

Product Summary

V_{RRM} (V)	I_o (A)	$V_{F(MAX)}$ (V) @ +25°C	$I_{R(MAX)}$ (μA) @ +25°C
100	1	0.77	0.35

Features and Benefits

- Guard Ring Die Construction Transient Protection
- Low Power Loss. High Efficiency
- Reduced ultra-low forward voltage drop (V_F); Better efficiency and cooler operation.
- Reduced high-temperature reverse leakage and increased reliability against thermal runaway failure in high-temperature operation.
- **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 refer to the related automotive grade (Q-suffix) part. A listing can be found at <https://www.diodes.com/products/automotive/automotive-products/>.**
- **This part is qualified to JEDEC standards (as references in AEC-Q) for High Reliability. <https://www.diodes.com/quality/product-definitions/>**

Description and Applications

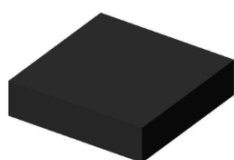
The Schottky Barrier Rectifier is designed with low V_F and low reverse leakage in the low profile U-DFN2020-2 (Type B) package. It is ideal for use as a rectifier, freewheel diode, or blocking diode in applications such as:

- Blocking diodes
- Boost diodes
- Recirculating diodes

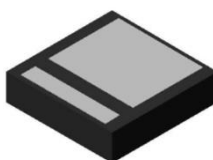
Mechanical Data

- Package: U-DFN2020-2
- Package Material: Molded Plastic, "Green" Molding Compound; UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Finish - NiPdAu over Copper Leadframe. Solderable per MIL-STD-202, Method 208 (e4)
- Polarity: See Below
- Weight: 6.757mg (Approximate)

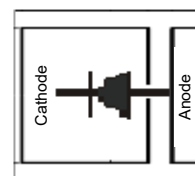
U-DFN2020-2 (Type B)



Top View



Bottom View



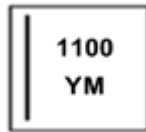
Top View
Internal Schematic

Ordering Information (Note 4)

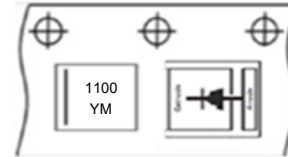
Orderable Part Number	Package	Packing	
		Qty.	Carrier
SDM1100LP-7	U-DFN2020-2 (Type B)	3,000	Tape & Reel

- 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



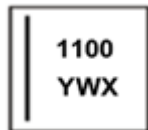
1100 = Product Type Marking Code
YM = Date Code Marking
Y = Year (ex: M = 2025)
M = Month (ex: 8 = August)
Bar = Cathode



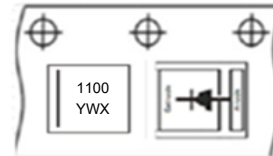
Date Code Key

Year	2016	-	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Code	D	-	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



1100 = Product Type Marking Code
YWX = Date Code Marking
Y = 0 to 9 (ex: 5 = 2025)
W = Week Code (ex: a = Week 27; z Represents Weeks 52 and 53)
X = Internal Code (ex: U = Monday)
Bar = Cathode



Date Code Key

Year	2016	-	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Code	6	-	5	6	7	8	9	0	1	2	3	4

Week	1-26	27-52	53
Code	A-Z	a-z	z

Internal Code	Sun	Mon	Tue	Wed	Thu	Fri	Sat
Code	T	U	V	W	X	Y	Z

Maximum Ratings (@ $T_A = +25^\circ\text{C}$, 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}	100	V
Working Peak Reverse Voltage	V_{RWM}		
DC Blocking Voltage	V_{RM}		
Average Rectified Output Current	I_O	1	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine Wave Superimposed on Rated Load	I_{FSM}	40	A

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance Junction to Case (Note 5)	$R_{\theta JC}$	16	$^\circ\text{C/W}$
Typical Thermal Resistance Junction to Ambient (Note 5)	$R_{\theta JA}$	65	$^\circ\text{C/W}$
Operating Temperature Range	T_J	-55 to +175	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 to +175	$^\circ\text{C}$

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

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage	$V_{(BR)R}$	100	—	—	V	$I_R = 1\text{mA}$
Forward Voltage (Note 6)	V_F	—	—	0.77	V	$I_F = 1\text{A}$, $T_J = +25^\circ\text{C}$
		—	0.58	0.62		$I_F = 1\text{A}$, $T_J = +125^\circ\text{C}$
		—	—	0.86		$I_F = 2\text{A}$, $T_J = +25^\circ\text{C}$
		—	0.65	0.70		$I_F = 2\text{A}$, $T_J = +125^\circ\text{C}$
		—	—	—		—
Leakage Current (Note 6)	I_R	—	—	0.1	μA	$V_R = 50\text{V}$, $T_J = +25^\circ\text{C}$
		—	—	0.015	mA	$V_R = 50\text{V}$, $T_J = +85^\circ\text{C}$
		—	—	0.35	μA	$V_R = 100\text{V}$, $T_J = +25^\circ\text{C}$
		—	—	0.35	mA	$V_R = 100\text{V}$, $T_J = +125^\circ\text{C}$
Total Capacitance	C_T	—	40	—	pF	$V_R = 5\text{V}$, $f = 1\text{MHz}$

Notes: 5. Device mounted on 1inch sq. copper pad, 2oz.
6. Short duration pulse test used to minimize self-heating effect.

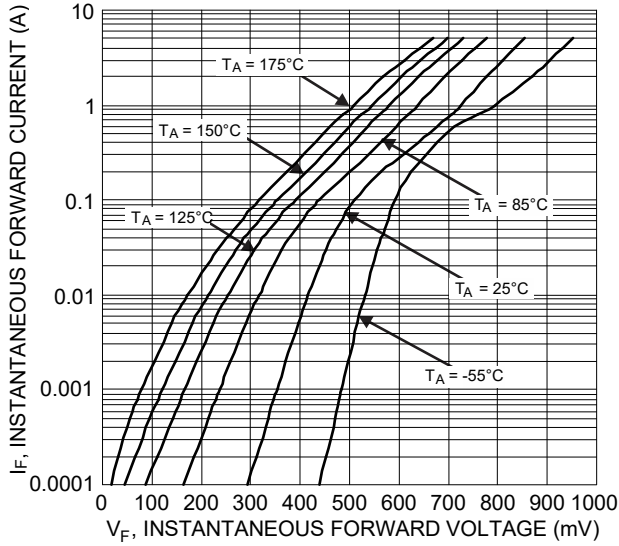


Figure 1 Typical Forward Characteristics

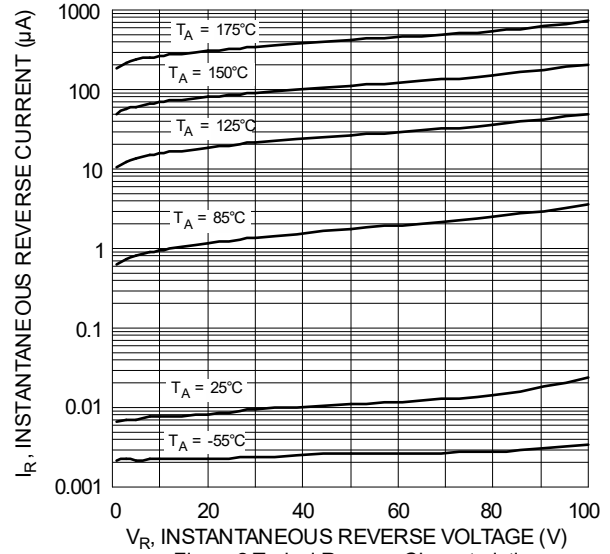


Figure 2 Typical Reverse Characteristics

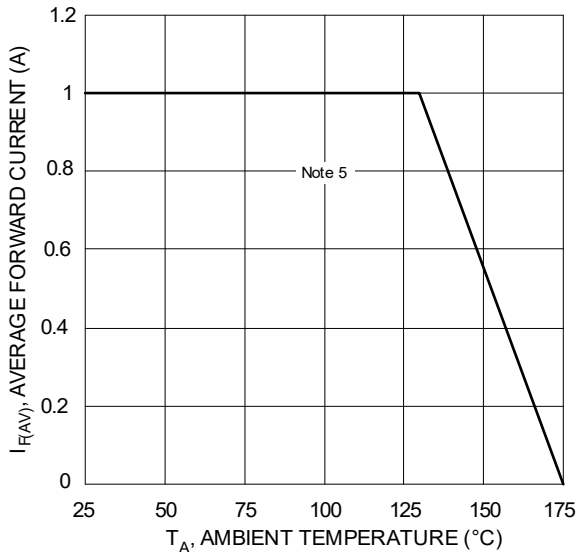


Figure 3 DC Forward Current Derating Curve

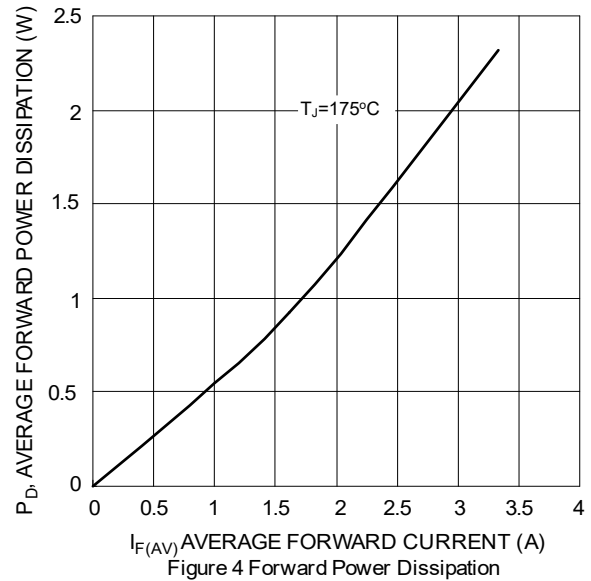


Figure 4 Forward Power Dissipation

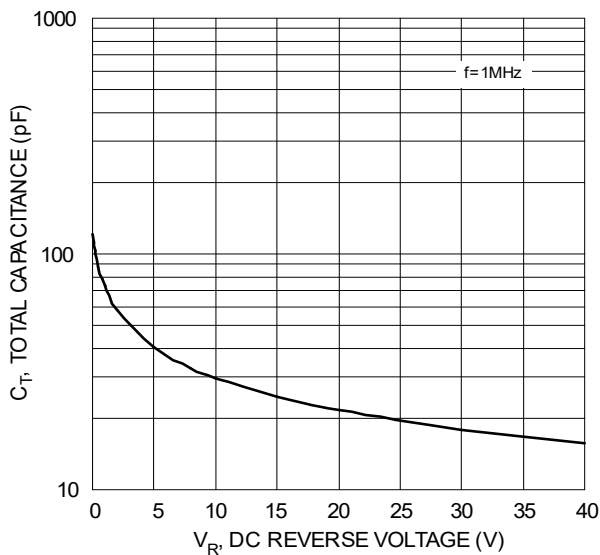
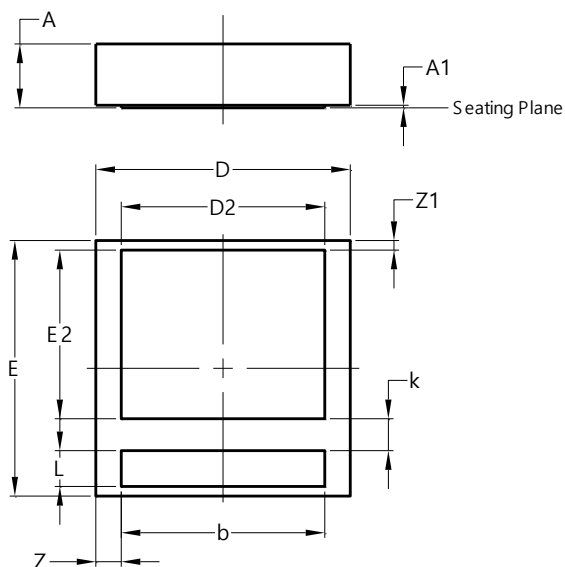


Figure 5 Total Capacitance vs. Reverse Voltage

Package Outline Dimensions

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

U-DFN2020-2 (Type B)

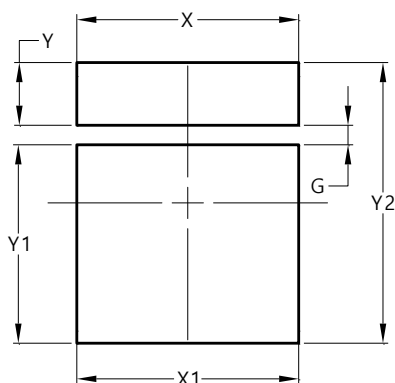


U-DFN2020-2 (Type B)			
Dim	Min	Max	Typ
A	0.47	0.53	0.50
A1	0.00	0.05	0.02
b	1.55	1.65	1.60
D	1.95	2.05	2.00
D2	1.50	1.70	1.60
E	1.95	2.05	2.00
E2	1.22	1.42	1.32
k	0.25 BSC		
L	0.23	0.33	0.28
Z	0.20 BSC		
Z1	0.075 BSC		
All Dimensions in mm			

Suggested Pad Layout

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

U-DFN2020-2 (Type B)



Dimensions	Value (in mm)
G	0.150
X	1.700
X1	1.700
Y	0.480
Y1	1.520
Y2	2.150

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