

## Product Summary

$V_{RRM}$ (V)	$I_o$ (A)	$V_F$ Max (V) @ +25°C	$I_R$ Max (mA) @ +25°C
30	1	0.42	1

## Features

- Low profile package, ideal for thin portable applications
- Low forward voltage drop reduces power dissipation
- Soft switching characteristic ensures that EMI and EFI are minimized
- Guard ring die construction for transient protection
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**
- **Qualified to AEC-Q101 Standards for High Reliability**

## Description

Packaged in the compact DFN5060-4 the SDM1L30BLP is designed with low forward voltage and soft switching characteristics to meet the needs of wireless charging applications.

## Mechanical Data

- Case: V-DFN5060-4
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Finish - Matte Tin Annealed over Copper Leadframe. Solderable per MIL-STD-202, Method 208
- Polarity: See Diagram
- Weight: 0.0715 grams (Approximate)



## Ordering Information (Note 4)

Part Number	Case	Packaging
SDM1L30BLP-13	V-DFN5060-4	3,000/Tape & Reel

- Notes:
1. EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant. All applicable RoHS exemptions applied.
  2. See [http://www.diodes.com/quality/lead\\_free.html](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



SSD3 = Product Type Marking Code  
 YM = Date Code Marking  
 Y = Year (ex: C =2015)  
 M = Month (ex: 9 = September)

### 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<sub>A</sub> = +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 <sub>RRM</sub>	30	V
Working Peak Reverse Voltage	V <sub>RWM</sub>		
DC Blocking Voltage	V <sub>RM</sub>		
Average Rectified Output Current	I <sub>O</sub>	1.0	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load (Per Diode)	I <sub>FSM</sub>	50	A

### Thermal Characteristics

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance Junction to Case (Note 5)	R <sub>θJC</sub>	15	°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150	°C

### Electrical Characteristics (@T<sub>A</sub> = +25°C, unless otherwise specified.)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage Drop (Per Diode)	V <sub>F</sub>	—	0.21	—	V	I <sub>F</sub> = 0.1A, T <sub>J</sub> = +25°C
			0.31	0.42		I <sub>F</sub> = 1.0A, T <sub>J</sub> = +25°C
Leakage Current (Note 6) (Per Diode)	I <sub>R</sub>	—	—	1.0	mA	V <sub>R</sub> = 30V, T <sub>J</sub> = +25°C
Total Capacitance	C <sub>T</sub>	—	90	—	pF	V <sub>R</sub> = 30V, f = 1.0MHz, T <sub>J</sub> = +25°C

Notes: 5. Device mounted on Polyimide PCB with 1x recommended pad layout, with minimum recommended pad layout per <http://www.diodes.com>.  
6. Short duration pulse test used to minimize self-heating effect.

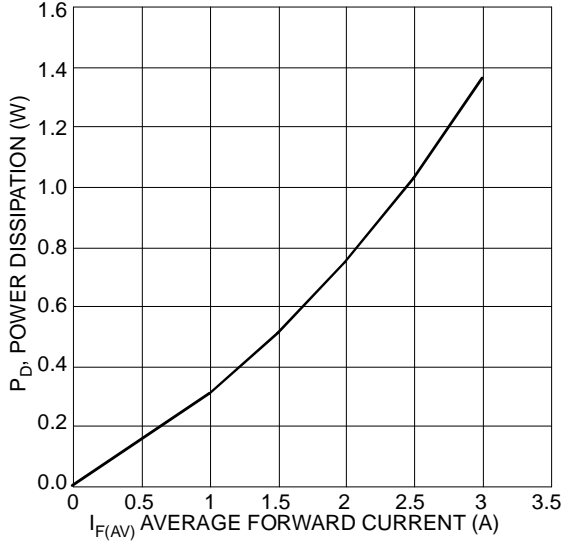


Figure 1 Forward Power Dissipation

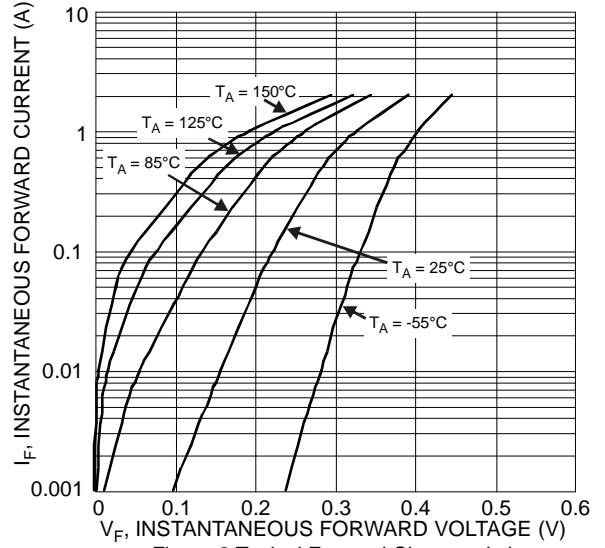


Figure 2 Typical Forward Characteristics

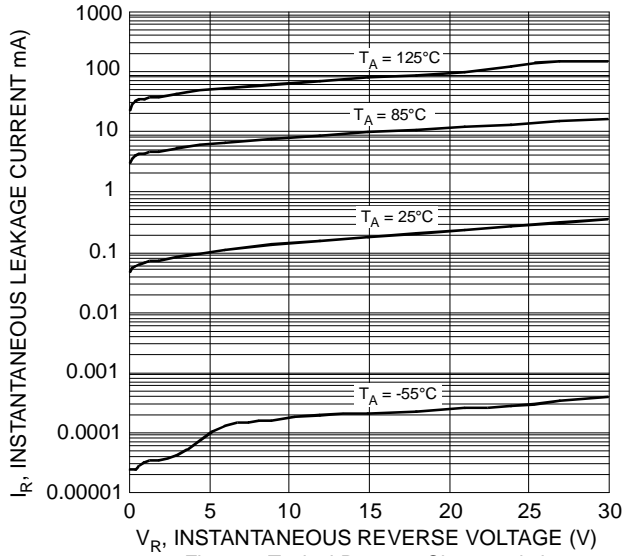


Figure 3 Typical Reverse Characteristics

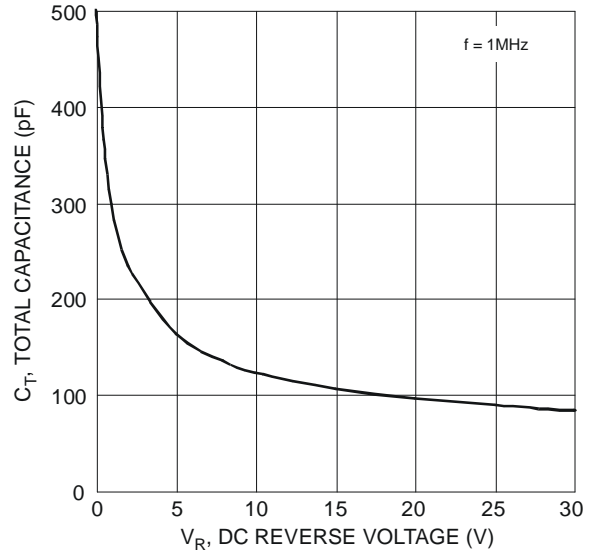


Figure 4 Total Capacitance vs. Reverse Voltage

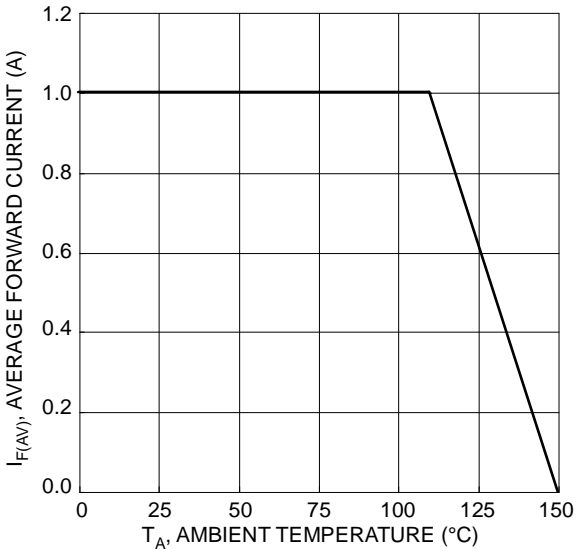
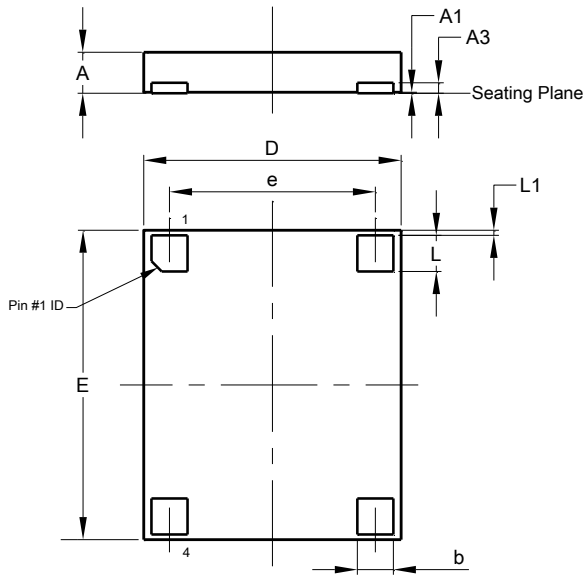


Figure 5 Forward Current Derating Curve

**Package Outline Dimensions**

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

V-DFN5060-4

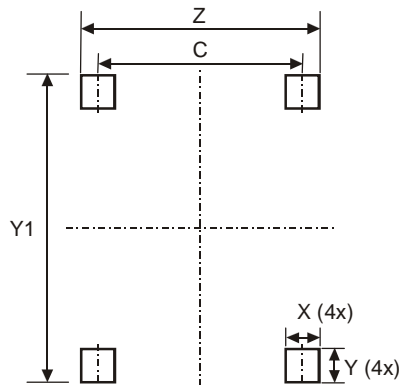


V-DFN5060-4			
Dim	Min	Max	Typ
A	0.75	0.85	0.80
A1	0	0.05	0.02
A3	—	—	0.203
b	0.65	0.75	0.70
D	4.95	5.05	5.00
e	—	—	4.00
E	5.95	6.05	6.00
L	0.65	0.75	0.70
L1	0.05	0.15	0.10
All Dimensions in mm			

**Suggested Pad Layout**

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

V-DFN5060-4



Dimensions	Value (in mm)
C	4.00
X	0.75
Y	0.95
Y1	6.20
Z	4.75

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