





#### SURFACE MOUNT SCHOTTKY BARRIER DIODE

### **Features**

- Low Forward Voltage Drop
- Fast Switching
- Ultra-Small Leadless Surface Mount Package
- PN Junction Guard Ring for Transient and ESD Protection
- Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)
- Halogen and Antimony Free. "Green" Device (Note 3)
- Qualified to AEC-Q101 Standards for High Reliability

## **Mechanical Data**

- Case: X1-DFN1006-2
- 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/Dot
- Terminals: Finish NiPdAu Annealed over Copper Leadframe.
  Solderable per MIL-STD-202, Method 208 €
- Weight: 0.001 grams (Approximate)

#### X1-DFN1006-2







**Bottom View** 

## Ordering Information (Note 4)

Part Number	Case	Packaging
BAT54LP-7	X1-DFN1006-2	3,000/Tape & Reel
BAT54LP-7B	X1-DFN1006-2	10,000/Tape & Reel

Notes:

- 1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant.
- 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**

BAT54LP-7

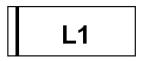
L1

Top View Bar Denotes Cathode Side

Or



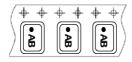
Top View Dot Denotes Cathode Side BAT54LP-7B



Top View Bar Denotes Cathode Side



Bar Denotes Cathode side



Dot Denotes Cathode side

L1 = Product Type Marking Code



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

Characteristic		Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage		V <sub>RRM</sub> V <sub>R</sub>	30	٧
Forward Continuous Current		l <sub>F</sub>	200	mA
Repetitive Peak Forward Current		I <sub>FRM</sub>	300	mA
Forward Surge Current	@ t < 1.0s	I <sub>FSM</sub>	600	mA

## **Thermal Characteristics**

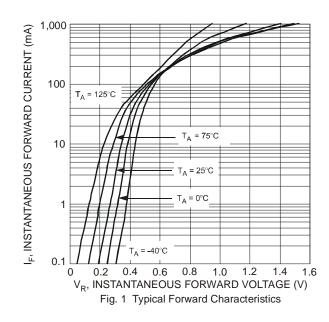
Characteristic	Symbol	Value	Unit
Power Dissipation (Note 5)	$P_D$	250	mW
Thermal Resistance, Junction to Ambient Air (Note 5)	$R_{ hetaJA}$	400	°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +125	°C

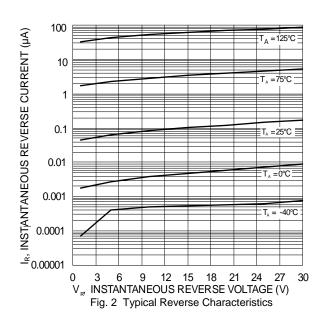
# **Electrical Characteristics** (@T<sub>A</sub> = +25°C, unless otherwise specified.)

Characteristic	Symbol	Min	Тур	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 6)	V <sub>(BR)R</sub>	30	_	_	V	$I_R = 100 \mu A$
				240		$I_F = 0.1 \text{mA}$
				320		$I_F = 1mA$
Forward Voltage	VF	_	_	400	mV	$I_F = 10mA$
				500		$I_F = 30mA$
				1,000		I <sub>F</sub> = 100mA
Reverse Leakage Current (Note 6)	I <sub>R</sub>	_	_	2.0	μΑ	$V_R = 25V$
Total Capacitance	CT	1	_	10	pF	$V_R = 1.0V, f = 1.0MHz$
Reverse Recovery Time	t <sub>RR</sub>		_	5.0	ns	$I_F = 10\text{mA}$ through $I_R = 10\text{mA}$ to $I_R = 1.0\text{mA}$ , $R_L = 100\Omega$

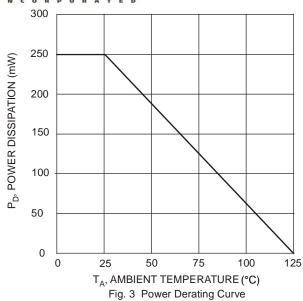
Notes:

- 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.





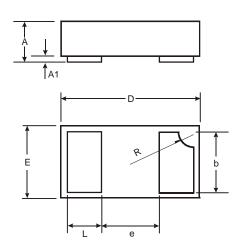




# **Package Outline Dimensions**

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

#### X1-DFN1006-2

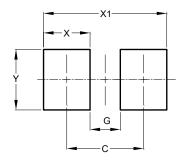


X1-DFN1006-2					
Dim	Min	Max	Тур		
Α	0.47	0.53	0.50		
A1	0	0.05	0.03		
b	0.45	0.55	0.50		
D	0.95	1.075	1.00		
Е	0.55	0.675	0.60		
е	ı	-	0.40		
L	0.20	0.30	0.25		
R	0.05	0.15	0.10		
All Dimensions in mm					

# **Suggested Pad Layout**

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

#### X1-DFN1006-2



Dimensions	Value (in mm)	
С	0.70	
G	0.30	
Х	0.40	
X1	1.10	
Y	0.70	



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многоканальный

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