

Product Summary

V _{RRM} (V)	I _O (mA)	V _F Max (V) @ +25°C	I _R Max (μA) @ +25°C
30	200	0.50	9

Description

The SDM02U30CSP is a 30-Volt 0.2A Schottky Barrier Diode that is optimized for low forward voltage drop and low leakage current. It's housed in a compact Chip Scale Package (CSP) that occupies only 0.18mm² board space. The low thermal resistance enables designers to meet design challenges of increasing efficiency while reducing board space. It is ideally suited for use in portable applications.

Applications

- Blocking Diode
- Reverse Protection Diode
- Boost Diode

Features and Benefits

- 0.18mm² Footprint, Off Board Profile of 0.28mm
- Low Forward Voltage of 0.50V (Max) – Minimizes Power Dissipation Losses
- Low Leakage – Maximizes Battery Power
- Soft, Fast Switching Capability
- **Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

Mechanical Data

- Case: X3-WLB0603-2
- Moisture Sensitivity: Level 1 per J-STD-020
- Polarity Indicator: Cathode Dot
- Terminals: NiAu Bump. Solderable per MIL-STD-202, Method 208 ^(e4)
- Weight: 0.1mg (Approximate)

X3-WLB0603-2



Top View



Bottom View

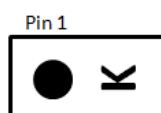
Ordering Information (Note 4)

Part Number	Case	Packaging
SDM02U30CSP-7	X3-WLB0603-2	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

X3-WLB0603-2



K = Product Type Marking Code
Dot Denotes Cathode Pin

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	V _{RRM}	30	V
Average Rectified Output Current	I _O	0.2	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I _{FSM}	4.5	A

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance Junction to Ambient (Note 5)	R _{θJA}	215	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-55 to +150	°C

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

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage Drop	V _F	—	0.24	0.29	V	I _F = 1mA, T _J = +25°C
		—	0.30	0.34		I _F = 10mA, T _J = +25°C
		—	0.40	0.46		I _F = 100mA, T _J = +25°C
		—	0.45	0.50		I _F = 200mA, T _J = +25°C
		—	0.39	—		I _F = 200mA, T _J = +125°C
Leakage Current (Note 6)	I _R	—	0.4	2.0	μA	V _R = 10V, T _J = +25°C
		—	1.5	9	μA	V _R = 30V, T _J = +25°C
		—	0.7	—	mA	V _R = 30V, T _J = +125°C
Junction Capacitance	C _T	—	7	—	pF	V _R = 10V, T _J = +25°C, f = 1MHz

Notes: 5. Device mounted on FR-4 substrate PC board, with minimum recommended pad layout per <http://www.diodes.com/package-outlines.html>.
6. Short duration pulse test used to minimize self-heating effect.

Typical Electrical Characteristics

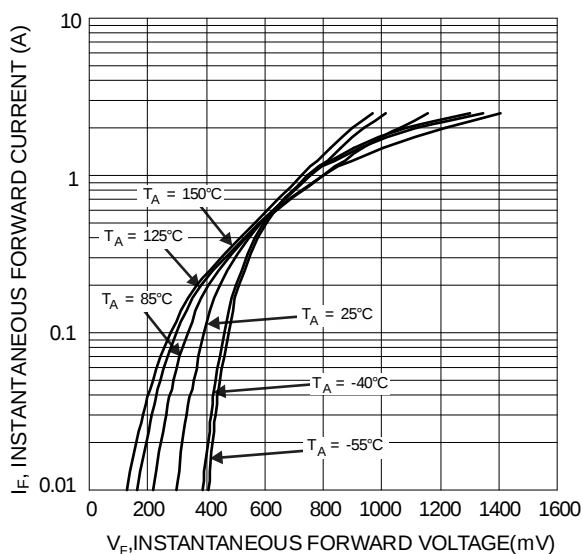


Figure 1 Typical Forward Characteristics

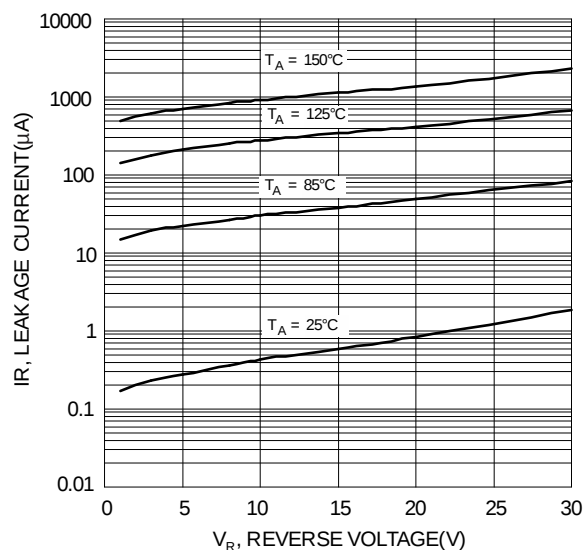


Figure 2 Typical Reverse Characteristics

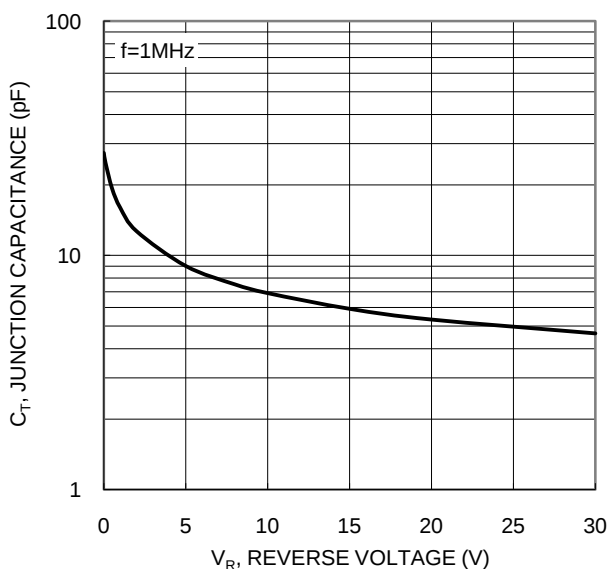


Figure 3. Typical Junction Capacitance

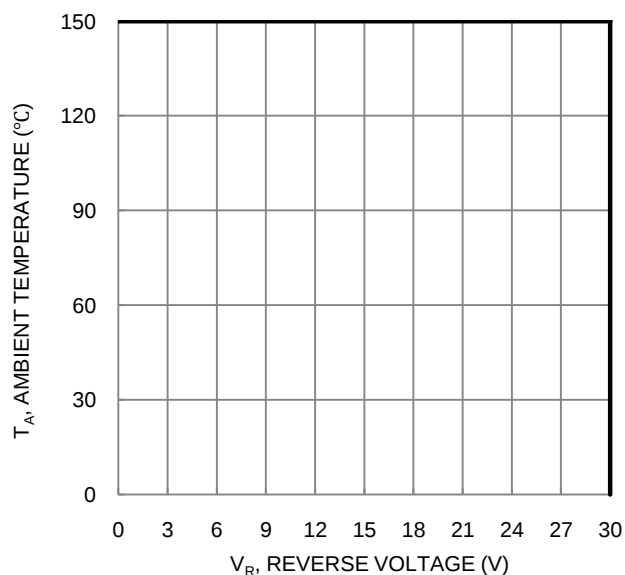
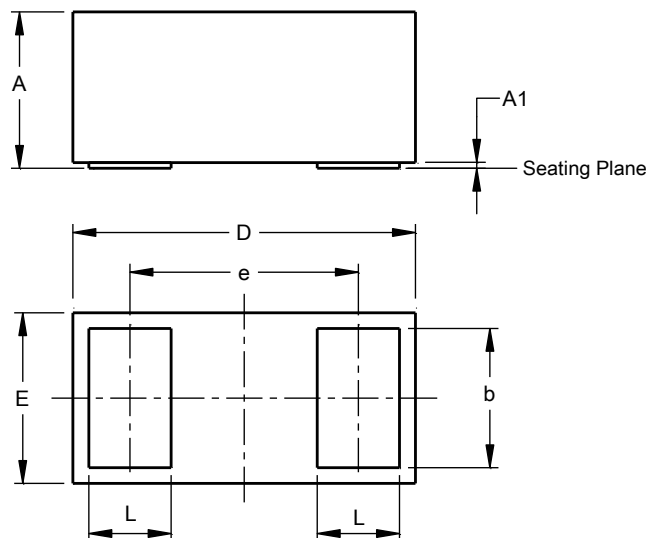


Figure 4. Operating Temperature Derating

Package Outline Dimensions (Note 7)

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

X3-WLB0603-2



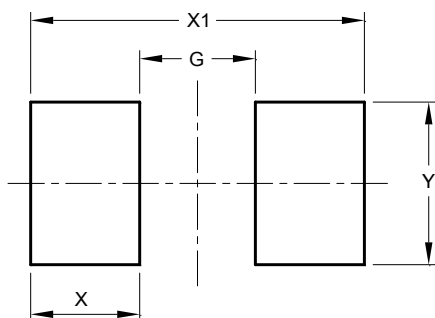
X3-WLB0603-2			
Dim	Min	Max	Typ
A	0.250	0.300	0.275
A1	0.00	0.01	—
b	0.220	0.280	0.245
D	0.575	0.625	0.600
E	0.275	0.325	0.300
e	—	—	0.400
L	0.120	0.180	0.144
All Dimensions in mm			

Note 7: Device side walls are electrically active bare silicon. Avoid contact of solder or flux on the side walls during the PCB assembly process.

Suggested Pad Layout

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

X3-WLB0603-2



Dimensions	Value (in mm)
G	0.206
X	0.194
Y	0.291
X1	0.594

IMPORTANT NOTICE

DIODES INCORPORATED MAKES NO WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, WITH REGARDS TO THIS DOCUMENT, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE (AND THEIR EQUIVALENTS UNDER THE LAWS OF ANY JURISDICTION).

Diodes Incorporated and its subsidiaries reserve the right to make modifications, enhancements, improvements, corrections or other changes without further notice to this document and any product described herein. Diodes Incorporated does not assume any liability arising out of the application or use of this document or any product described herein; neither does Diodes Incorporated convey any license under its patent or trademark rights, nor the rights of others. Any Customer or user of this document or products described herein in such applications shall assume all risks of such use and will agree to hold Diodes Incorporated and all the companies whose products are represented on Diodes Incorporated website, harmless against all damages.

Diodes Incorporated does not warrant or accept any liability whatsoever in respect of any products purchased through unauthorized sales channel. Should Customers purchase or use Diodes Incorporated products for any unintended or unauthorized application, Customers shall indemnify and hold Diodes Incorporated and its representatives harmless against all claims, damages, expenses, and attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized application.

Products described herein may be covered by one or more United States, international or foreign patents pending. Product names and markings noted herein may also be covered by one or more United States, international or foreign trademarks.

This document is written in English but may be translated into multiple languages for reference. Only the English version of this document is the final and determinative format released by Diodes Incorporated.

LIFE SUPPORT

Diodes Incorporated products are specifically not authorized for use as critical components in life support devices or systems without the express written approval of the Chief Executive Officer of Diodes Incorporated. As used herein:

A. Life support devices or systems are devices or systems which:

1. are intended to implant into the body, or
2. support or sustain life and whose failure to perform when properly used in accordance with instructions for use provided in the labeling can be reasonably expected to result in significant injury to the user.

B. A critical component is any component in a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or to affect its safety or effectiveness.

Customers represent that they have all necessary expertise in the safety and regulatory ramifications of their life support devices or systems, and acknowledge and agree that they are solely responsible for all legal, regulatory and safety-related requirements concerning their products and any use of Diodes Incorporated products in such safety-critical, life support devices or systems, notwithstanding any devices- or systems-related information or support that may be provided by Diodes Incorporated. Further, Customers must fully indemnify Diodes Incorporated and its representatives against any damages arising out of the use of Diodes Incorporated products in such safety-critical, life support devices or systems.

Copyright © 2016, Diodes Incorporated

www.diodes.com



Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

Телефон: 8 (812) 309 58 32 (многоканальный)

Факс: 8 (812) 320-02-42

Электронная почта: org@eplast1.ru

Адрес: 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.