

Product Summary (@T_A = +25°C)

V _{RRM} (V)	I _O (A)	V _F Max (V)	I _R Max (µA)
20	2	0.525	200

Description

The SDM2U20SD3 is a 2A, 20V Schottky rectifier packaged in a small SOD323 package.

Applications

Providing low V_F and low reverse leakage, this device is ideal for use in general rectification applications such as:

- Low voltage rectification
- High-efficiency DC-DC conversions
- Switch mode power supplies
- Inverse polarity protections

Features and Benefits

- Low Forward Voltage Drop (V_F).
- Better Efficiency and Cooler Operation
- Reduced High-Temperature Reverse Leakage
- **Totally Lead-Free & Fully 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](#) or your local Diodes representative. <https://www.diodes.com/quality/product-definitions/>**

Mechanical Data

- Package: SOD323
- Package Material: Molded Plastic.
UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Matte Tin Finish Annealed over Alloy 42 Leadframe.
Solderable per MIL-STD-202, Method 208 (E3)
- Polarity: Cathode Band
- Weight: 0.006 grams (Approximate)

SOD323



Top View

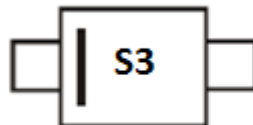
Ordering Information (Note 4)

Part Number	Package	Packing	
		Qty.	Carrier
SDM2U20SD3-7	SOD323	3,000	Tape & Reel

- Notes:
1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant.
 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

SOD323



S3 = Product Type Marking Code
Cathode Band Denotes Polarity

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 _R RM	20	V
Working Peak Reverse Voltage	V _R WM		
DC Blocking Voltage	V _R M		
Average Rectified Output Current	I _O	2	A
Repetitive Peak Forward Current, t _p = 1ms Square Wave with 25% Duty Cycle	I _F RM	6	A
Non-Repetitive Peak Forward Surge Current, 8.3ms Single Half Sine Wave Superimposed on Rated Load	I _F SM	20	A

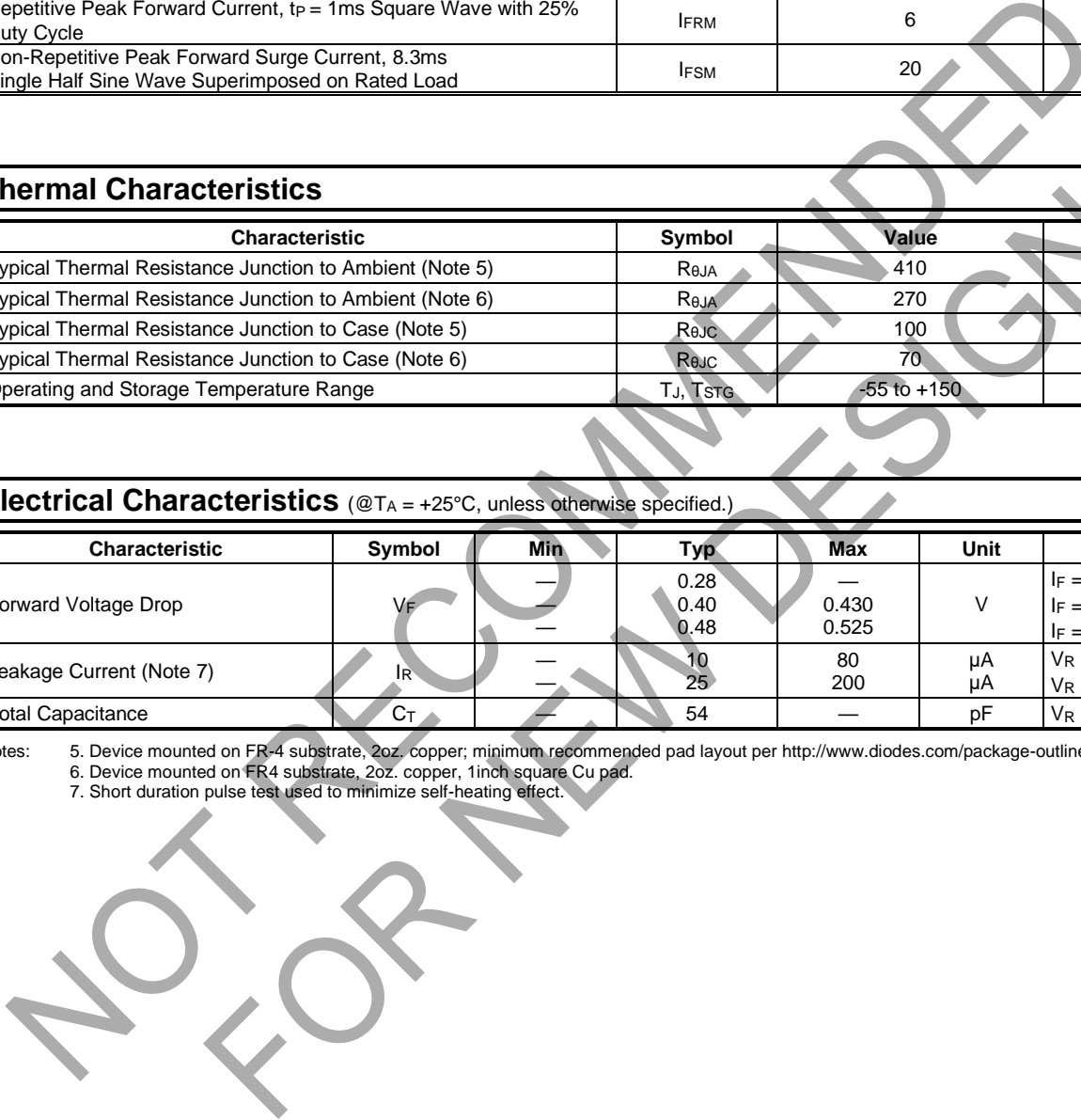
Thermal Characteristics

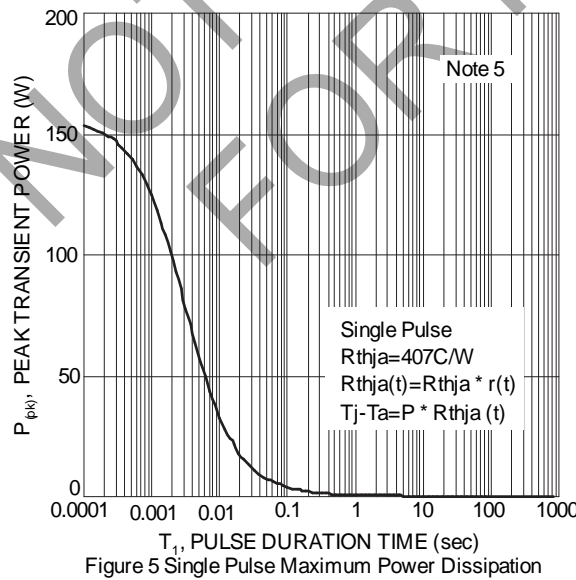
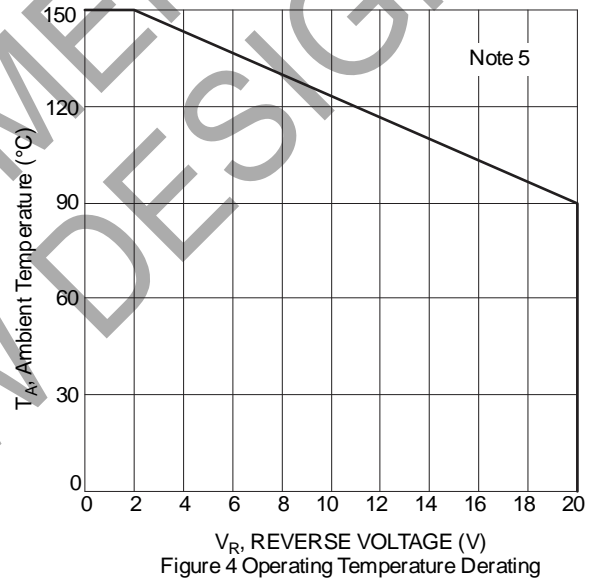
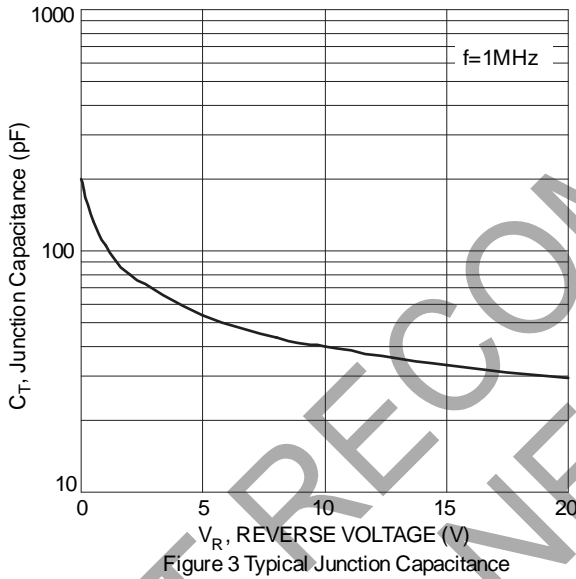
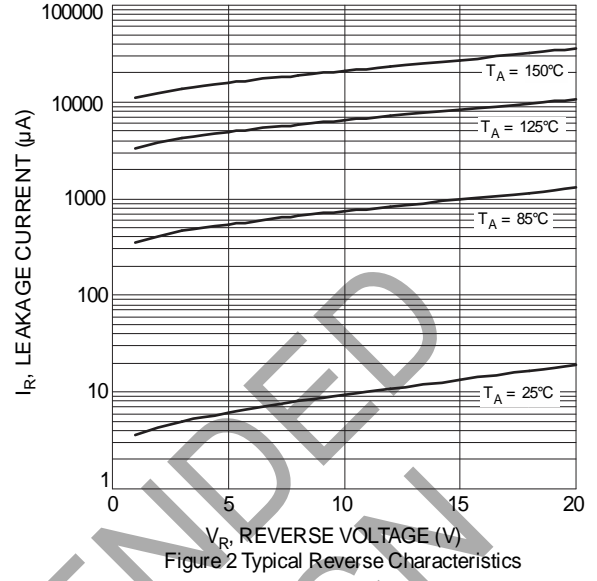
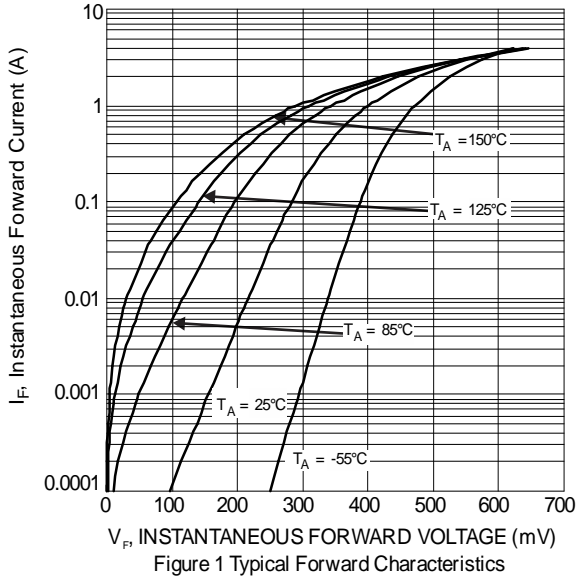
Characteristic	Symbol	Value	Unit
Typical Thermal Resistance Junction to Ambient (Note 5)	R _θ JA	410	°C/W
Typical Thermal Resistance Junction to Ambient (Note 6)	R _θ JA	270	°C/W
Typical Thermal Resistance Junction to Case (Note 5)	R _θ JC	100	°C/W
Typical Thermal Resistance Junction to Case (Note 6)	R _θ JC	70	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-55 to +150	°C

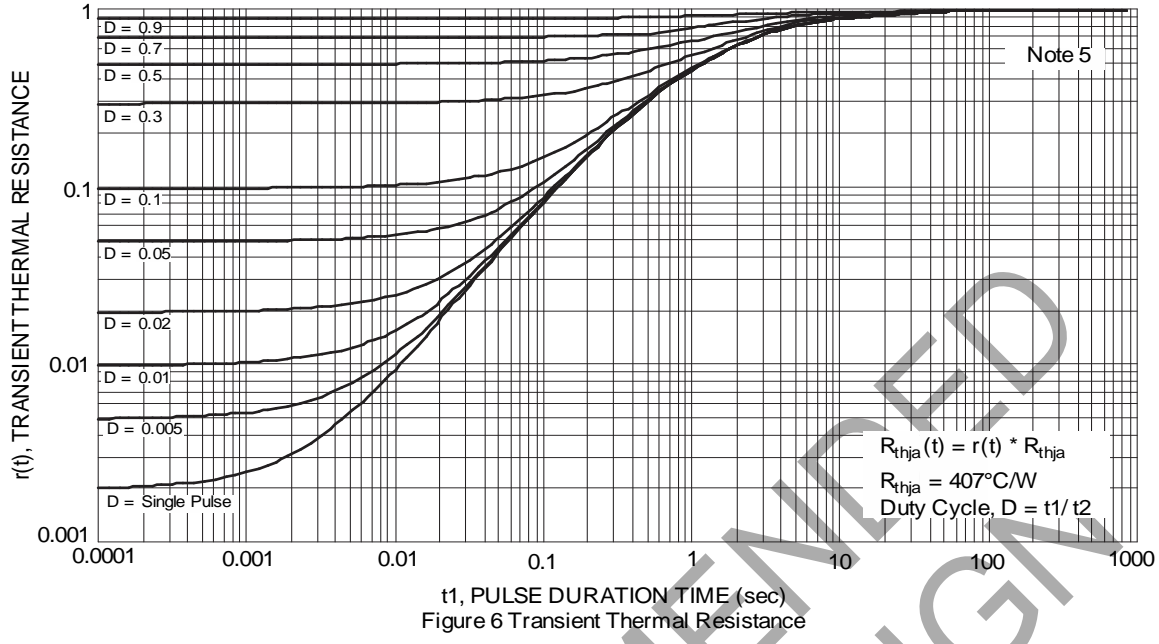
Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage Drop	V _F	—	0.28	—	V	I _F = 0.1A, T _J = +25°C
		—	0.40	0.430		I _F = 1A, T _J = +25°C
		—	0.48	0.525		I _F = 2A, T _J = +25°C
Leakage Current (Note 7)	I _R	—	10	80	μA	V _R = 10V, T _J = +25°C
		—	25	200		V _R = 20V, T _J = +25°C
Total Capacitance	C _T	—	54	—	pF	V _R = 5V, f = 1 MHz

- Notes:
- 5. Device mounted on FR-4 substrate, 2oz. copper; minimum recommended pad layout per <http://www.diodes.com/package-outlines.html>.
 - 6. Device mounted on FR4 substrate, 2oz. copper, 1inch square Cu pad.
 - 7. Short duration pulse test used to minimize self-heating effect.





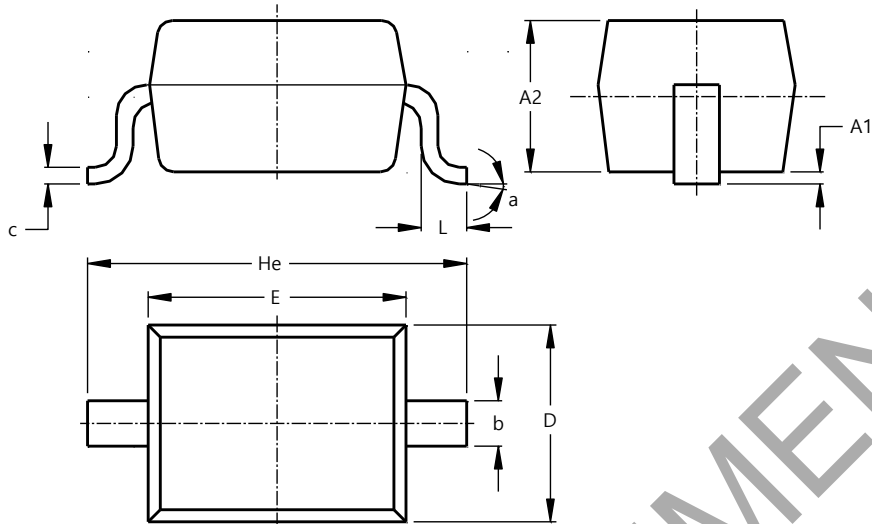


NOT RECOMMENDED FOR NEW DESIGN

Package Outline Dimensions

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

SOD323

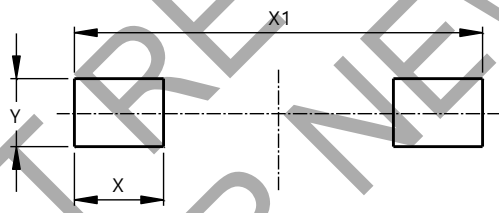


SOD323			
Dim	Min	Max	Typ
A1	--	0.10	0.05
A2	1.00	1.10	1.05
b	0.25	0.35	0.30
c	0.10	0.15	0.11
D	1.20	1.40	1.30
E	1.60	1.80	1.70
He	2.30	2.70	2.50
L	0.20	0.40	0.30
a	0°	8°	--
All Dimensions in mm			

Suggested Pad Layout

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

SOD323



Dimensions	Value (in mm)
X	0.590
X1	2.700
Y	0.450

NOT RECOMMENDED FOR NEW DESIGN

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