

**SURFACE MOUNT  
FAST SWITCHING DIODE**

**REVERSE VOLTAGE – 75 Volts  
FORWARD CURRENT – 0.2 Ampere**

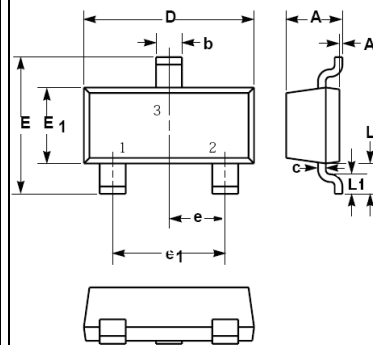
**FEATURES**

- Fast switching speed
- Ideally suited for automatic insertion
- For general purpose switching applications

**MECHANICAL DATA**

- Case: SOT-23 Plastic
- Case material: “Green” molding compound, UL flammability classification 94V-0, (No Br. Sb. Cl)
- Moisture sensitivity: Level 1 per J-STD-020D
- Lead free in RoHS 2002/95/EC compliant

**SOT-23**



SOT-23		
Dim.	Min.	Max.
A	0.90	1.15
A1	0.00	0.10
b	0.30	0.50
c	0.08	0.15
D	2.80	3.00
E	2.25	2.55
E1	1.20	1.40
e	0.95 Typ.	
e1	1.80	2.00
L	0.55 Ref.	
L1	0.30	0.50
Dimensions in millimeter		

**Maximum Ratings & Thermal Characteristics @ T<sub>A</sub> = 25°C unless otherwise specified**

Characteristic	Symbol	BAS116	Units
Repetitive Peak Reverse Voltage	V <sub>RRM</sub>	75	V
Working Peak Reverse Voltage	V <sub>RWM</sub>		
DC Blocking Voltage	V <sub>R</sub>		
Forward Continuous Current	I <sub>FM</sub>	200	mA
Non-Repetitive Peak Forward Surge Current @t=1.0us	I <sub>FSM</sub>	2	A
Power Dissipation	P <sub>D</sub>	225	mW
Operating Temperature Range	T <sub>J</sub>	150	°C
Storage Temperature Range	T <sub>STG</sub>	-55~+150	°C

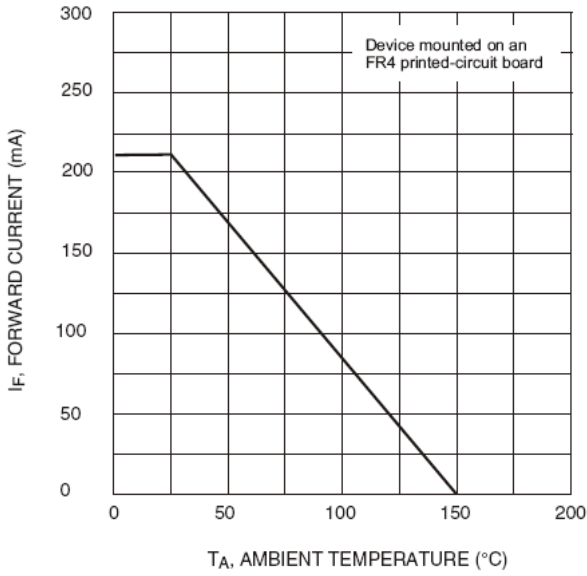
**Electrical Characteristics @ T<sub>A</sub> = 25°C unless otherwise specified**

Characteristic	Test Condition	Symbol	Min.	Typ.	Max.	Unit
Reverse Breakdown Voltage	I <sub>R</sub> = 100uA	V <sub>BR</sub>	75	--	--	V
Maximum Forward Voltage	I <sub>F</sub> = 1mA	V <sub>F</sub>	--	--	0.9	V
	I <sub>F</sub> = 10mA		--	--	1.0	
	I <sub>F</sub> = 50mA		--	--	1.1	
	I <sub>F</sub> = 150mA		--	--	1.25	
Maximum DC Reverse Current at Rated DC Blocking Voltage	V <sub>R</sub> = 75V	I <sub>R</sub>	--	--	5	nA
Typical Diode Capacitance	V <sub>R</sub> = 0V, f=1MHz	C <sub>D</sub>	--	2	--	pF
Reverse Recovery time	I <sub>rr</sub> =1mA, I <sub>R</sub> =I <sub>F</sub> =10mA R <sub>L</sub> =100Ω	trr	--	--	6	ns

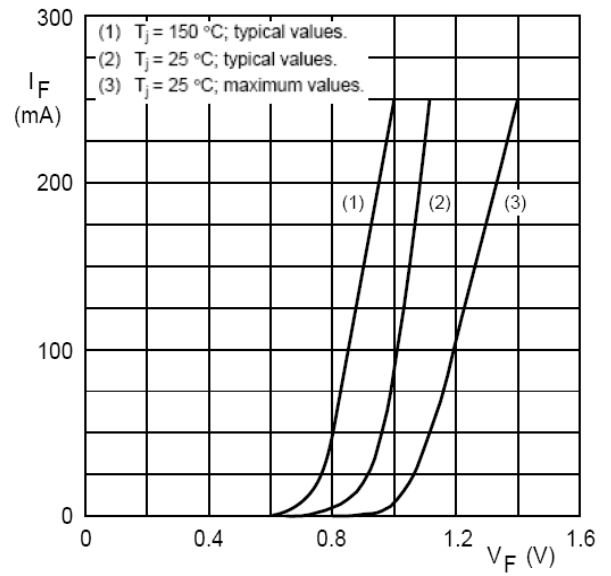
# RATING AND CHARACTERISTIC CURVES BAS116



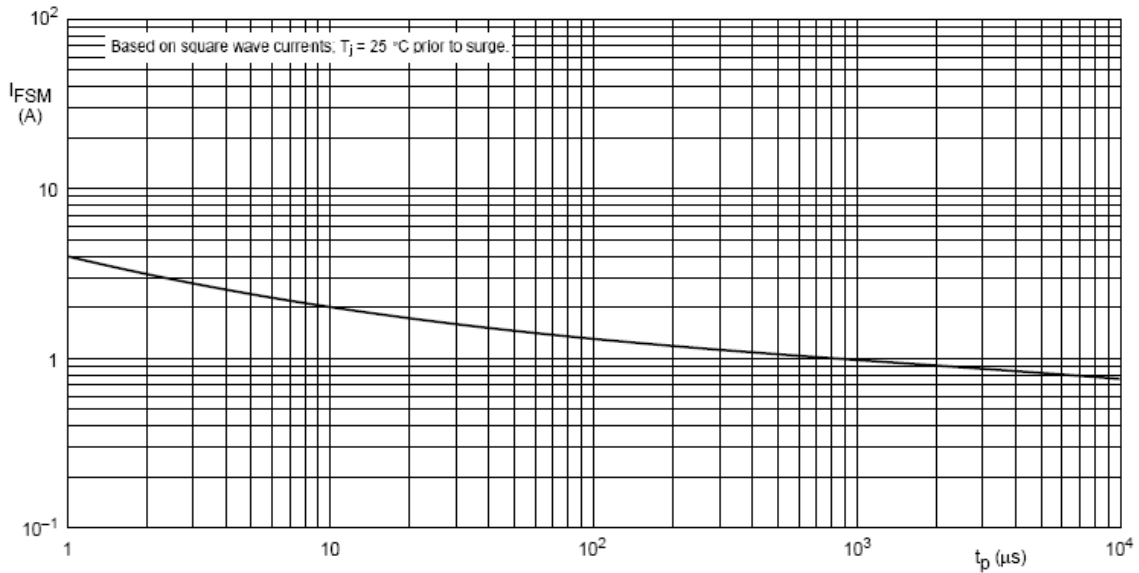
**Fig.1 Current Derating Curve**



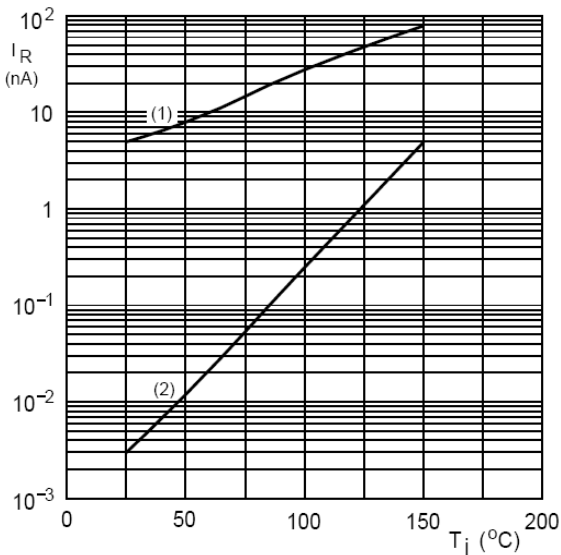
**Fig.2 Typical Forward Characteristics**



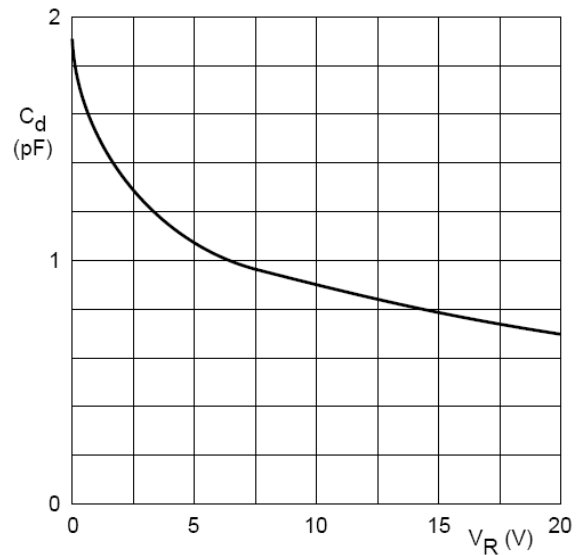
**Fig.3 Maximum permissible non-repetitive peak forward current**




**Fig.4 Typical Reverse Characteristics**



**Fig.5 Total Capacitance vs. Reverse Voltage**



**Device Marking :**

Device P/N	Marking code	Equivalent Circuit Diagram
BAS116	JV	 The diagram shows a diode symbol with a horizontal line on the left and a vertical bar with a triangle on the right. The left terminal is labeled '3' and the right terminal is labeled '1'.

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