

2A TRENCH SCHOTTKY BARRIER RECTIFIER

Product Summary (@ T_A = +25°C)

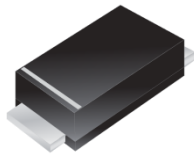
V _{RRM} (V)	I _O (A)	V _F Max (V)	I _R Max (μA)
60	2	0.60	200

Description and Applications

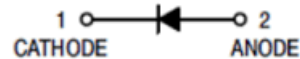
For use in low-voltage, high-frequency inverters, freewheeling, DC-DC converters and polarity applications.

- SMPS
- DC-DC converters
- AC-DC adaptors
- Freewheeling diodes
- Reverse polarity protections
- Blocking diodes

SOD123F



Top View



Schematic View

Features and Benefits

- Low-Leakage Current
- Soft, Fast Switching Capability
- +150°C Operating Junction Temperature
- Lead-Free Finish; RoHS Compliant (Notes 1 & 2)
- Halogen and Antimony Free. "Green" Device (Note 3)
- For automotive applications requiring specific change control (i.e. parts qualified to AEC-Q100/101/104/200, PPAP capable, and manufactured in IATF 16949 certified facilities), please [contact us](mailto:contact@diodes.com) or your local Diodes representative.
<https://www.diodes.com/quality/product-definitions/>

Mechanical Data

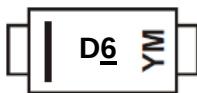
- Package: SOD123F
- Package Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Matte Tin Finish Annealed over Copper Leadframe. Solderable per MIL-STD-202, Method 208 
- Polarity: Cathode Band
- Weight: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

Ordering Information (Note 4)

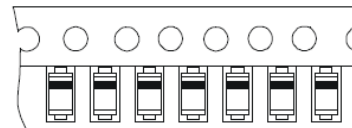
Part Number	Package	Packing	
		Qty.	Carrier
B260S1FX-7	SOD123F	3000	Tape & Reel

- Notes:
1. EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant. All applicable RoHS exemptions applied.
 2. See <https://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



D6 = Product Type Marking Code
YM = Date Code Marking
Y = Year (ex: K = 2023)
M = Month (ex: N = November)



Date Code Key

Year	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Code	K	L	M	N	P	R	S	T	U	V	W	X
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°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	V _{RRM}	60	V
Working Peak Reverse Voltage	V _{RWM}		
DC Blocking Voltage	V _{RM}		
Average Rectified Output Current	I _O	2	A
Non-Repetitive Peak Forward Surge Current 1ms	I _{FSM}	35	A
Single Half Sine-Wave Superimposed on Rated Load			

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance Junction to Ambient (Note 5)	R _{θJA}	115	°C/W
Typical Thermal Resistance Junction to Case (Note 5)	R _{θJC}	40	
Operating and Storage Temperature Range	T _J , T _{STG}	-55 to +150	°C

Note: 5. Device mounted on FR-4 substrate, 0.4" × 0.5", 2oz, single-sided, PC boards with 0.2" × 0.25" copper pad. The heat generated must be less than the thermal conductivity from junction to case: $dP_D/dT_J < 1/R_{\theta JC}$ or junction to ambient: $dP_D/dT_J < 1/R_{\theta JA}$.

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

Characteristic	Symbol	Typ	Max	Unit	Test Condition
Forward Voltage Drop (Note 6)	V _F	0.45 0.4	0.60 0.56	V	I _F = 2A, T _J = +25°C I _F = 2A, T _J = +125°C
Leakage Current (Note 6)	I _R	— —	200 20	μA mA	V _R = 60V, T _J = +25°C V _R = 60V, T _J = +100°C

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

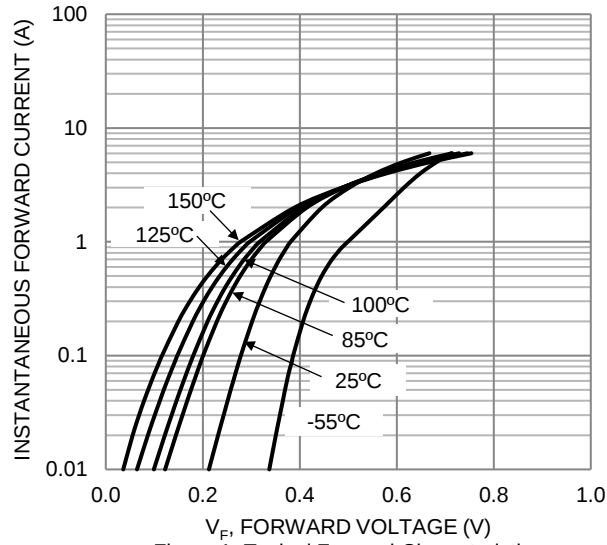


Figure 1. Typical Forward Characteristics

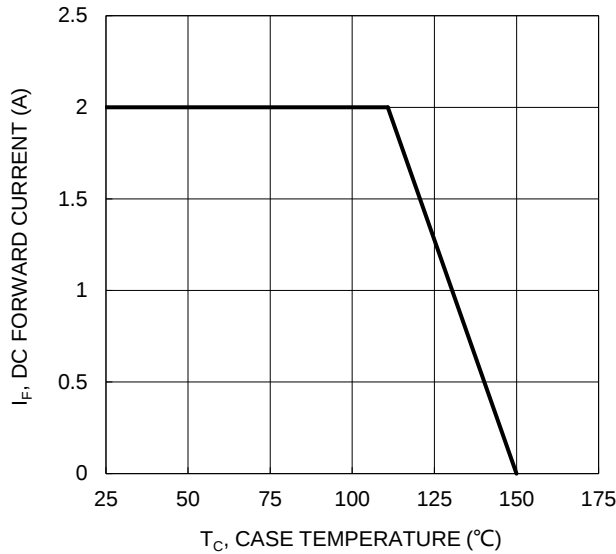


Figure 3. DC Forward Current Derating

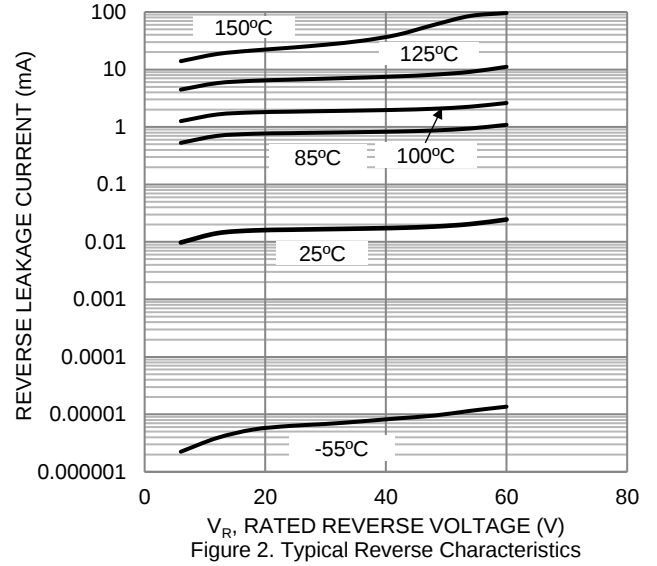


Figure 2. Typical Reverse Characteristics

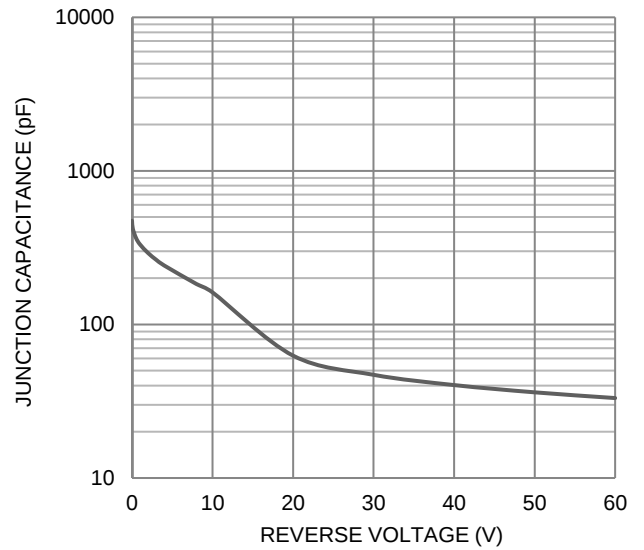
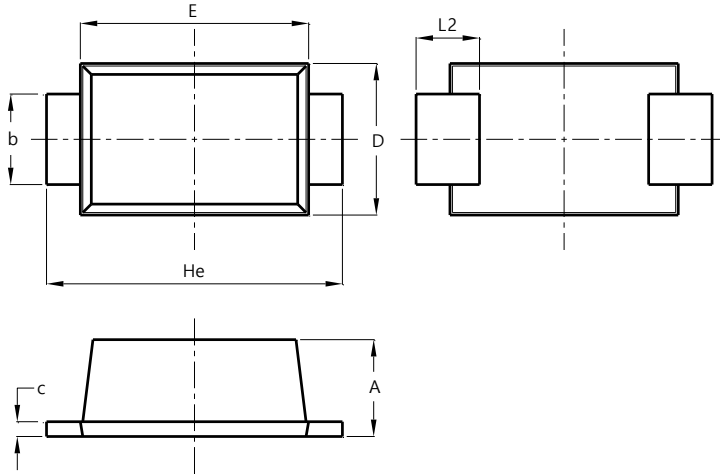


Figure 4. Total Capacitance vs. Reverse Voltage

Package Outline Dimensions

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

SOD123F

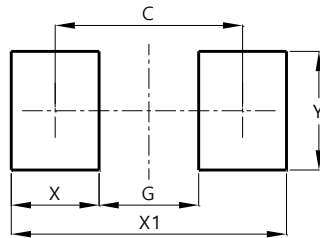


SOD123F			
Dim	Min	Max	Typ
A	0.81	1.15	—
b	0.80	1.05	—
c	0.05	0.30	—
D	1.70	1.90	1.80
E	2.60	2.80	2.70
He	3.30	3.70	3.50
L2	0.35	0.85	—
All Dimensions in mm			

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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