
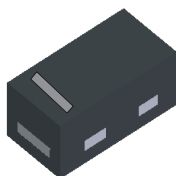


## Features

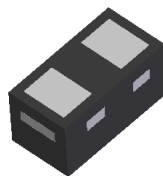
- Ultra-Small Leadless Surface Mount Package (0.6 x 0.3mm)
- Ultra-Low Profile Package (0.3mm)
- Very Low Leakage Current
- Low Capacitance
- Ideal for Compact Battery Powered Portable Electronics
- **Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

## Mechanical Data

- Case: X3-DFN0603-2
- Case Material: Molded Plastic, "Green" Molding Compound.  
UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminal Connections: Cathode Bar
- Terminals: Finish Matte Tin Finish over Copper Leadframe  
(Lead Free Plating). Solderable per MIL-STD-202, Method 208 
- Weight: 0.2mg (Approximate)



Top View



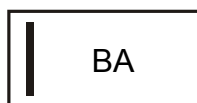
Bottom View

## Ordering Information (Note 4)

Part Number	Case	Packaging
BAS116LP3-7	X3-DFN0603-2	10,000/Tape & Reel

- Notes:
1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant.
  2. See [http://www.diodes.com/quality/lead\\_free.html](http://www.diodes.com/quality/lead_free.html) for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
  3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
  4. For packaging details, go to our website at <http://www.diodes.com/products/packages.html>.

## Marking Information



BA = Product Type Marking Code  
Bar Denotes Cathode Side

**Maximum Ratings** (@T<sub>A</sub> = +25°C, unless otherwise specified.)

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	V <sub>RRM</sub>	85	V
Working Peak Reverse Voltage	V <sub>RWM</sub>		
DC Blocking Voltage	V <sub>R</sub>		
RMS Reverse Voltage	V <sub>R(RMS)</sub>	60	V
Forward Continuous Current (Note 5)	I <sub>FM</sub>	215	mA
Repetitive Peak Forward Current	I <sub>FRM</sub>	500	mA
Non-Repetitive Peak Forward Surge Current	I <sub>FSM</sub>	@ t = 1.0µs	4.0
		@ t = 1.0ms	1.0
		@ t = 1.0s	0.5

**Thermal Characteristics**

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 5)	P <sub>D</sub>	250	mW
Thermal Resistance Junction to Ambient Air (Note 6)	R <sub>θJA</sub>	500	°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +150	°C

**Electrical Characteristics** (@T<sub>A</sub> = +25°C, unless otherwise specified.)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 6)	V <sub>(BR)R</sub>	85	—	—	V	I <sub>R</sub> = 100µA
Forward Voltage	V <sub>F</sub>	—	0.75	0.95	V	I <sub>F</sub> = 1.0mA I <sub>F</sub> = 10mA I <sub>F</sub> = 50mA I <sub>F</sub> = 150mA
			0.9	1.10		
			1.0	1.20		
			1.15	1.35		
Leakage Current (Note 6)	I <sub>R</sub>	—	—	10.0 100 500	nA	V <sub>R</sub> = 75V V <sub>R</sub> = 1V, T <sub>J</sub> = +150°C V <sub>R</sub> = 75V, T <sub>J</sub> = +150°C
Total Capacitance	C <sub>T</sub>	—	1.6	3.0	pF	V <sub>R</sub> = 0, f = 1.0MHz
Reverse Recovery Time	t <sub>rr</sub>	—	120	3000	ns	I <sub>F</sub> = I <sub>R</sub> = 10mA, I <sub>rr</sub> = 0.1 x I <sub>R</sub> , R <sub>L</sub> = 100Ω

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

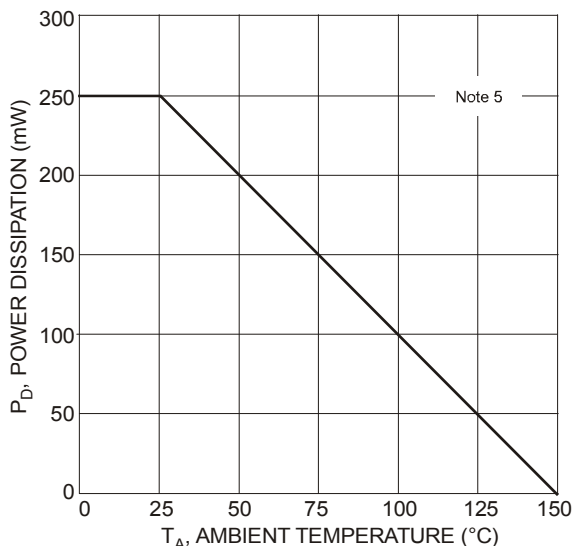


Figure 1 Power Derating Curve, Total Package

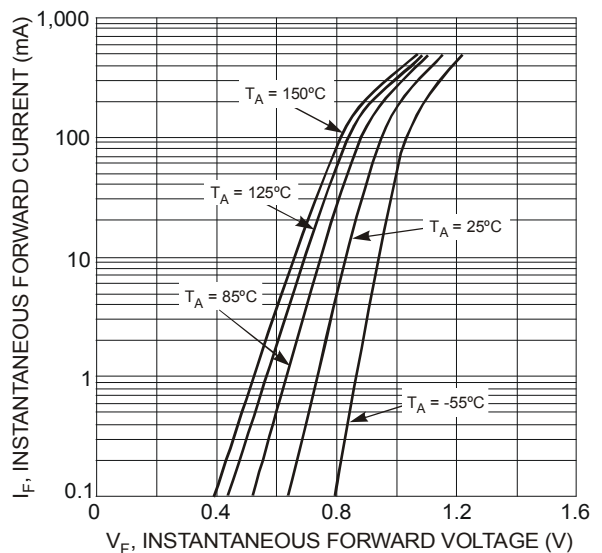


Figure 2 Typical Forward Characteristics

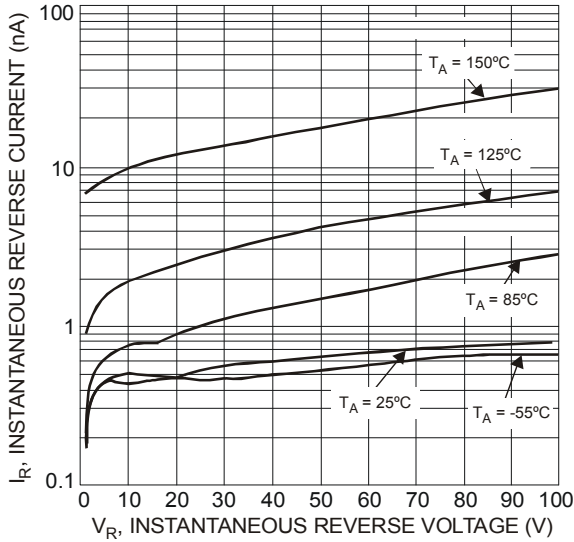


Figure 3 Typical Reverse Characteristics

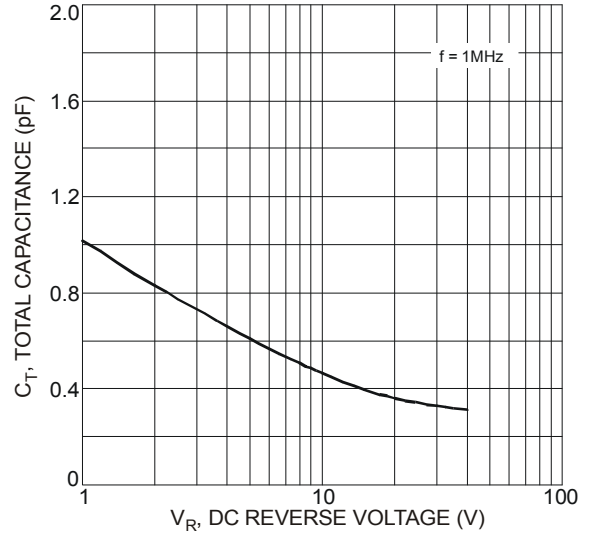
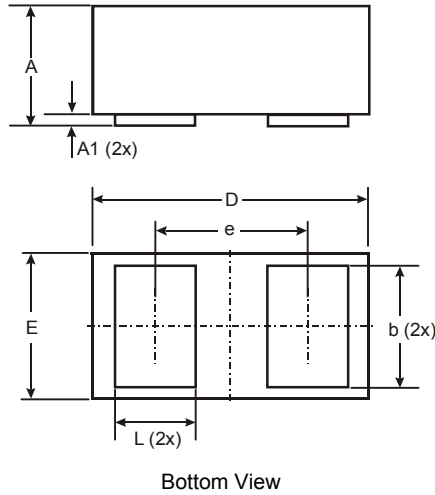


Figure 4 Typical Total Capacitance vs. Reverse Voltage

### Package Outline Dimensions

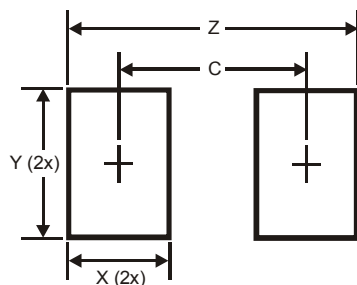
Please see AP02002 at <http://www.diodes.com/datasheets/ap02002.pdf> for latest version.



X3-DFN0603-2			
Dim	Min	Max	Typ
A	0.27	0.35	0.30
A1	0.00	0.03	0.02
b	0.19	0.29	0.24
D	0.595	0.645	0.62
E	0.295	0.345	0.32
e	-	-	0.355
L	0.14	0.24	0.19
All Dimensions in mm			

### Suggested Pad Layout

Please see AP02001 at <http://www.diodes.com/datasheets/ap02001.pdf> for the latest version.



Dimensions	Value (in mm)
C	0.380
X	0.230
Y	0.300
Z	0.610

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