



SDM1L30CSP

1A SCHOTTKY BARRIER DIODE CHIP SCALE PACKAGE

Product Summary

V _{RRM} (V)	I _O (A)	V _{F(MAX)} (V) @ +25°C	I _{R(MAX)} (mA) @ +25°C
30	1.0	0.40	1.0

Features and Benefits

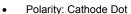
- 2 mm² Footprint 67% smaller than PowerDI123
- Off Board Profile of 0.3mm 70% thinner than PowerDI123
- Low Forward Voltage Drop reduces Power Dissipation
- Soft switching characteristic ensures that EMI and EFI are minimised
- Guard Ring Die Construction for Transient Protection
- Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)
- Halogen and Antimony Free. "Green" Device (Note 3)

Description and Applications

The SDM1L30CSP is a 30-volt 1A Schottky barrier diode that is optimized for low forward voltage and soft switching characteristics to meet the needs of wireless charging applications. It is housed in a compact chip scale package (CSP) that occupies only 2 mm² board-space. It is ideally suited for use in portable applications.

Mechanical Data

- Case: X2-WLB2010-2
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Solderable per MIL-STD-202, Method 208



Weight: 0.15mg





Ordering Information (Note 4)

Part Number	Case	Packaging
SDM1L30CSP-7	X2-WLB2010-2	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



X4 = Product Type Marking Code YM = Date Code Marking Y = Year (ex: B = 2014) M = Month (ex: 9 = September) Dot denotes Cathode Pin

Date Code Key

Year	201	4	2015		2016	20	17	2018		2019	2	2020
Code	В		С		D	E	Ξ	F		G		Н
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	0	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	lo	1.0	Α
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	IFSM	25	А

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance Junction to Ambient (Note 5)	$R_{ heta JA}$	130	°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
Fanyard Valtage Dran	\ /		0.35	0.40	V	I _F = 1.0A, T _J = +25°C
Forward Voltage Drop	V _F	_	0.29	-		I _F = 1.0A, T _J = +85°C
Lookaga Current (Note 6)	I _R	_	0.47	1.0	mA	V _R = 30V, T _J = +25°C
Leakage Current (Note 6)		_	17	-	mA	V _R = 30V, T _J = +85°C
Total Capacitance	Ст	_	150	_	pF	V _R = 5V, f = 1.0 MHz

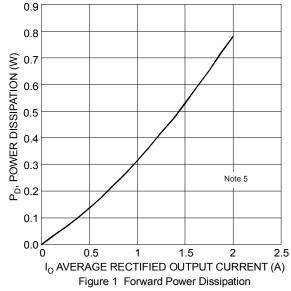
Notes:

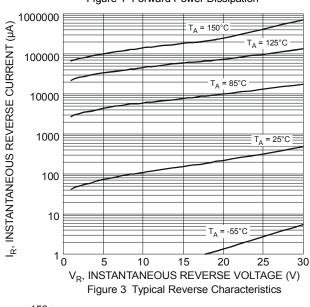
^{5.} Device mounted on FR-4 substrate PC board, with minimum recommended pad layout per http://www.diodes.com/datsheets/ap02001.pdf.

^{6.} Short duration pulse test used to minimize self-heating effect.



Typical Electrical Characteristics





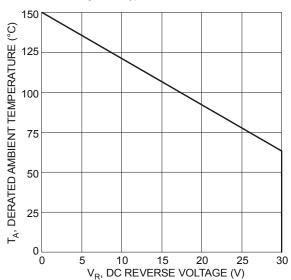
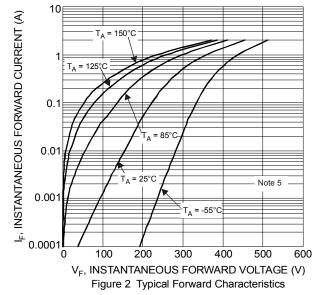


Figure 5 Operating Temperature Derating



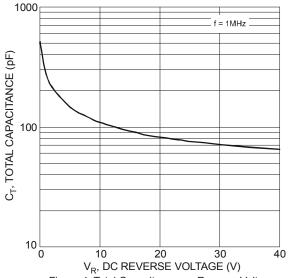
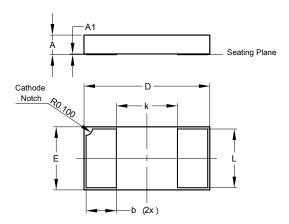


Figure 4 Total Capacitance vs. Reverse Voltage



Package Outline Dimensions

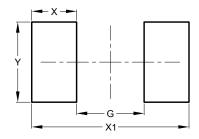
Please see AP02002 at http://www.diodes.com/datasheets/ap02002.pdf for latest version.



X2-WLB2010-2						
Dim	Min	Max	Тур			
Α	_	0.305	0.290			
A1	_	0.02	0.011			
b	_	_	0.48			
D	1.950	2.050	2.000			
Е	0.950	1.050	1.000			
k	_	_	0.972			
L	_	_	0.932			
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)
G	0.872
Х	0.580
X1	2.032
Υ	1.032



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