



B160S1F

### Product Summary (@ T<sub>A</sub> = +25°C)

V <sub>RRM</sub> (V)	I <sub>O</sub> (A)	V <sub>F</sub> (MAX) (V)	Ι <sub>R(MAX)</sub> (μ <b>Α</b> )
60	1	0.65	200

# **Description and Applications**

The Schottky rectifier providing low  $V_F$  and excellent reverse leakage stability at high temperatures, this device is ideal for use in general rectification applications such as:

- Boost Diode
- Blocking Diode
- Recirculating Diode

### **1.0A SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER**

## **Features and Benefits**

- Reduced Low Forward Voltage Drop (V<sub>F</sub>); Better Efficiency and Cooler Operation
- 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 (Standard)
- 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 (3)
- Polarity: Cathode Band
- Weight: 0.0015 grams (Approximate)

SOD123F (Standard)



Top View

## Ordering Information (Note 4)

Part Number	Case	Packaging
B160S1F-7	SOD123F (Standard)	3000/Tape & Reel

Notes: 1. EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant. All applicable RoHS exemptions applied.
See http://www.diodes.com/quality/lead\_free/ for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.

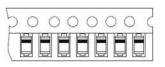
3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

4. For packaging details, go to our website at https://www.diodes.com/design/support/packaging/diodes-packaging/.

# **Marking Information**



B16 = Product Type Marking Code YM = Date Code Marking Y = Year (ex.: F = 2018) M = Month (ex: 9 = September)



Date Code Key

Year		2013	2014	20	015	2016	201	7	2018	2019	)	2020
Code		А	В		С	D	E		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** (@ $T_A = +25^{\circ}C$ , unless otherwise specified.)

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

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V <sub>RRM</sub> V <sub>RWM</sub> V <sub>RM</sub>	60	V
RMS Reverse Voltage	V <sub>R(RMS)</sub>	42	V
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I <sub>FSM</sub>	30	А

### **Thermal Characteristics**

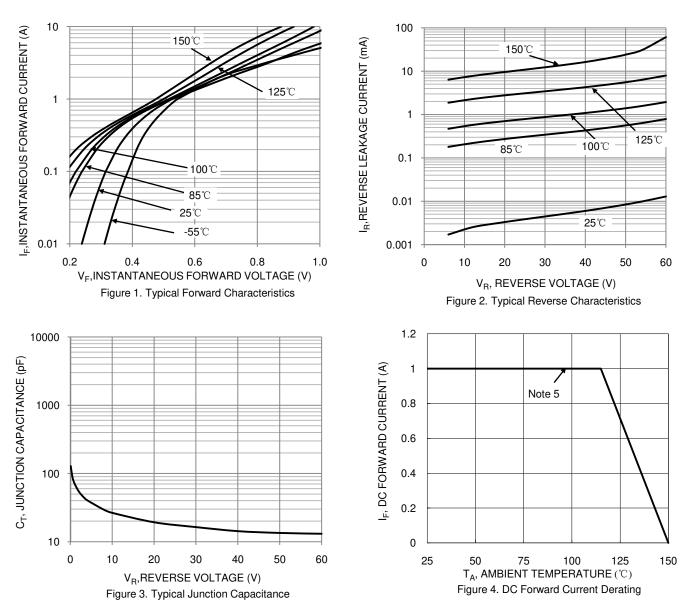
Characteristic	Symbol	Value	Unit
Thermal Resistance Junction to Ambient (Note 5)	R <sub>θJA</sub>	100	°C/W
Typical Thermal Resistance, Junction to Case (Note 5)	R <sub>0JC</sub>	50	°C/W
Operating and Storage Temperature Range	T <sub>J,</sub> T <sub>STG</sub>	-55 to +150	°C

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

Characteristic	Symbol	Min	Тур.	Max	Unit	Test Condition
Forward Voltage Drop	V <sub>F</sub>	—	0.53	0.65	V	$I_F = 1A, T_J = +25^{\circ}C$
Torward Voltage Drop			0.50	—		$I_F = 1A, T_J = +125^{\circ}C$
Lookaga Current (Nata 6)	I <sub>R</sub>	_	0.02	0.2	mA	$V_{R} = 60V, T_{J} = +25^{\circ}C$
Leakage Current (Note 6)			8.2	—		$V_{R} = 60V, T_{J} = +125^{\circ}C$
Typical Capacitance	Ст		45	_	pF	$V_{R} = 4.0V, f = 1MHz$

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. Notes:



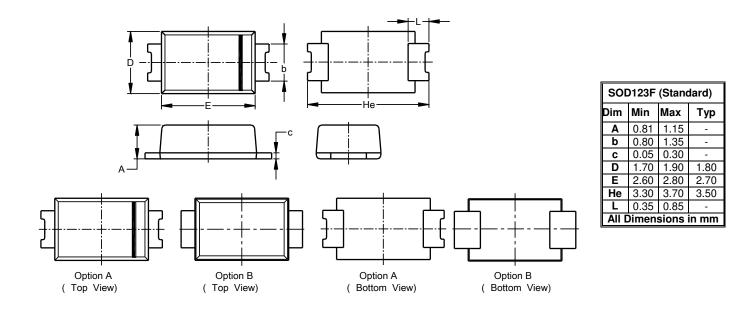




# **Package Outline Dimensions**

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

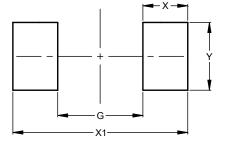
#### SOD123F (Standard)



# **Suggested Pad Layout**

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

#### SOD123F (Standard)



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



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