2A SCHOTTKY BARRIER RECTIFIER CHIP SCALE PACKAGE

Product Summary

V_{RRM} (V)	I_O (A)	$V_{F\ max}$ (V)	$I_{R\ max}$ (µA)
30	2.0	0.48	150

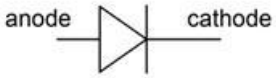
Features and Benefits

- Low forward voltage (V_F) minimizes conduction losses and improves efficiency.
- Reduced high temperature reverse leakage; Increased reliability against thermal runaway failure in high temperature operation.
- **Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

Description and Applications

The SDM2U30CSP is a 30-volt 2A Schottky Barrier Rectifier that is optimized for low forward voltage drop and low leakage current, housed in a compact chip scale package (CSP) that occupies only 1.28mm^2 board space with low profile. The low thermal resistance enables designers to meet design challenges of increasing efficiency whilst at the same time reducing board space. It is ideally suited for use in portable applications as a:

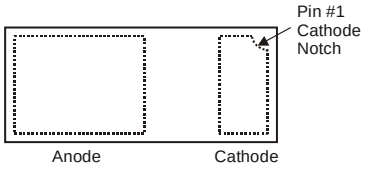
- Blocking Diode
- Boost Diode
- Switching Diode
- Reverse Protection Diode



Device Schematic

Mechanical Data

- Case: X3-WLB1608-2
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: NiAu Bump. Solderable per MIL-STD-202, Method 208 e4
- Polarity: Cathode Dot
- Weight: 0.001 grams (Approximate)

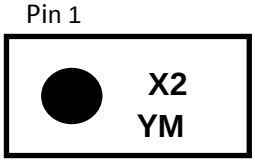


Ordering Information (Note 4)

Part Number	Case	Packaging
SDM2U30CSP-7B	X3-WLB1608-2	10,000/Tape & Reel
SDM2U30CSP-7	X3-WLB1608-2	5,000/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. SDM2U30CSP-7B uses carrier tapes with 2mm pocket-to-pocket pitch; SDM2U30CSP-7 uses carrier tapes with 4mm pocket-to-pocket pitch.

Marking Information



X2= Product Type Marking Code
YM=Date Code Marking
Y= Year (ex: C= 2015)
M=Month (ex: 9= September)
Dot Denotes Cathode Pin

Date Code Key

Year	2014	2015	2016	2017	2018	2019	2020
Code	B	C	D	E	F	G	H

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D

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	2.0	A
Repetitive Peak Forward Current (Pulse Wave = 1 Sec, Duty Cycle = 66%)	I_{FRM}	4.2	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I_{FSM}	20	A

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance Junction to Ambient (Note 5)	$R_{\theta JA}$	155	°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	—	0.38	0.42	V	I_F = 1.0A
		—	0.45	0.48		I_F = 2.0A
Reverse Current (Note 6)	I_R	—	—	150	μA	V_R = 30V
Junction Capacitance	C_J	—	110	—	pF	V_R = 4V, f = 1.0MHz

Notes: 5. Device mounted on FR-4 PCB, 2oz. Copper, minimum recommended pad layout per http://www.diodes.com/datasheets/ap02001.pdf.
6. Short duration pulse test used to minimize self-heating effect.

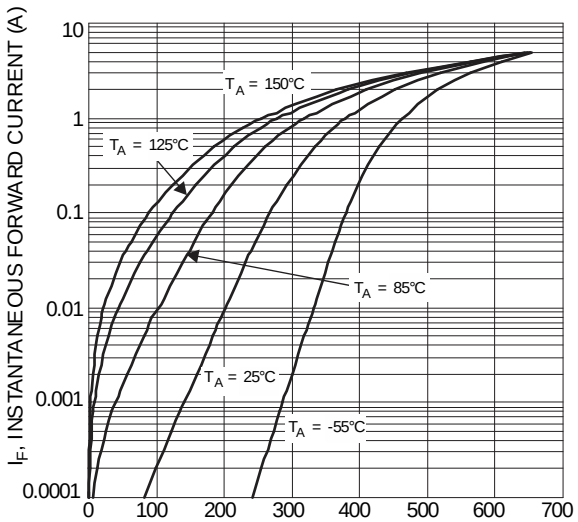


Figure 1 Typical Forward Characteristics

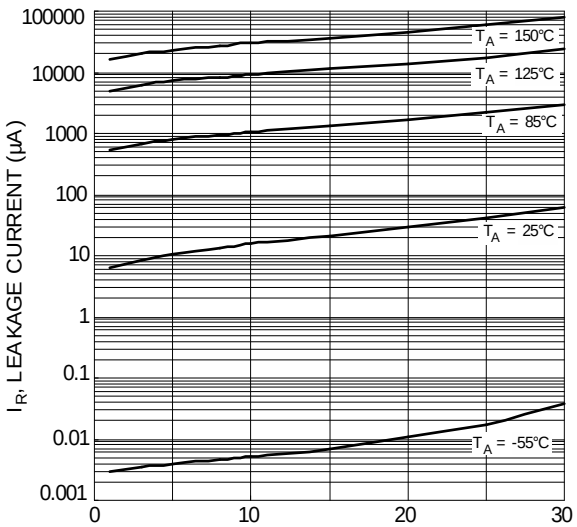


Figure 2 Typical Reverse Characteristics

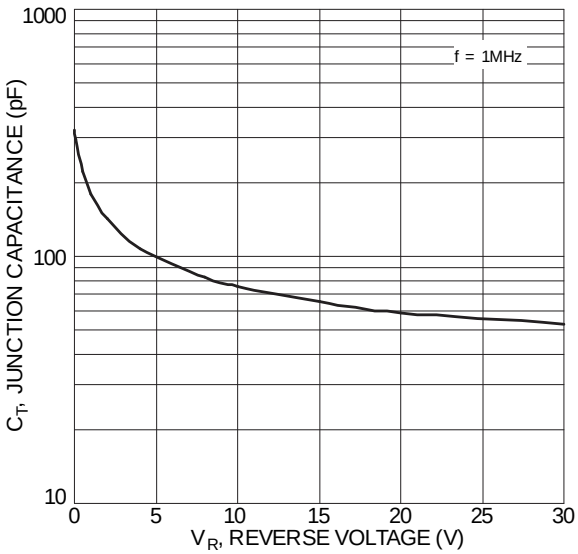
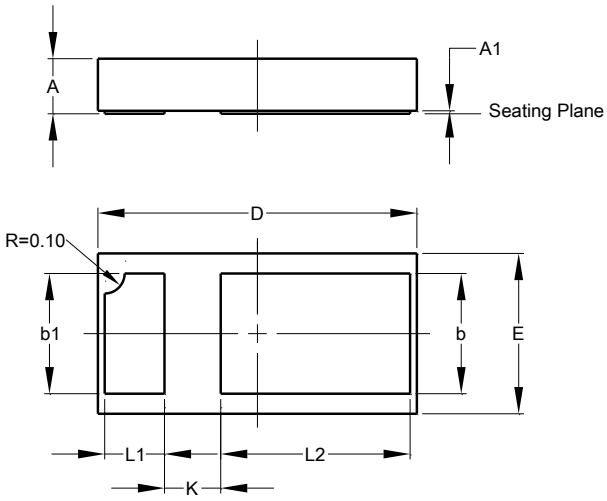


Figure 3 Typical Junction Capacitance

Package Outline Dimensions

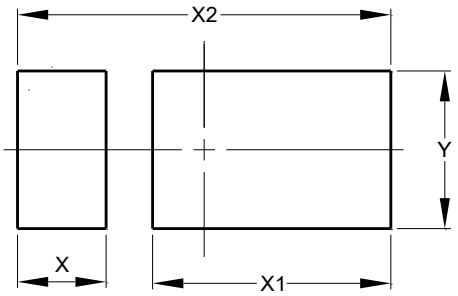
Please see AP02001 at http://www.diodes.com/datasheets/ap02001.pdf for the latest version.



X3-WLB1608-2			
Dim	**Min**	**Max**	**Typ**
A	0.250	0.300	0.275
A1	-	0.015	-
b	-	-	0.600
b1	-	-	0.600
D	1.57	1.63	1.60
E	0.77	0.83	0.80
K	-	-	0.282
L1	0.25	0.35	0.30
L2	0.90	1.00	0.95
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)
X	0.385
X1	1.035
X2	1.622
Y	0.690

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