	L	L1
mm	1.20	0.100	1.40	0.19	3.04	2.6	1.02	2.04	0.51	0.2
	0.89	0.013	1.20	0.08	2.80	2.2	0.89	1.78	0.37	MIN

Recommended Soldering Footprint



Packing information

Package	Tape Width (mm)	Pitch		Reel Size		Per Reel Packing Quantity
		mm	inch	mm	inch	
SOT-23	8	4 ± 0.1	0.157 ± 0.004	178	7	3,000

Marking information

- " HC " = Part No.
 - " • " = HAF (Halogen and Antimony Free)
 - " YM " = Date Code Marking
 - " Y " = Year
 - " M " = Month
- Font type: Arial

