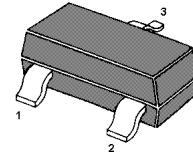
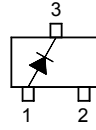


# BAS16

## SILICON EPITAXIAL PLANAR SWITCHING DIODE

### Features

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



Marking Code: **5D**  
SOT-23 Plastic Package

### Applications

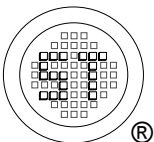
- Ultra high speed switching application

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

Parameter	Symbol	Value	Unit
Repetitive Peak Reverse Voltage	$V_{RRM}$	85	V
Continuous Reverse Voltage	$V_R$	75	V
Continuous Forward Current	$I_F$	215	mA
Repetitive Peak Forward Current	$I_{FRM}$	500	mA
Non-Repetitive Peak Forward Surge Current	$I_{FSM}$	$t = 1\ \mu\text{s}$ 4	A
		$t = 1\ \text{ms}$ 1	
		$t = 1\ \text{s}$ 0.5	
Power Dissipation	$P_{tot}$	250	mW
Junction Temperature	$T_j$	150	$^\circ\text{C}$
Storage Temperature Range	$T_s$	- 65 to + 150	$^\circ\text{C}$

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

Parameter	Symbol	Min.	Max.	Unit
Forward Voltage	$V_F$	-	715	mV
at $I_F = 1\ \text{mA}$			855	mV
at $I_F = 10\ \text{mA}$			1	V
at $I_F = 150\ \text{mA}$			1.25	V
Reverse Current	$I_R$	-	30	nA
at $V_R = 25\ \text{V}$			1	$\mu\text{A}$
at $V_R = 75\ \text{V}$			30	$\mu\text{A}$
at $V_R = 25\ \text{V}, T_J = 150\text{ }^\circ\text{C}$ at $V_R = 75\ \text{V}, T_J = 150\text{ }^\circ\text{C}$			50	$\mu\text{A}$
Reverse Breakdown Voltage	$V_{(BR)R}$	75	-	V
at $I_R = 100\ \mu\text{A}$				
Diode Capacitance	$C_d$	-	2	pF
at $f = 1\ \text{MHz}$				
Reverse Recovery Time	$t_{rr}$	-	4	ns
at $I_F = I_R = 10\ \text{mA}, R_L = 50\ \Omega$				



**SEMTECH ELECTRONICS LTD.**

(Subsidiary of Sino-Tech International Holdings Limited, a company listed on the Hong Kong Stock Exchange, Stock Code: 724)



ISO/TS 16949 : 2002  
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ISO 14001:2004  
Certificate No. 7116



ISO 9001:2000  
Certificate No. 0506098

Dated : 10/10/2008

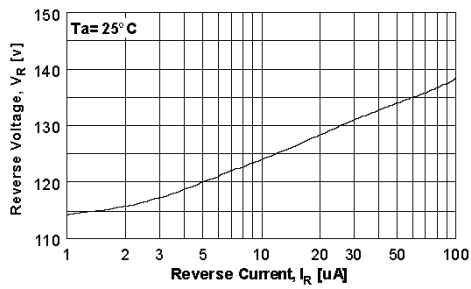


Figure 1. Reverse Voltage vs Reverse Current  
BV - 1.0 to 100 uA

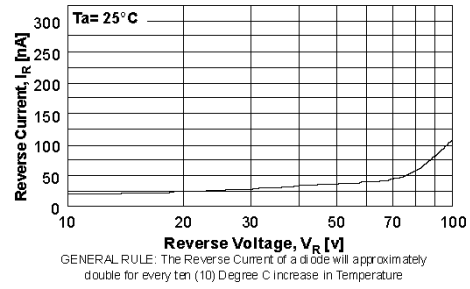


Figure 2. Reverse Current vs Reverse Voltage  
IR - 10 to 100 V

GENERAL RULE: The Reverse Current of a diode will approximately double for every ten (10) Degree C increase in Temperature

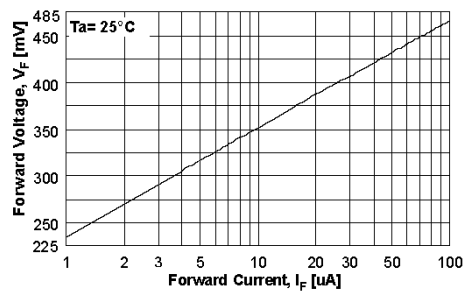


Figure 3. Forward Voltage vs Forward Current  
VF - 1.0 to 100 uA

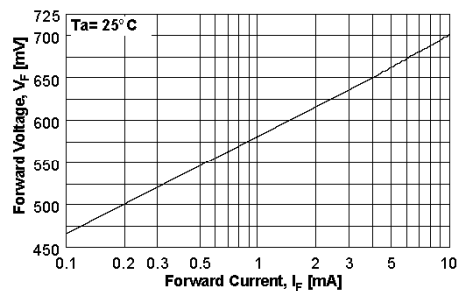


Figure 4. Forward Voltage vs Forward Current  
VF - 0.1 to 10 mA

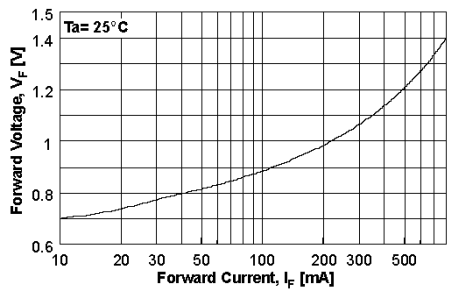


Figure 5. Forward Voltage vs Forward Current  
VF - 10 - 800 mA

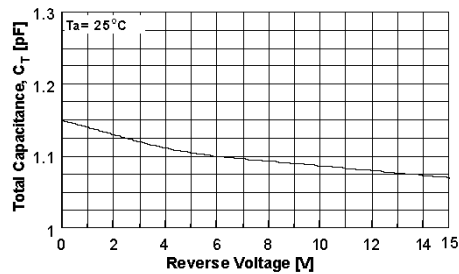
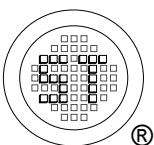


Figure 6. Total Capacitance



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