



1A SCHOTTKY

Product Summary

V _{RRM} (V)	I _O (A)	V _F Max (V) @ +25°C	I _R Max (mA) @ +25°C
60	1	0.53	0.06

Features and Benefits

- Guard Ring Die Construction for Transient Protection
- Low Power Loss, High Efficiency
- Interlocking Clip Design for High Surge Current Capacity
- Lead-Free Finish; RoHS Compliant (Notes 1 & 2)
- Halogen and Antimony Free. "Green" Device (Note 3)
- Qualified to AEC-Q101 Standards for High Reliability
- An Automotive-Compliant Part is Available Under Separate Datasheet (SDM160S1FQ)

Description and Applications

The SDM160S1F 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

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 @3
- Polarity: Cathode Band
- Weight: 0.015 grams (Approximate)

SOD123F



Top View

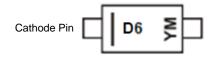
Ordering Information (Note 4)

- 7			
	Part Number	Case	Packaging
	SDM160S1F-7	SOD123F	3.000/Tape & Reel

Notes:

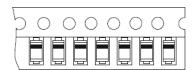
- 1. EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant. All applicable RoHS exemptions applied.
- See http://www.diodes.com/quality/lead_free.html for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
- 3. Halogen- and Antimony-free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



D6 = 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

Г	Year	2013	2014	2015	2016	2017	2018	2019	2020
	Code	Α	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°C, unless otherwise specified.)

Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V _{RRM} V _{RWM} V _{RM}	60	٧
Average Rectified Output Current	lo	1	Α
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I _{FSM}	50	А

Thermal Characteristics

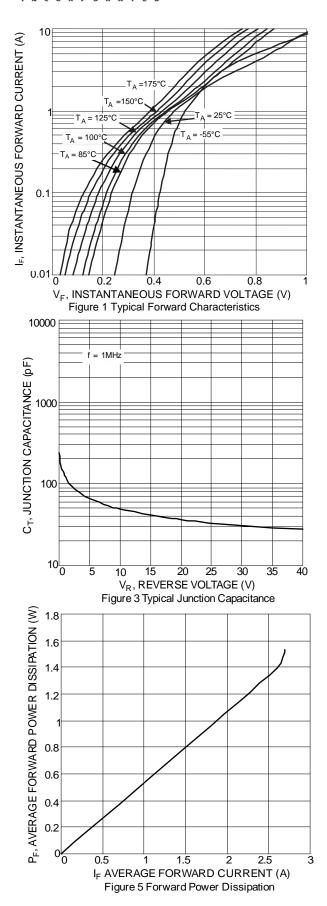
Characteristic	Symbol	Value	Unit
Typical Thermal Resistance Junction to Case (Note 5) Typical Thermal Resistance Junction to Ambient (Note 5) Typical Thermal Resistance Junction to Case (Note 6) Typical Thermal Resistance Junction to Ambient (Note 6) Typical Thermal Resistance Junction to Solder point (Note 6)	Rejc Reja Rejc Reja Rejs	40 110 8 75 18	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-55 to +175	°C

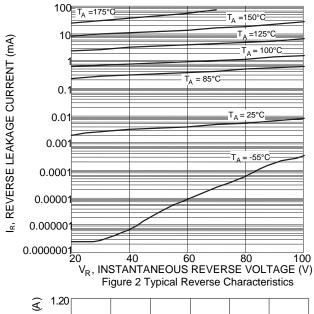
Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

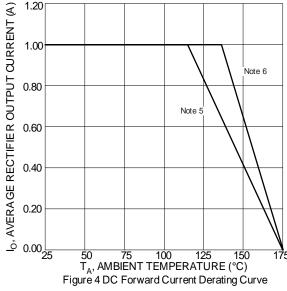
Characteristic	Symbol	Min	Тур	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 7)	$V_{(BR)R}$	60	_	_	V	$I_R = 1.0 \text{mA}$
Forward Voltage Drop	V _F	_ _ _	0.32 0.43 0.46	0.37 0.49 0.53	V	I _F = 0.1A, T _J = +25°C I _F = 0.7A, T _J = +25°C I _F = 1A, T _J = +25°C
Leakage Current (Note 7)	I _R	_ _ _ _	0.002 0.010 0.40 3.7	0.060 — —	mA	$V_R = 10V, T_J = +25^{\circ}C$ $V_R = 60V, T_J = +25^{\circ}C$ $V_R = 60V, T_J = +85^{\circ}C$ $V_R = 60V, T_J = +125^{\circ}C$
Total Capacitance	C _T	_	48	_	pF	V _R = 10V, f = 1MHz

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







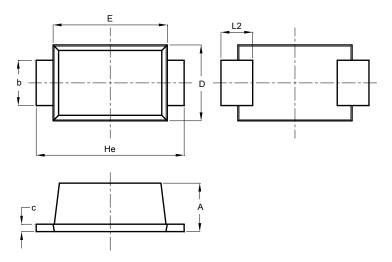




Package Outline Dimensions

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

SOD123F

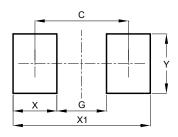


SOD123F							
Dim	Min	Max	Тур				
Α	0.81	1.15	-				
b	0.80	1.35	-				
С	0.05	0.30	-				
D	1.70	1.90	1.80				
Е	2.60	2.80	2.70				
He	3.30	3.70	3.50				
L2	0.35	0.85	-				
All [All Dimensions in mm						

Suggested Pad Layout

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

SOD123F



Dimensions	Value (in mm)
С	2.86
G	1.52
Х	1.34
X1	4.20
Y	1.80



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