

Product Summary

V _{RRM} (V)	I ₀ (A)	V _{F(MAX)} (V) @+25°C	I _{R(MAX)} (µA) @+25°C
100	1.0	0.82	5

Description and Applications

The device is a single rectifier packaged in SOD123F (Type B). Offering low V_F and excellent high temperature stability this device is ideal for use in general rectification applications as a:

- Boost Diode
- Blocking Diode

Features and Benefits

- Low forward voltage (V_F) minimizes conduction losses and improving efficiency
- Reduced High Temperature Reverse Leakage; Increased Reliability against Thermal Runaway Failure in High Temperature Operation
- Lead-Free Finish; RoHS Compliant (Notes 1 & 2)
- Halogen and Antimony Free. "Green" Device (Note 3)

Mechanical Data

- Case: SOD123F (Type B)
- 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 (Type B)



Top View



Bottom View

Ordering Information (Note 4)

Part Number	Case	Packaging
SDM1100S1F-7	SOD123F (Type B)	3000/Tape & Reel

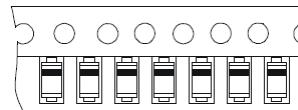
Notes:

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



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



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 capacitance load, derate 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	1	A
Non-Repetitive Peak Forward Surge Current 8.3ms	I_{FSM}		
Single Half Sine-Wave Superimposed on Rated Load		50	A

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance, Junction to Ambient (Note 5)	$R_{\theta JA}$	135	$^\circ\text{C}/\text{W}$
Typical Thermal Resistance, Junction to Case (Note 5)	$R_{\theta JC}$	20	$^\circ\text{C}/\text{W}$
Typical Thermal Resistance, Junction to Ambient (Note 6)	$R_{\theta JA}$	85	$^\circ\text{C}/\text{W}$
Typical Thermal Resistance, Junction to Case (Note 6)	$R_{\theta JC}$	12	$^\circ\text{C}/\text{W}$
Operating Junction Temperature Range	T_J	-55 to +150	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 to +150	$^\circ\text{C}$

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

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 6)	$V_{(BR)R}$	100	—	—	V	$I_R = 1.0\text{mA}$
Forward Voltage Drop	V_F	—	0.75 0.81 0.60	0.82	V	$I_F = 1\text{A}, T_J = +25^\circ\text{C}$ $I_F = 2\text{A}, T_J = +25^\circ\text{C}$ $I_F = 1\text{A}, T_J = +125^\circ\text{C}$
Leakage Current (Note 7)	I_R	—	0.15 0.110	5	μA	$V_R = 100\text{V}, T_J = +25^\circ\text{C}$
Total Capacitance	C_T	—	28	—	pF	$V_R = 100\text{V}, T_J = +125^\circ\text{C}$

- Notes:
5. Device mounted on 1 x MRP FR-4 PC board, 2oz.
 6. Device mounted on 1inch sq. copper pad, 2oz.
 7. Short duration pulse test used to minimize self-heating effect.

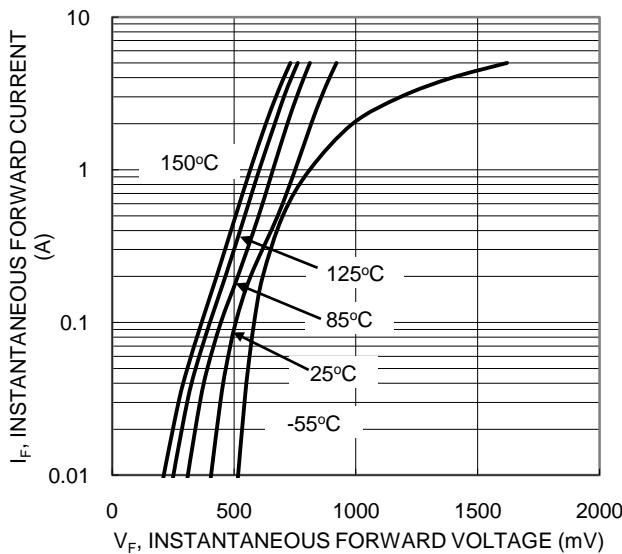


Figure 1. Typical Forward Characteristics

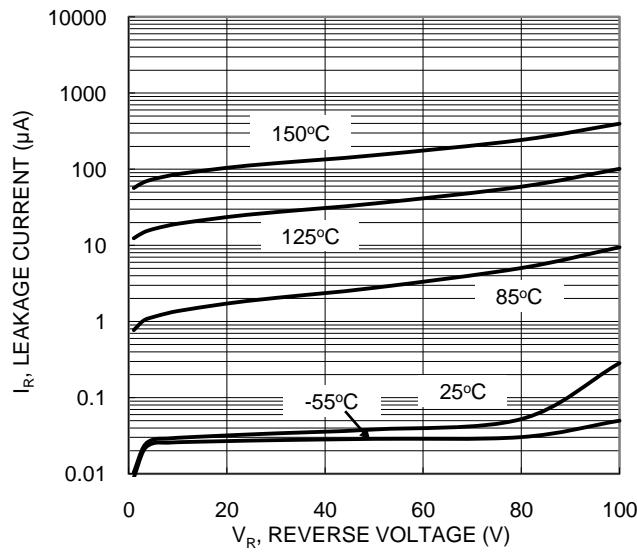


Figure 2. Typical Reverse Characteristics

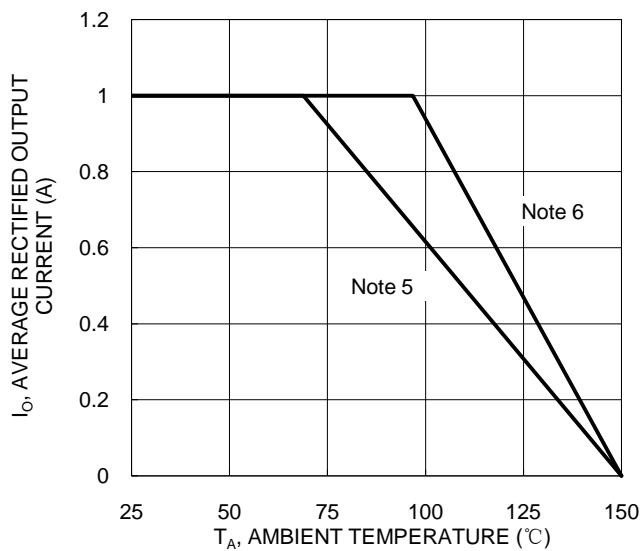


Figure 3. DC Forward Current Derating

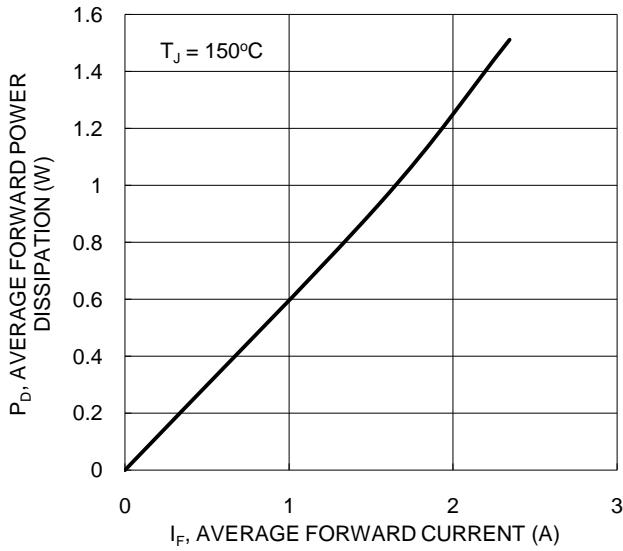


Figure 4. Forward Power Dissipation

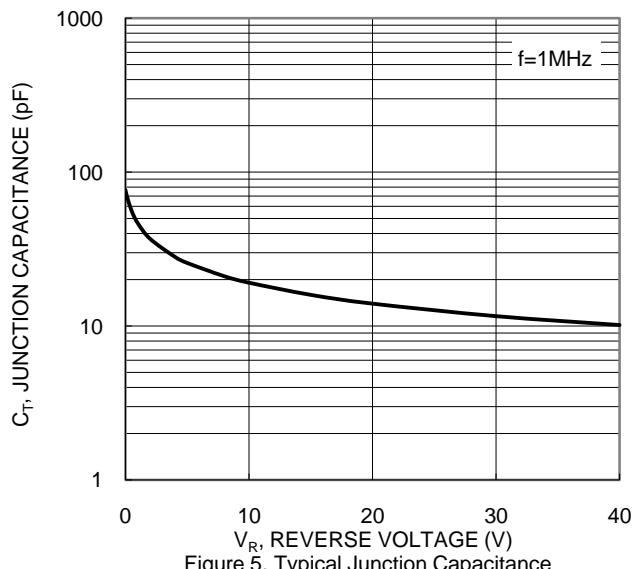
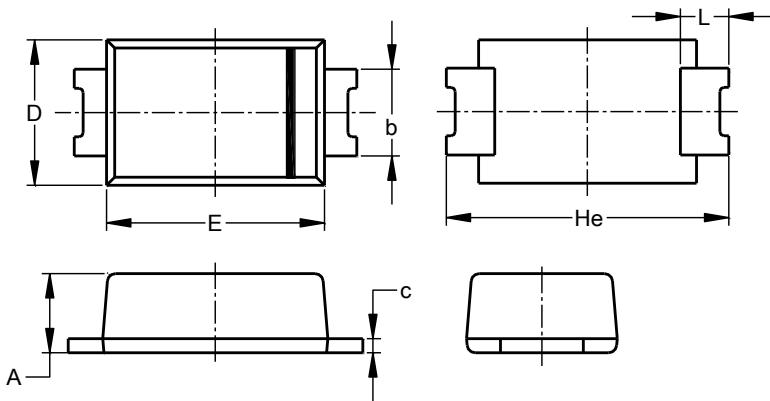


Figure 5. Typical Junction Capacitance

Package Outline Dimensions

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

SOD123F (Type B)



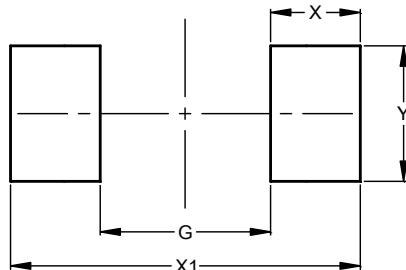
SOD123F (Type B)			
Dim	Min	Max	Typ
A	0.81	1.15	--
b	0.80	1.35	--
c	0.05	0.30	--
D	1.70	1.90	1.80
E	2.60	2.80	2.70
He	3.30	3.70	3.50
L	0.35	0.85	--

All Dimensions in mm

Suggested Pad Layout

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

SOD123F (Type B)



Dimensions	Value (in mm)
G	1.90
X	1.00
X1	3.90
Y	1.50

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