



ULTRA-SMALL SURFACE MOUNT SCHOTTKY DIODE

Product Summary

V _{RRM} (V)	I _O (mA)	V _{F max} (V)	I _{R max} (μΑ)
30	100	0.37	7

Description

The SDM02U30LP3 is a schottky barrier diode optimized for ultra low-forward voltage drop and low reverse leakage current. Encapsulated in the ultra-small DFN-0603 with footprint of 0.18mm² and ultra-low package profile, this device is designed for saving PCB space in portable electronic devices.

Applications

- Reverse Voltage and Current Protection
- Blocking diode
- Clamping protection
- LCD and Key Pad Backlighting
- Freewheeling diode.

Features

- 0.18mm² footprint 70% smaller than DFN1006/SOD923
- Off board profile of 0.35mm 30% thinner than the DFN1006
- Low forward voltage of 0.37V (max) minimises power dissipation losses
- Low leakage maximises battery power
- 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)

X3-DFN0603-2



Top View



Bottom View

Ordering Information (Note 4)

Part Number	Case	Packaging	
SDM02U30LP3-7B	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 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.

Marking Information

L<u>2</u>

L2 = Product Type Marking Code Bar Denotes Cathode Side



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

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	Vrrm Vrwm Vr	30	V
RMS Reverse Voltage	VR(RMS)	21	V
Average Rectified Output Current	I ₀	100	mA
Non-Repetitive Peak Forward Surge Current (8.33ms Half-Sine Waveform)	I _{FSM}	500	mA

Thermal Characteristics

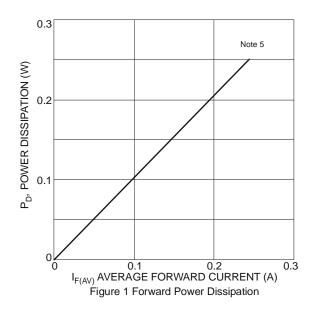
Characteristic	Symbol	Value	Unit
Power Dissipation (Note 5)	P_{D}	250	mW
Thermal Resistance Junction to Ambient Air (Note 5)	$R_{ heta JA}$	500	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-65 to +150	°C

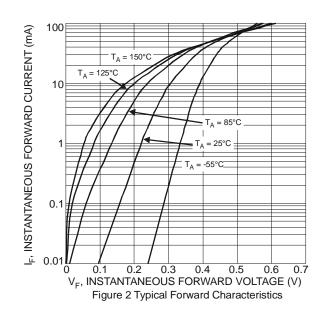
Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Min	Тур	Max	Unit	Test Condition
Forward Voltage	V _E	_	_	0.37	V	$I_F = 10mA$
Forward voltage	VF	_	0.20	_		$I_F = 10 \text{mA}; T_A = +125 ^{\circ}\text{C}$
Lookogo Current (Noto E)		7		V _R = 10V		
Leakage Current (Note 5)	IR	_	4	_	μA	$V_R = 30V$

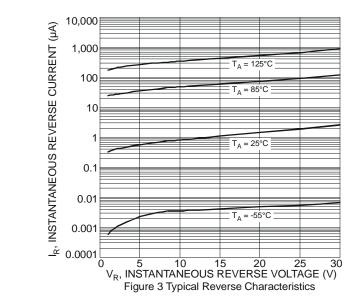
Notes:

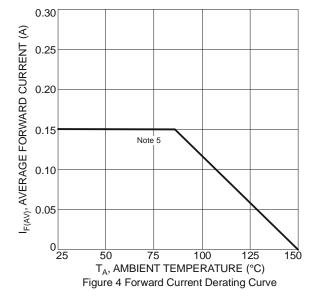
- 5. Part mounted on FR-4 PC board with recommended pad layout, which can be found on our website at http://www.diodes.com.
- 6. Short duration pulse test used to minimize self-heating effect.

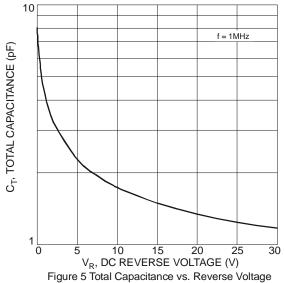






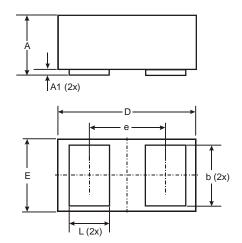






Package Outline Dimensions

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

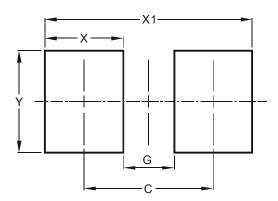


X3-DFN0603-2				
Dim	Min	Max	Тур	
Α	0.27	0.35	0.30	
A1	0.00	0.03	0.02	
b	0.19	0.29	0.24	
D	0.595	0.645	0.62	
Е	0.295	0.345	0.32	
е	-	-	0.355	
L	0.14	0.24	0.19	
All Dimensions in mm				



Suggested Pad Layout

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



Dimensions	Value (in mm)		
С	0.355		
G	0.150		
Х	0.230		
X1	0.610		
Υ	0.300		

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