



BAS116

SURFACE MOUNT LOW LEAKAGE DIODE

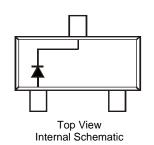
Features

- Surface Mount Package Ideally Suited for Automated Insertion
- Very Low Leakage Current
- Lead Halogen and Antimony Free, RoHS Compliant "Green" Device (Notes 1 and 2)
- Qualified to AEC-Q101 Standards for High Reliability

Mechanical Data

- Case: SOT23
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Matte Tin Finish annealed over Alloy 42 leadframe (Lead Free Plating). Solderable per MIL-STD-202, Method 208
- Polarity: See Diagram
- Weight: 0.008 grams (approximate)





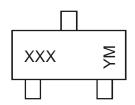
Ordering Information (Note 3)

Part Number	Qualification	Case	Packaging
BAS116-7-F	Commercial	SOT23	3,000/Tape & Reel
BAS116-13-F	Commercial	SOT23	10,000/Tape & Reel
BAS116Q-7-F	Automotive	SOT23	3,000/Tape & Reel
BAS116Q-13-F	Automotive	SOT23	10,000/Tape & Reel

Notes:

- 1. No purposefully added lead. Halogen and Antimony Free.
- 2. Product manufactured with Date Code V9 (week 33, 2008) and newer are built with Green Molding Compound. Product manufactured prior to Date Code V9 are built with Non-Green Molding Compound and may contain Halogens or Sb₂O₃ Fire Retardants.
- 3. For packaging details, go to our website at http://www.diodes.com.

Marking Information



XXX = Product Type Marking Code; K50, K54 YM = Date Code Marking Y = Year (ex: Y = 2011) M = Month (ex: 9 = September)

Date Code Key

Year	2001	2002		2009	2010	2011	2012	2013	2014	2015	2016	2017
Code	М	N		W	Χ	Υ	Z	Α	В	С	D	Е
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	-	_	_		_	•	-	0	_		N	D



Maximum Ratings @TA = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit	
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage		V _{RRM} V _R WM V _R	85	V
RMS Reverse Voltage		$V_{R(RMS)}$	60	V
Forward Continuous Current (Note 4)		I _{FM}	215	mA
Repetitive Peak Forward Current		I _{FRM}	500	mA
Non-Repetitive Peak Forward Surge Current	@ t = 1.0μs @ t = 1.0ms @ t = 1.0s	I _{FSM}	4.0 1.0 0.5	А

Thermal Characteristics

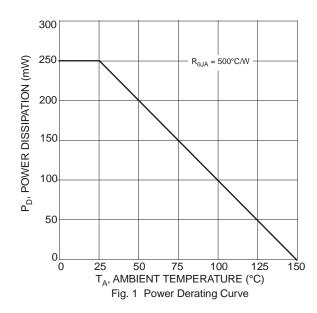
Characteristic	Symbol	Value	Unit
Power Dissipation (Note 4) @T _A = 25°C	P_{D}	250	mW
Thermal Resistance Junction to Ambient Air (Note 4) @T _A = 25°C	$R_{ hetaJA}$	500	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-65 to +150	°C

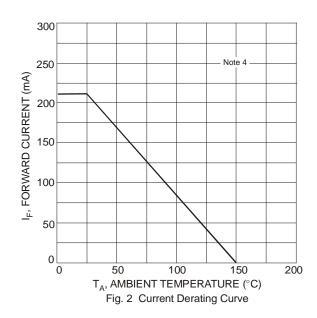
Electrical Characteristics @TA = 25°C unless otherwise specified

Characteristic	Symbol	Min	Тур	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 5)	$V_{(BR)R}$	85			V	$I_R = 100 \mu A$
Forward Voltage	V _F	_		0.90 1.0 1.1 1.25	>	$I_F = 1.0mA$ $I_F = 10mA$ $I_F = 50mA$ $I_F = 150mA$
Leakage Current (Note 5)	I _R	_		5.0 80	nA nA	$V_R = 75V$ $V_R = 75V$, $T_j = 150$ °C
Total Capacitance	C_{T}	_	2		рF	$V_R = 0, f = 1.0MHz$
Reverse Recovery Time	t _{rr}	_		3.0	μS	$\begin{aligned} I_F &= I_R = 10 \text{mA}, \\ I_{rr} &= 0.1 \text{ x } I_R, R_L = 100 \Omega \end{aligned}$

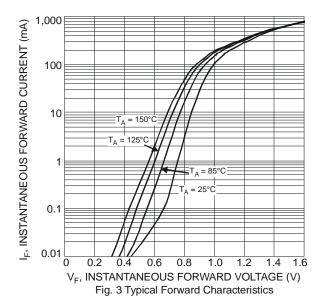
Notes:

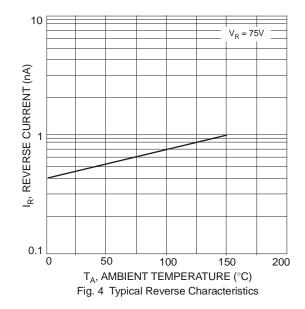
- 4. Part mounted on FR-4 PC board with recommended pad layout, which can be found on our website at http://www.diodes.com.
- 5. Short duration pulse test used to minimize self-heating effect.



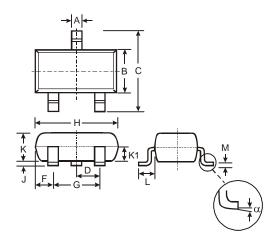






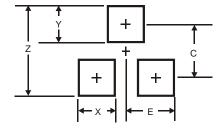


Package Outline Dimensions



SOT23							
Dim	Min	Max	Тур				
Α	0.37	0.51	0.40				
В	1.20	1.40	1.30				
С	2.30	2.50	2.40				
D	0.89	1.03	0.915				
F	0.45	0.60	0.535				
G	1.78	2.05	1.83				
Н	2.80	3.00	2.90				
J	0.013	0.10	0.05				
K	0.903	1.10	1.00				
K1	-	-	0.400				
L	0.45	0.61	0.55				
M	0.085	0.18	0.11				
α	0°	8°	-				
All	All Dimensions in mm						

Suggested Pad Layout



Dimensions	Value (in mm)			
Z	2.9			
X	0.8			
Y	0.9			
С	2.0			
E	1.35			



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