

Product Summary

V_{RRM} (V)	I_o (A)	V_F Max (V) @ +25°C	I_R Max (μ A) @ +25°C
100	2	0.83	0.15

Description and Applications

The SDM2100S1F is a single rectifier packaged in SOD123F. Offering low V_F , low power loss and high efficiency, this device is ideal for use in general rectification applications as a:

- Boost Diode
- Blocking Diode

Features and Benefits

- Guard Ring Die Construction for Transient Protection
- Low Power Loss, High Efficiency
- Interlocking Clip Design for High Surge Current Capacity
- Qualified to AEC-Q101 Standards
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- Halogen and Antimony Free. "Green" Device (Note 3)

Mechanical Data

- Case: SOD123F
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Matte Tin Finish Annealed over Copper Leadframe. Solderable per MIL-STD-202, Method 208 (E3)
- Polarity: Cathode Band
- Weight: 0.015 grams (Approximate)

SOD123F



Top View

Ordering Information (Note 4)

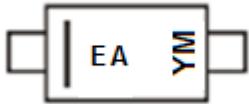
Part Number	Case	Packaging
SDM2100S1F-7	SOD123F	3,000/Tape & Reel

Notes:

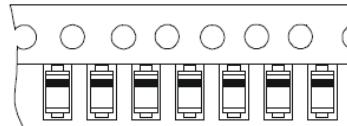
1. EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant. All applicable RoHS exemptions applied.
2. See http://www.diodes.com/quality/lead_free.html for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
3. Halogen- and Antimony-free "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

Cathode Pin



EA = Product Type Marking Code
 YM = Date Code Marking
 Y = Year (ex.: D = 2016)
 M = Month (ex.: 9 = September)
 Bar Denotes Cathode Pin



Bar Denotes Cathode Pin

Date Code Key

Year	2013	2014	2015	2016	2017	2018	2019	2020
Code	A	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 (@ $T_A = +25^\circ\text{C}$, unless otherwise specified.)

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derating current by 20%.

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	V_{RRM}		
Working Peak Reverse Voltage	V_{RWM}	100	V
DC Blocking Voltage	V_{RM}		
Average Rectified Output Current	I_O	2	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I_{FSM}	50	A

Thermal Characteristics

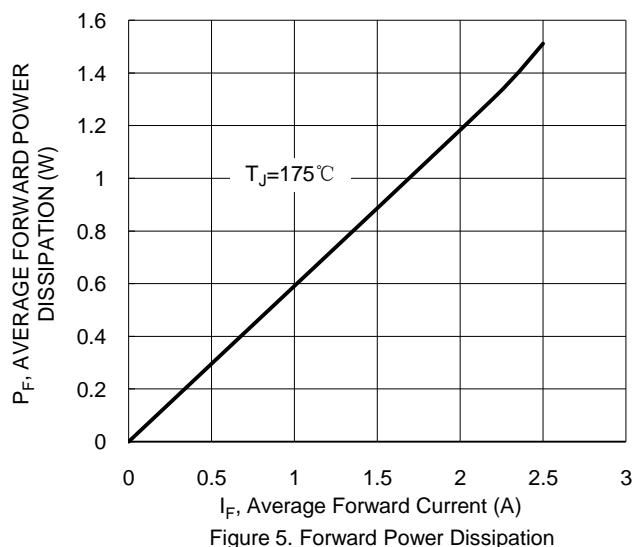
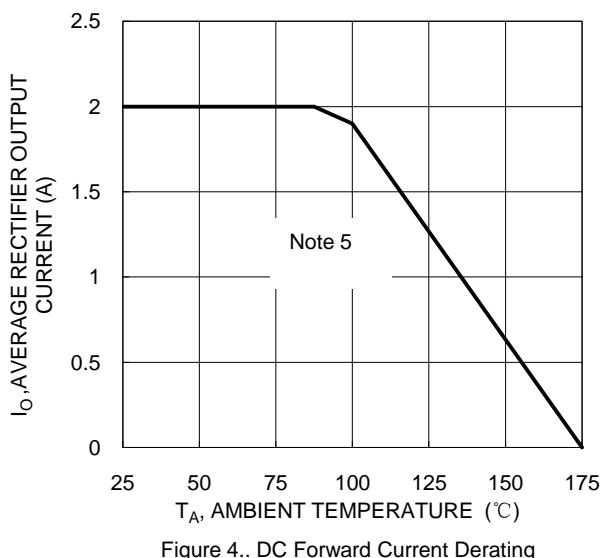
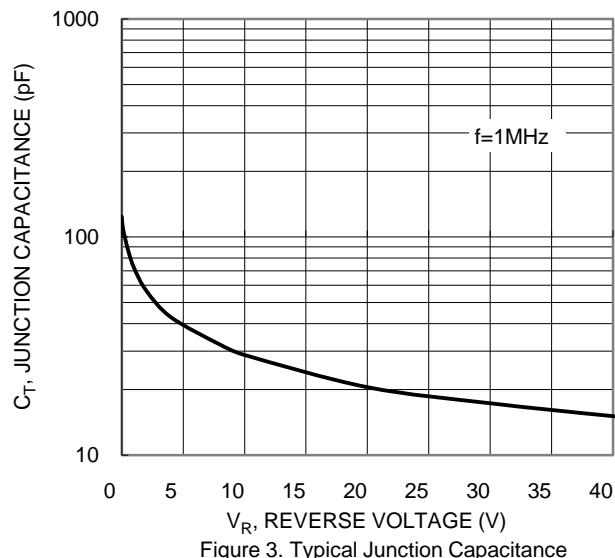
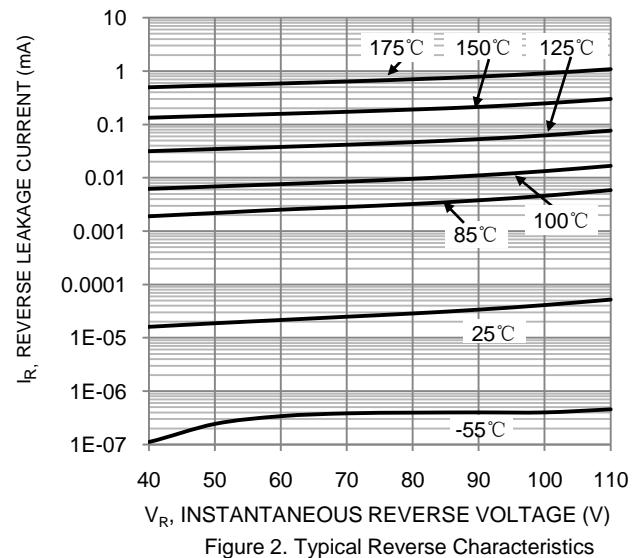
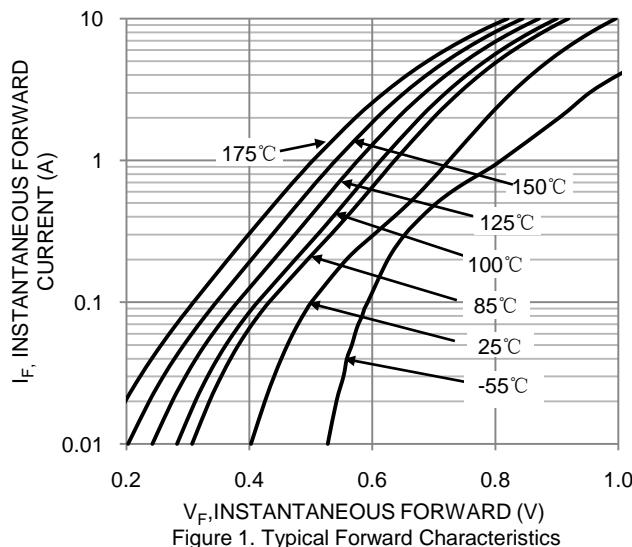
Characteristic	Symbol	Value	Unit
Typical Thermal Resistance Junction to Case (Note 5)	$R_{\theta JC}$	40	$^\circ\text{C}/\text{W}$
Typical Thermal Resistance Junction to Ambient (Note 5)	$R_{\theta JA}$	100	$^\circ\text{C}/\text{W}$
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to +175	$^\circ\text{C}$

Electrical Characteristics (@ $T_A = +25^\circ\text{C}$, unless otherwise specified.)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 6)	V_R	100	—	—	V	$I_R = 1.0\text{mA}$
Forward Voltage Drop	V_F	—	0.78 0.64	0.83 0.74	V	$I_F = 2\text{A}, T_J = +25^\circ\text{C}$ $I_F = 2\text{A}, T_J = +125^\circ\text{C}$
Leakage Current (Note 6)	I_R	—	0.035 70	0.15 500	μA	$V_R = 100\text{V}, T_J = +25^\circ\text{C}$ $V_R = 100\text{V}, T_J = +125^\circ\text{C}$
Total Capacitance	C_T	—	42	—	pF	$V_R = 4\text{V}, f = 1\text{MHz}$

Notes: 5. Device mounted on FR-4 substrate, 0.4" x 0.5", 2oz, single-sided, PC boards with 0.2" x 0.25" copper pad.

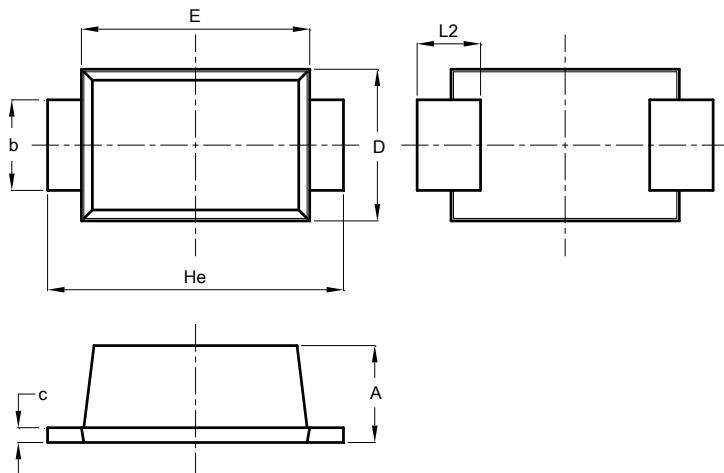
6. Short duration pulse test used to minimize self-heating effect.



Package Outline Dimensions

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

SOD123F



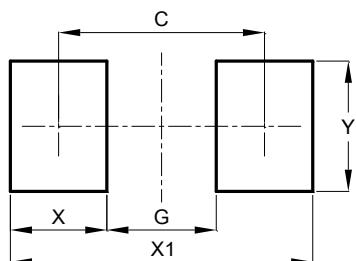
SOD123F			
Dim	Min	Max	Typ
A	0.81	1.15	-
b	0.80	1.35	-
c	0.05	0.30	-
D	1.70	1.90	1.80
E	2.60	2.80	2.70
He	3.30	3.70	3.50
L2	0.35	0.85	-

All Dimensions in mm

Suggested Pad Layout

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

SOD123F



Dimensions	Value (in mm)
C	2.86
G	1.52
X	1.34
X1	4.20
Y	1.80

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