

BAS16

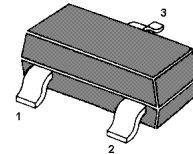
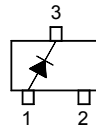
Silicon Epitaxial Planar Switching Diode

Features

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

Applications

- Ultra high speed switching application



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

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

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}	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}	- 65 to + 150	$^\circ\text{C}$

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

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 $V_R = 75\ \text{V}$	I_R	-	1	μA
at $V_R = 25\ \text{V}$, $T_J = 150^\circ\text{C}$	I_R	-	30	μA
at $V_R = 75\ \text{V}$, $T_J = 150^\circ\text{C}$	I_R	-	50	μA
Reverse Breakdown Voltage	$V_{(BR)R}$	75	-	V
at $I_R = 100\ \mu\text{A}$				
Diode Capacitance	C_d	-	2	pF
at $V_R = 0$, $f = 1\ \text{MHz}$				
Reverse Recovery Time	t_{rr}	-	4	ns
at $I_F = I_R = 10\ \text{mA}$, $R_L = 50\ \Omega$				

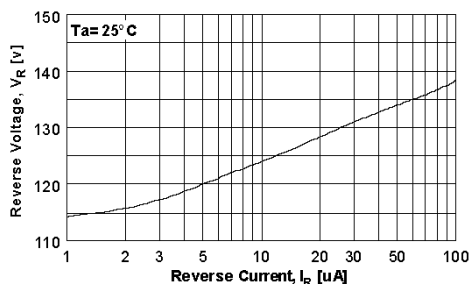


Figure 1. Reverse Voltage vs Reverse Current
BV - 1.0 to 100 uA

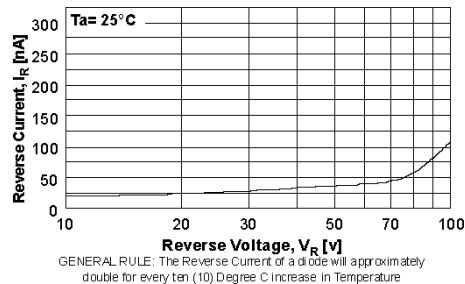


Figure 2. Reverse Current vs Reverse Voltage
IR - 10 to 100 V

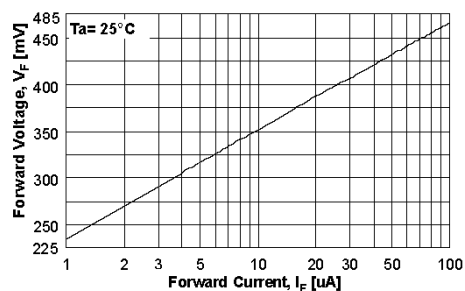


Figure 3. Forward Voltage vs Forward Current
VF - 1.0 to 100 uA

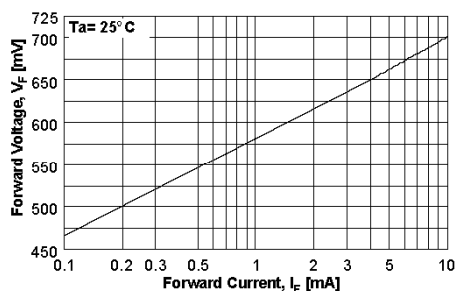


Figure 4. Forward Voltage vs Forward Current
VF - 0.1 to 10 mA

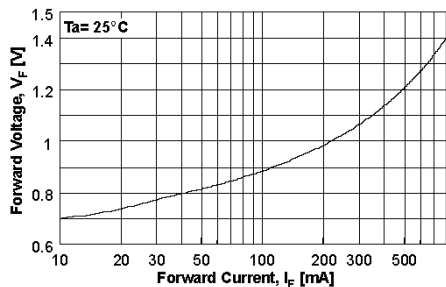


Figure 5. Forward Voltage vs Forward Current
VF - 10 - 800 mA

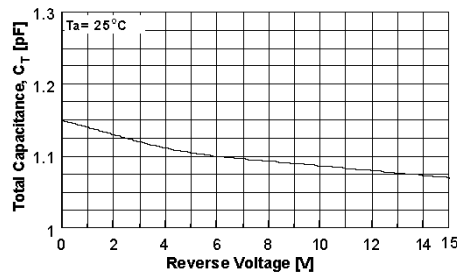


Figure 6. Total Capacitance