

SURFACE MOUNT SUPER BARRIER RECTIFIER

Product Summary (@ T_A = +25°C)

V _{RRM} (V)	I _o (mA)	V _{F(MAX)} (V)	I _{R(MAX)} (μ A)
20	700	0.55	50

Features and Benefits

- Ultra Low Forward Voltage Drop
- Superior Reverse Avalanche Capability
- Patented Super Barrier Rectifier Technology
- Soft, Fast Switching Capability
- +150°C Operating Junction Temperature
- 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

Applications

- SMPS
- DC-DC Converter
- Freewheeling Diodes
- Reverse Polarity Protection

Mechanical Data

- Case: X2-DFN1006-2
- Case Material: Molded Plastic, "Green" Molding Compound;
 UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Finish NiPdAu over Copper Leadframe;
 Solderable per MIL-STD-202, Method 208 4
- Weight: 0.001 grams (Approximate)

X2-DFN1006-2



Bottom View

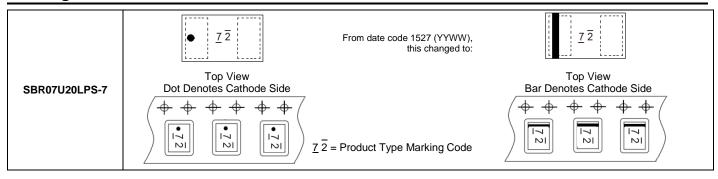
Ordering Information (Note 4)

Part Number	Case	Packaging
SBR07U20LPS-7	X2-DFN1006-2	3,000/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





Maximum Ratings (@T_A = +25°C, unless otherwise specified.)

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitance load, derate current by 20%.

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V _{RRM} V _{RWM} V _{RM}	20	٧
RMS Reverse Voltage	V _{R(RMS)}	14	V
Average Rectified Output Current	lo	700	mA
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I _{FSM}	7	А

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

Characteristic	Symbol	Value	Unit
Maximum Thermal Resistance (Note 5)	$R_{ hetaJA}$	224	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-65 to +150	°C

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

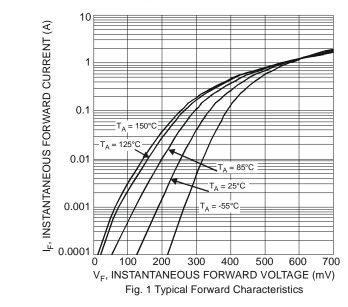
Characteristic	Symbol	Min	Тур	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 6)	$V_{(BR)R}$	20	_	-	V	$I_R = 50\mu A$
Forward Voltage Drop	VF	I	0.34 0.46 0.51 0.48	0.38 0.50 0.55 0.51		I _F = 0.1A, T _J = +25°C I _F = 0.5A, T _J = +25°C I _F = 0.7A, T _J = +25°C I _F = 0.7A, T _J = +125°C
Leakage Current (Note 6)	I _R	-	6 1.5	50 5	μA mA	$V_R = 20V, T_J = +25$ °C $V_R = 20V, T_J = +150$ °C

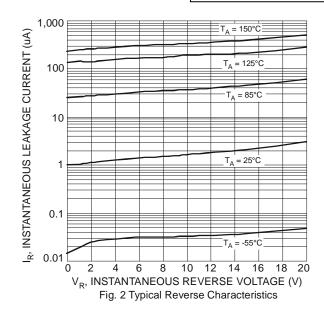
Notes:

^{5.} Device mounted on FR-4 substrate with minimum 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.

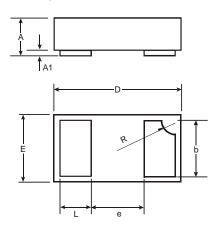






Package Outline Dimensions

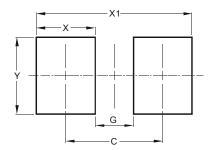
Please see AP02001 at http://www.diodes.com/_files/datasheets/ap02001.pdf for the latest version.



X2-DFN1006-2					
Dim	Min	Max	Тур		
Α	0.34	0.4	0.37		
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	_	_	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.



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



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