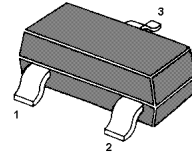
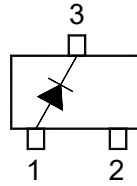


BAS16

Silicon Epitaxial Planar Switching Diode

Features

- Small package
- Low forward voltage
- Fast reverse recovery time
- Small total capacitance



1. Anode 2. NC 3. Cathode
SOT-23 Plastic Package

Applications

- Ultra high speed switching application

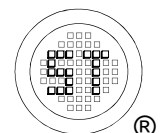
Absolute Maximum Ratings ($T_a = 25\text{ }^\circ\text{C}$)

Parameter	Symbol	Value	Unit
Repetitive Peak Reverse Voltage	V_{RRM}	100	V
Continuous Reverse Voltage	V_R	80	V
Continuous Forward Current	I_F	215	mA
Repetitive Peak Forward Current	I_{FRM}	500	mA
Non-Repetitive Peak Forward Surge Current	I_{FSM}	4 1 0.5	A
	$t = 1\ \mu\text{s}$ $t = 1\ \text{ms}$ $t = 1\ \text{s}$		
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 ¹⁾	$R_{\theta JA}$	357	$^\circ\text{C/W}$

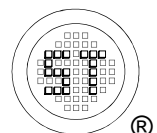
¹⁾ Device mounted on FR-4 PCB with minimum recommended pad layout.



BAS16

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

Parameter	Symbol	Min.	Max.	Unit
Forward Voltage at $I_F = 1\text{ mA}$	V_F	-	715	mV
at $I_F = 10\text{ mA}$	V_F	-	855	mV
at $I_F = 50\text{ mA}$	V_F	-	1	V
at $I_F = 150\text{ mA}$	V_F	-	1.25	V
Reverse Current at $V_R = 25\text{ V}$	I_R	-	30	nA
at $V_R = 80\text{ V}$	I_R	-	0.5	μA
at $V_R = 25\text{ V}, T_J = 150\text{ }^\circ\text{C}$	I_R	-	30	μA
at $V_R = 80\text{ V}, T_J = 150\text{ }^\circ\text{C}$	I_R	-	50	μA
Reverse Breakdown Voltage at $I_R = 100\text{ }\mu\text{A}$	$V_{(BR)R}$	80	-	V
Diode Capacitance at $V_R = 0\text{ V}, f = 1\text{ MHz}$	C_d	-	2	pF
Reverse Recovery Time at $I_F = 10\text{ mA}, I_{rr} = 0.1 \times I_R, V_R = 6\text{ V}, R_L = 100\text{ }\Omega$	t_{rr}	-	4	ns



Electrical Characteristics Curves

Fig 1. Power Derating Curve

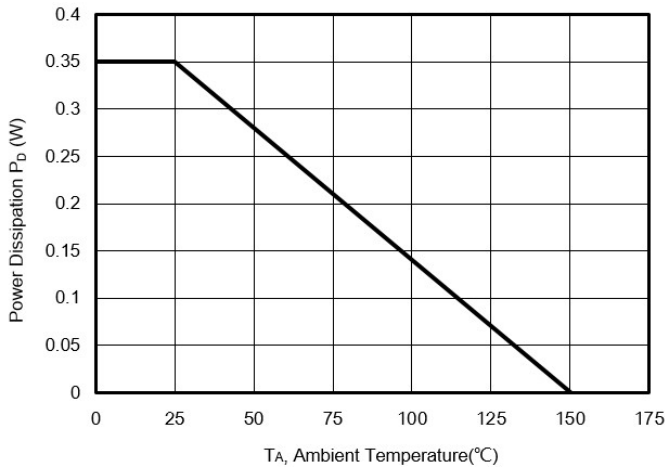


Fig 2. Capacitance Characteristics

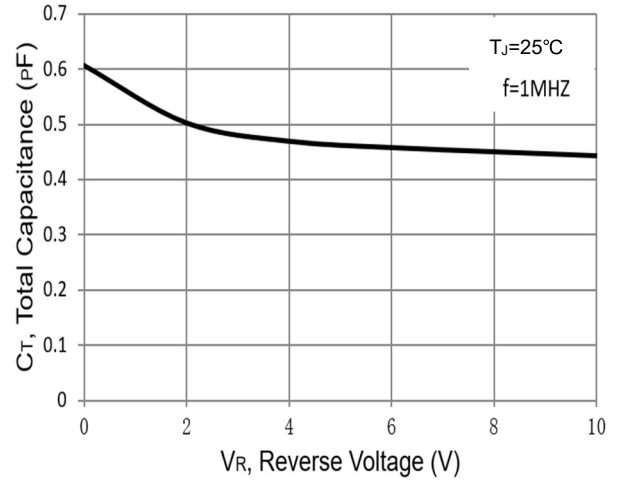


Fig 3. Reverse Characteristics

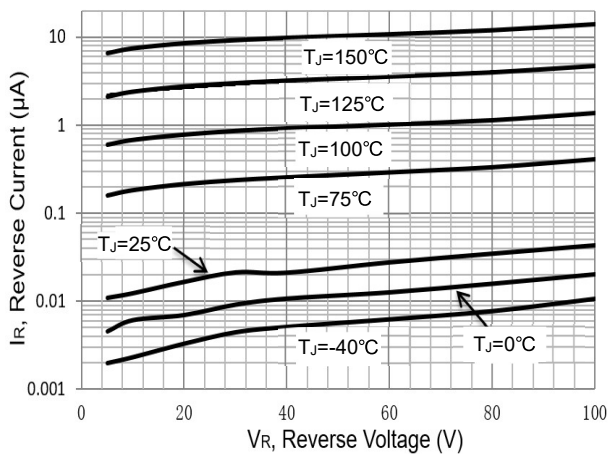
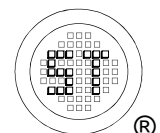
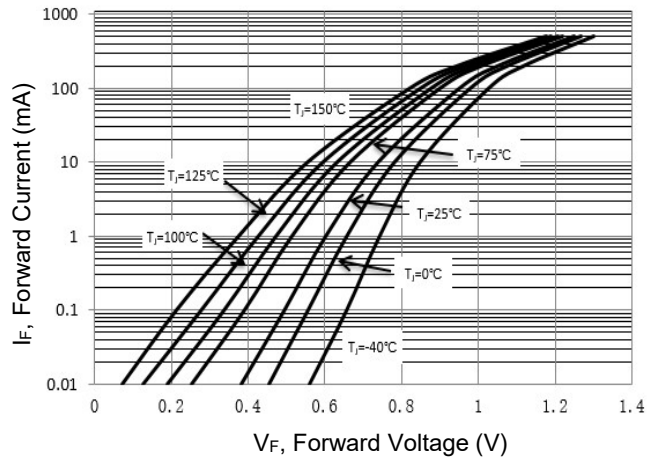


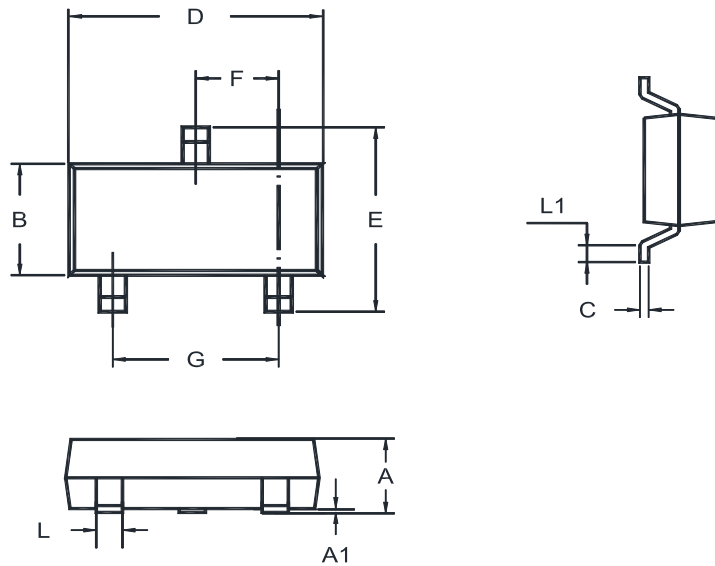
Fig 4. Forward Characteristics



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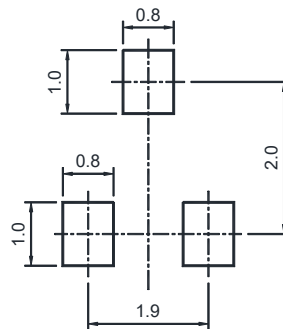
Package Outline (Dimensions in mm)

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

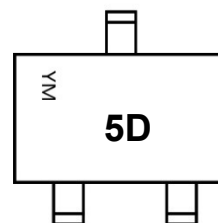


Packing information

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

" 5D " = Part No.
 "YM" = Date Code Marking
 "Y" = Year
 "M" = Month
 Font type: Arial



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