



2A SCHOTTKY BARRIER RECTIFIER CHIP SCALE PACKAGE

Moisture Sensitivity: Level 1 per J-STD-020

Weight: 0.001 grams (Approximate)

Low forward voltage (V_F) minimizes conduction losses and

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)

Terminals: NiAu Bump. Solderable per MIL-STD-202, Method

Features and Benefits

improves efficiency.

Mechanical Data

208 (4)

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Case: X3-WLB1608-2

Polarity: Cathode Dot

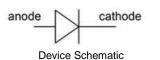
Product Summary

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	V _{RRM} (V)	I ₀ (A)	V _F Max (V)	I _R Max (μA)
	40	2.0	0.53	150

Description and Applications

The SDM2U40CSP is a 40-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 1.28mm² 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**



	Pin #1 Cathod Notch
Anode	Cathode

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Ordering Information (Note 4)

Part Number	Case	Packaging
SDM2U40CSP-7B	X3-WLB1608-2	10,000/Tape & Reel

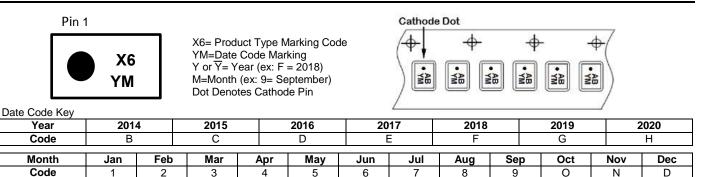
1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant. Notes:

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



1

2

3

6

5

Δ

Ν



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

Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.			
Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	V _{RRM}	40	V
Average Rectified Output Current	lo	2.0	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I _{FSM}	28	А

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance Junction to Ambient (Note 5)	R _{0JA}	135	°C/W
Typical Thermal Resistance Junction to Ambient (Note 6)	R _{θJA}	65	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-55 to +150	°C

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

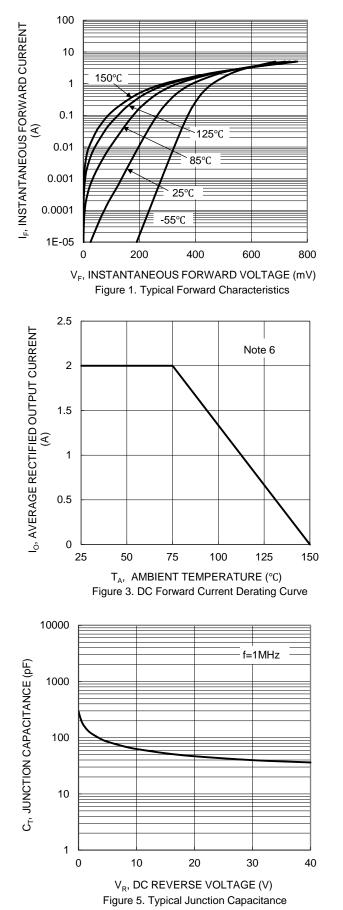
Characteristic	Symbol	Min	Тур	Max	Unit	Test Condition
Forward Voltage Drop	V _F	-	0.39	0.44	V	I _F = 1.0A, T _J = +25°C
Forward Voltage Drop		-	0.48	0.53		I _F = 2.0A, T _J = +25°C
Reverse Current (Note 7)	I _R	-	—	150	μA	$V_{R} = 40V, T_{J} = +25^{\circ}C$
Junction Capacitance	CT		85		pF	V _R = 5V, f = 1.0MHz

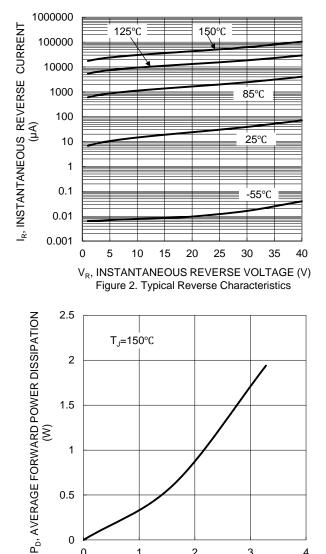
5. Device mounted on FR-4 PCB, 2oz. Copper, minimum recommended pad layout per http://www.diodes.com/package-outlines.html. Notes:

Device mounted on 1 inch sq. copper pad, 2oz.
Short duration pulse test used to minimize self-heating effect.



SDM2U40CSP





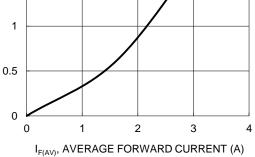
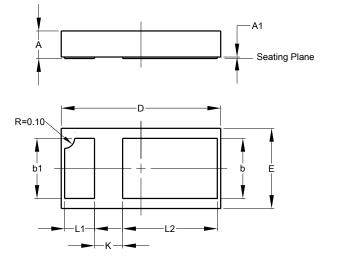


Figure 4. Forward Power Dissipation



Package Outline Dimensions (Note 8)

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



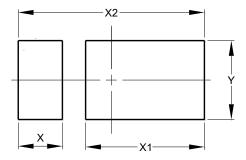
X3-WLB1608-2				
Dim	Dim Min Max Ty		Тур	
Α	0.250	0.300	0.275	
A1	-	0.015	-	
b	-	-	0.600	
b1	-	-	0.600	
D	1.57	1.63	1.60	
Е	0.77	0.83	0.80	
Κ	-	-	0.282	
L1	0.25	0.35	0.30	
L2	0.90	1.00	0.95	
All Dimensions in mm				

Note 8: 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-WLB1608-2



Dimensions	Value (in mm)	
Х	0.385	
X1	1.035	
X2	1.622	
Y	0.690	

X3-WLB1608-2



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