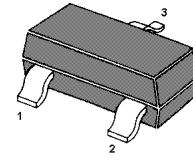
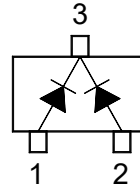


# BAV70CC-AH

## Silicon Epitaxial Planar Switching Diode

### Features

- AEC-Q101 Qualified
- Small package
- Low forward voltage
- Fast reverse recovery time
- Small total capacitance
- Halogen and Antimony Free(HAF), RoHS compliant



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

### Applications

- Ultra high speed switching application

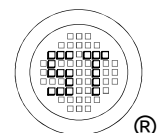
### Absolute Maximum Ratings ( $T_a = 25\text{ }^\circ\text{C}$ )

Parameter	Symbol	Value	Unit
Maximum Peak Reverse Voltage	$V_{RM}$	100	V
Reverse Voltage	$V_R$	75	V
Average Forward Current	$I_{F(AV)}$	200	mA
Maximum Peak Forward Current	$I_{FM}$	300	mA
Non-Repetitive Peak Forward Surge Current	$I_{FSM}$	1 2	A
		at $t = 1\text{ s}$ at $t = 1\text{ }\mu\text{s}$	
Power Dissipation	$P_D$	350	mW
Junction Temperature	$T_j$	150	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	- 55 to + 150	$^\circ\text{C}$

### Thermal Resistance

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

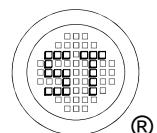
<sup>1)</sup> Device mounted on FR-4 substrate PC board, with minimum recommended pad layout.



# BAV70CC-AH

## 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 $V_R = 20\text{ V}$	$I_R$	-	25	nA
at $V_R = 75\text{ V}$	$I_R$	-	2.5	$\mu\text{A}$
at $V_R = 25\text{ V}, T_J = 150\text{ }^\circ\text{C}$	$I_R$	-	30	$\mu\text{A}$
at $V_R = 75\text{ V}, T_J = 150\text{ }^\circ\text{C}$	$I_R$	-	50	$\mu\text{A}$
Reverse Breakdown Voltage at $I_R = 100\text{ }\mu\text{A}$	$V_{(BR)R}$	75	-	V
Total Capacitance at $V_R = 0\text{ V}, f = 1\text{ MHz}$	$C_T$	-	2	pF
Reverse Recovery Time at $I_F = 10\text{ mA}, V_R = 6\text{ V}, I_{rr} = 0.1 \times I_R, R_L = 100\text{ }\Omega$	$t_{rr}$	-	4	ns



# BAV70CC-AH

## Electrical Characteristics Curves

Fig 1. Power Derating Curve

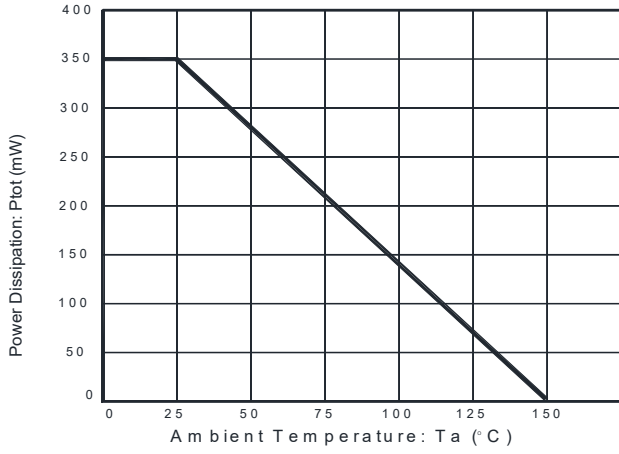


Fig 2. Forward Characteristics

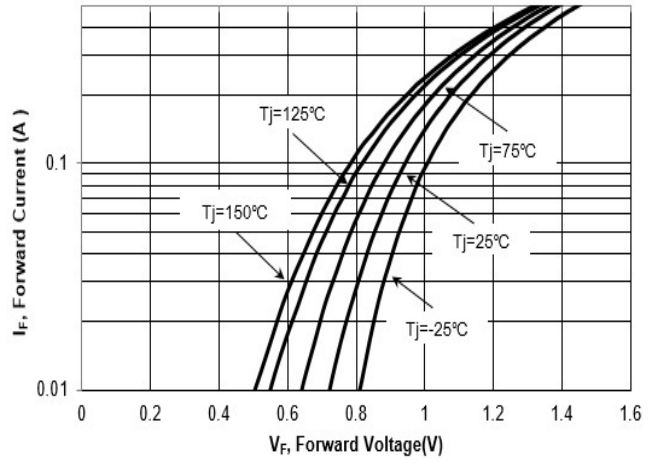


Fig 3. Reverse Current vs. Reverse Voltage

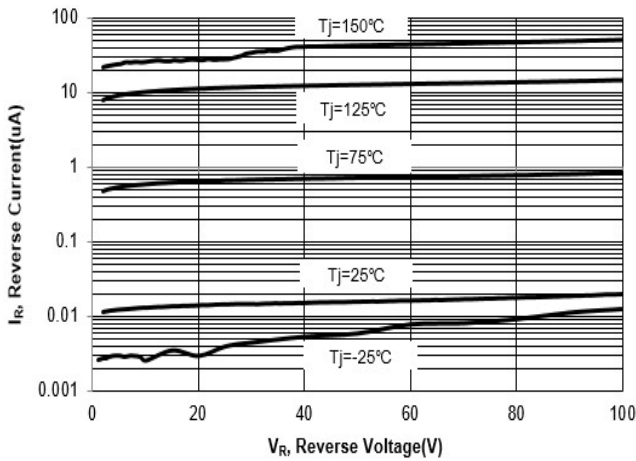
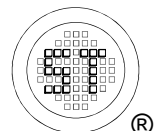
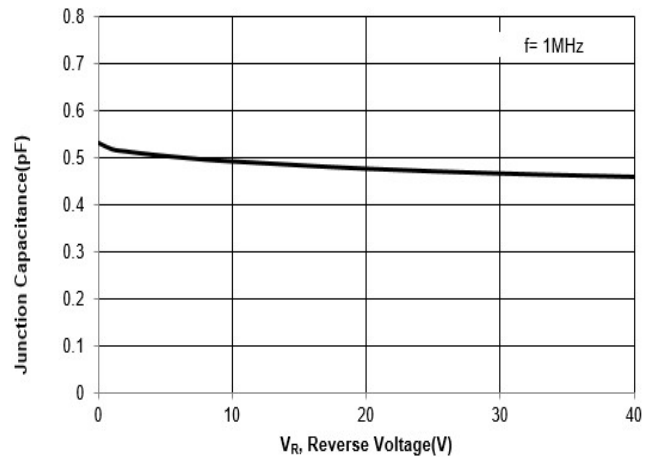


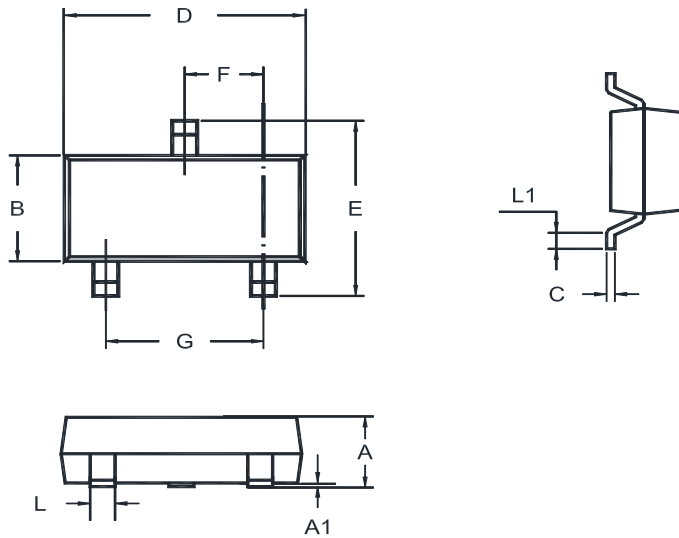
Fig 4. Total Capacitance vs. Reverse Voltage



# BAV70CC-AH

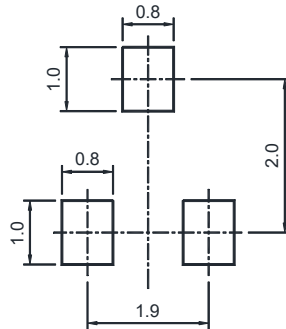
## Package Outline (Dimensions in mm)

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

"A4" = Part No.

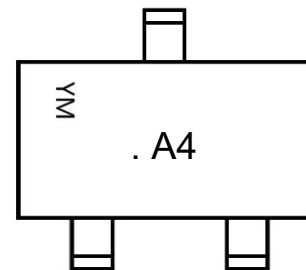
". " = HAF (Halogen and Antimony Free)

"YM" = Date Code Marking

"Y" = Year

"M" = Month

Font type: Arial



Disclaimer: Our company reserve the right to make modifications, enhancements, improvements, corrections or other changes to improve product design, functions and reliability, anytime without notice. Semtech Electronics Limited makes no warranties, representations or warranties regarding the suitability of its products for any particular purpose, and does not accept any liability arising from the application or use of any product or circuit such as: Apply to medical, military, aircraft, space or life support equipment and expressly waive any and all liability, including but not limited to special, consequential or collateral damage.

