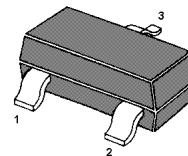
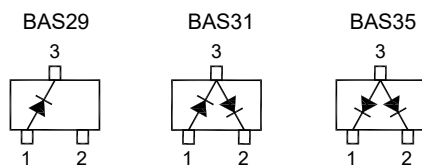


# BAS29, BAS31, BAS35

## Silicon Epitaxial Planar Switching Diodes



BAS29 Marking Code: **L20**  
 BAS31 Marking Code: **L21**  
 BAS35 Marking Code: **L22**  
 SOT-23 Plastic Package

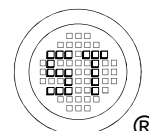
### Absolute Maximum Ratings ( $T_a = 25\text{ }^\circ\text{C}$ )

Parameter	Symbol	Value	Unit
Repetitive Peak Reverse Voltage	$V_{RRM}$	120	V
Maximum Average Forward Current	$I_{F(AV)}$	200	mA
Repetitive Peak Forward Current	$I_{FRM}$	600	mA
Non-Repetitive Peak Forward Surge Current	$I_{FSM}$	2 1	A
	$t = 1\ \mu\text{s}$ $t = 1\ \text{s}$		
Power Dissipation	$P_{tot}$	350	mW
Junction Temperature	$T_j$	150	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	- 55 to + 150	$^\circ\text{C}$

### Thermal Characteristics

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

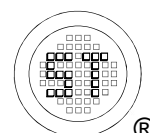
<sup>1)</sup> Device mounted on FR-4 substrate PC board, with minimum recommended pad layout.



# BAS29, BAS31, BAS35

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

Parameter	Symbol	Min.	Max.	Unit
Forward Voltage at $I_F = 10\text{ mA}$	$V_F$	-	750	mV
at $I_F = 50\text{ mA}$	$V_F$	-	840	mV
at $I_F = 100\text{ mA}$	$V_F$	-	900	mV
at $I_F = 200\text{ mA}$	$V_F$	-	1	V
at $I_F = 400\text{ mA}$	$V_F$	-	1.25	V
Reverse Current at $V_R = 90\text{ V}$	$I_R$	-	100	nA
at $V_R = 90\text{ V}, T_J = 150\text{ }^\circ\text{C}$	$I_R$	-	100	$\mu\text{A}$
Reverse Breakdown Voltage at $I_R = 1\text{ mA}$	$V_{(BR)R}$	120	-	V
Total Capacitance at $V_R = 0\text{ V}, f = 1\text{ MHz}$	$C_T$	-	35	pF
Reverse Recovery Time at $I_F = I_R = 10\text{ mA}, I_{rr} = 1\text{ mA}, R_L = 100\text{ }\Omega$	$t_{rr}$	-	50	ns



# BAS29, BAS31, BAS35

## Electrical Characteristics Curves

Fig 1. Power Derating Curve

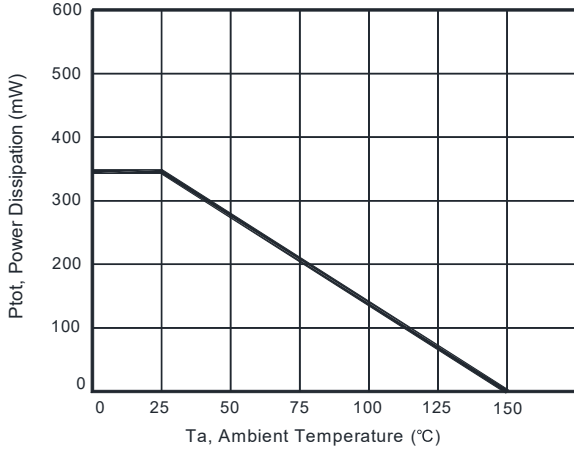


Fig 2. Capacitance characteristics

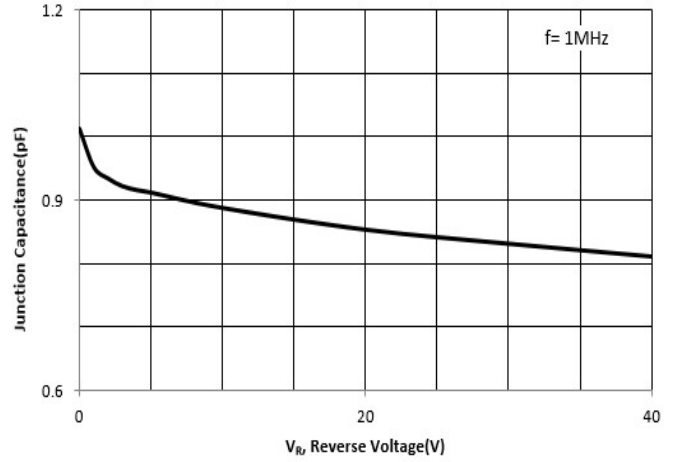


Fig 3. Reverse Characteristics

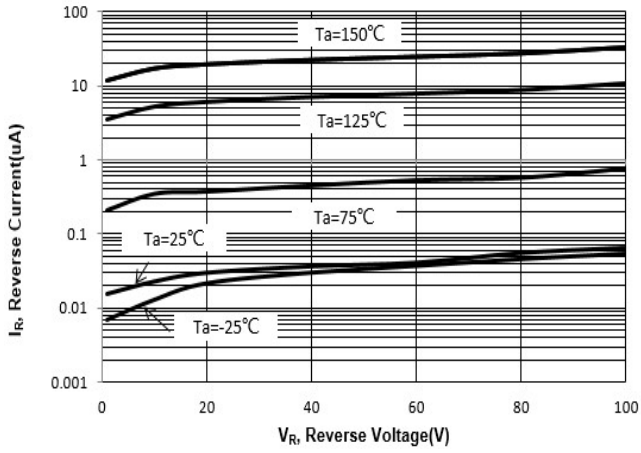
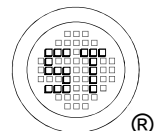
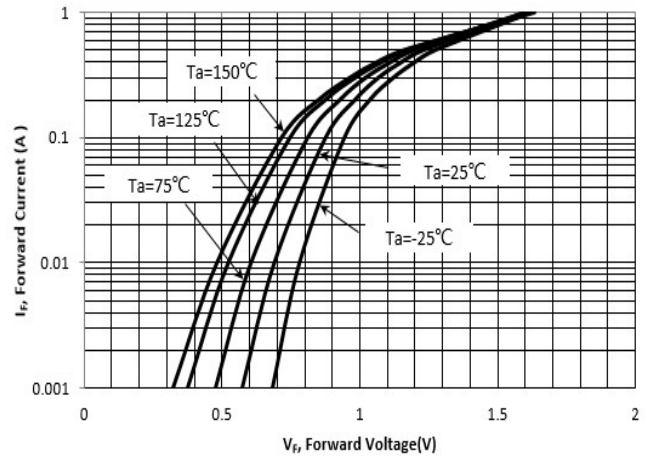


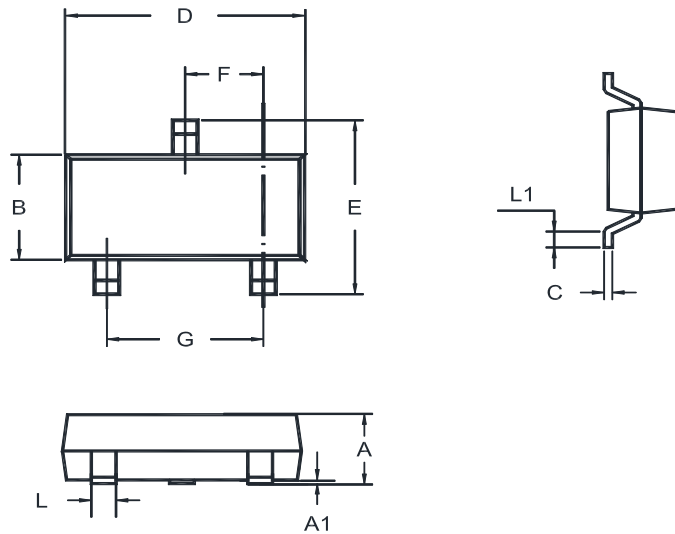
Fig 4. Forward Characteristics



# BAS29, BAS31, BAS35

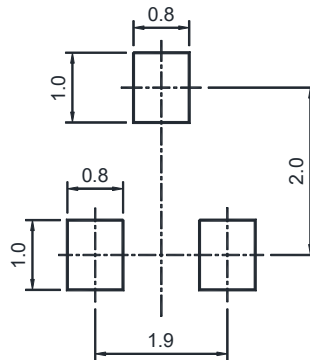
## Package Outline (Dimensions in mm)

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

- " \*\*\* " = Part No.
  - " YM " = Date Code Marking
  - " Y " = Year
  - " M " = Month
- Font type: Arial

