





ULTRA-SMALL SURFACE MOUNT LOW LEAKAGE DIODE

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 (3)
- Weight: 0.2mg (Approximate)







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 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

ВА

BA = Product Type Marking Code Bar Denotes Cathode Side



Maximum Ratings (@ $T_A = +25^{\circ}C$, unless otherwise specified.)

Characteristic		Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage		V _{RRM} V _{RWM} V _R	85	V
RMS Reverse Voltage		V _{R(RMS)}	60	V
Forward Continuous Current (Note 5)		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

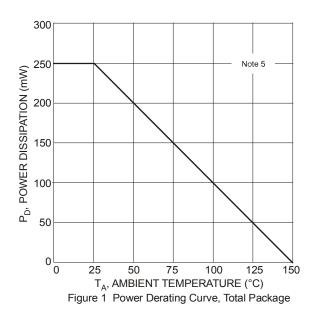
Characteristic	Symbol	Value	Unit
Power Dissipation (Note 5)	P _D	250	mW
Thermal Resistance Junction to Ambient Air (Note 6)	$R_{ heta JA}$	500	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-65 to +150	°C

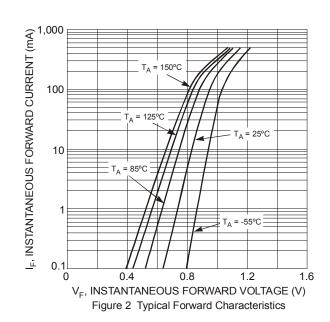
Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Min	Тур	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 6)	V _{(BR)R}	85	_	_	V	I _R = 100μA
Forward Voltage	V _F		0.75 0.9 1.0 1.15	0.95 1.10 1.20 1.35	V	I _F = 1.0mA I _F = 10mA I _F = 50mA I _F = 150mA
Leakage Current (Note 6)	I _R	_	_	10.0 100 500	nA	V _R = 75V V _R = 1V, T _J = +150°C V _R = 75V, T _J = +150°C
Total Capacitance	C _T	_	1.6	3.0	pF	V _R = 0, f = 1.0MHz
Reverse Recovery Time	t _{rr}	_	120	3000	ns	$I_F = I_R = 10 \text{mA},$ $I_{rr} = 0.1 \text{ x } I_R, R_L = 100 \Omega$

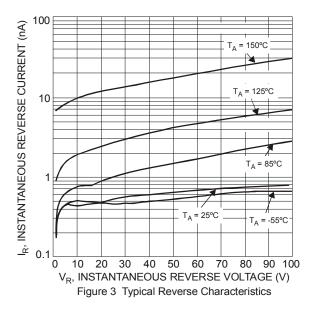
Notes:

- 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.









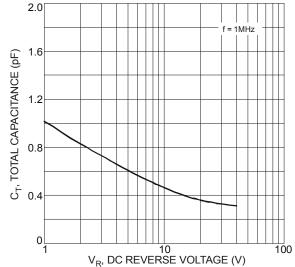
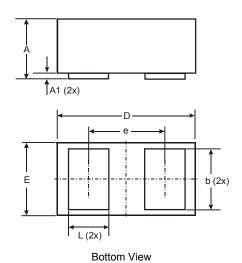


Figure 4 Typical Total Capacitance vs. Reverse Voltage

Package Outline Dimensions

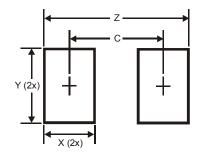
Please see AP02002 at http://www.diodes.com/datasheets/ap02002.pdf for latest version.



X3-DFN0603-2					
Dim	Min	Max	Тур		
Α	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		
Е	0.295	0.345	0.32		
е	-	-	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)
С	0.380
Х	0.230
Υ	0.300
Z	0.610



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