1.0A SURFACE MOUNT SCHOTTKY

Product Summary

V_{RRM} (V)	I_O (A)	$V_{F\ (MAX)}$ (V) @ +25°C	$I_{R\ (MAX)}$ (mA) @ +25°C
40	1	0.66	0.02

Features and Benefits

- Reduced ultra-low forward voltage drop (V_F). Better efficiency and cooler operation.
- Reduced high temperature reverse leakage. 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)**

Description and Applications

Packaged in the robust industry-standard U-DFN1608-2 package, the SDM1M40LP8 provides very low V_F and excellent reverse-leakage stability at high temperatures. It is ideal for use as a rectifier, freewheel diode or blocking diode in:

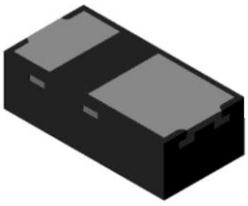
- DC-DC Converters
- AC-DC Adaptors

Mechanical Data

- Case: U-DFN1608-2
- 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. Solderable per MIL-STD-202, Method 208 e3
- Weight: 0.002 grams (Approximate)

U-DFN1608-2

Top View



Cathode Side

Bottom View

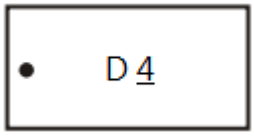
Ordering Information (Note 4)

Part Number	Case	Packaging
SDM1M40LP8-7	U-DFN1608-2	10,000/Tape & Reel

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

U-DFN1608-2



D4 = Product Type Marking Code

Dot Denotes Cathode Side

Maximum Ratings (@T_A = +25°C, unless otherwise specified.)

Single phase, half wave, 60Hz, resistive or inductive load.
For capacitance 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}	40	V
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}	8	A
Repetitive Peak Forward Current (tp = 1ms, duty cycle = 25%)	I_{FRM}	5	A

Thermal Characteristics (Per Leg)

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance, Junction to Case (Note 5)	$R_{\theta JA}$	130	°C/W
Operating and Storage Temperature Range	T_J, T_{STG}	-65 to +150	°C

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

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage Drop (Note 6)	V_F	— — — —	0.49 0.42 0.59 0.55	0.56 — 0.66 —	V	I_F = 0.5A, T_J = +25°C I_F = 0.5A, T_J = +125°C I_F = 1A, T_J = +25°C I_F = 1A, T_J = +125°C
Leakage Current (Note 6)	I_R	— — —	0.0006 0.002 0.80	0.004 0.02 —	mA	V_R = 10V, T_J = +25°C V_R = 40V, T_J = +25°C V_R = 40V, T_J = +125°C
Reverse Recovery Time	trr	—	8.4	—	ns	IF = 10mA, Irrm = 0.1Ir,Ta = +25°C
Total Capacitance	C_T	—	25	—	pF	VR = 5V, f = 1MHz

Notes: 5. Test with FR-4 PC board 1-inch sq. copper pad, 2oz.
6. Short duration pulse test used to minimize self-heating effect.

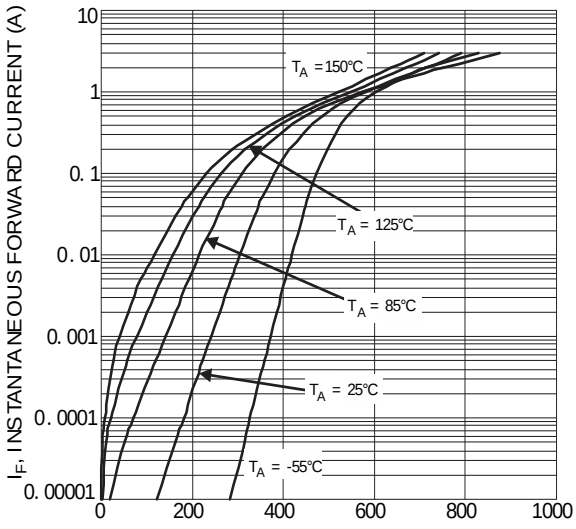


Figure 1 Typical Forward Characteristics

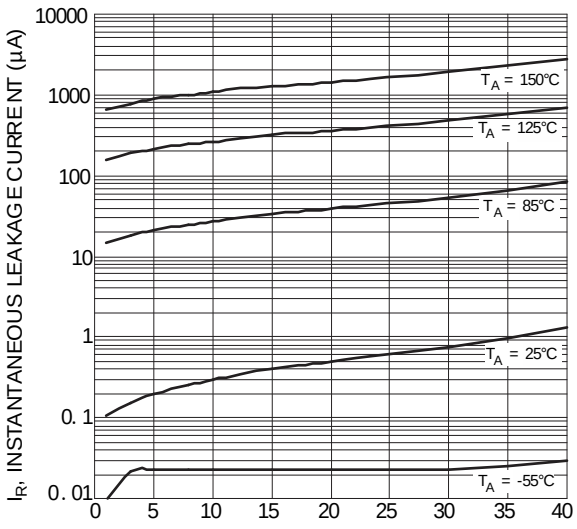


Figure 2 Typical Reverse Characteristics

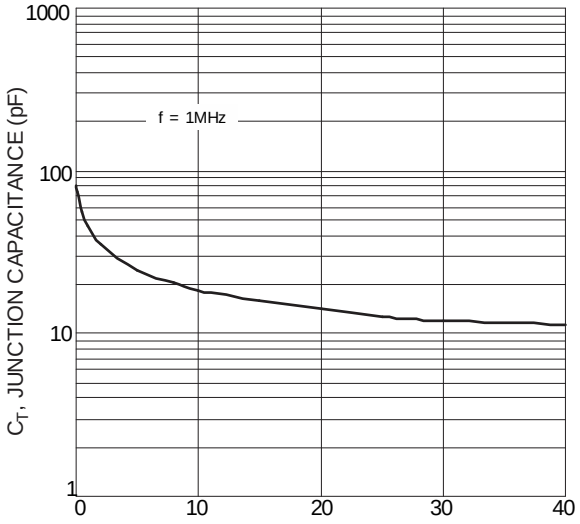


Figure 3 Typical Junction Capacitance

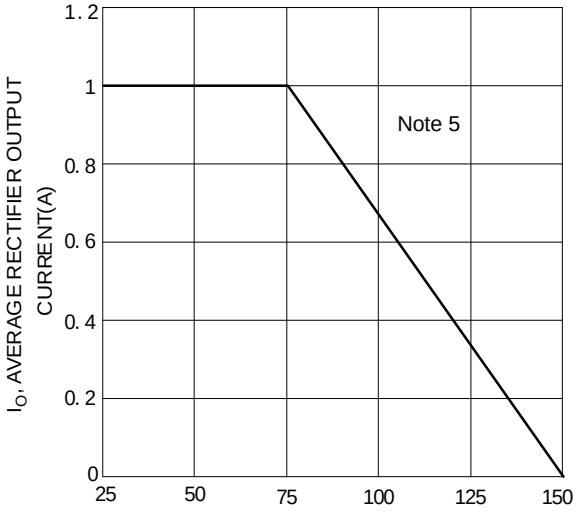
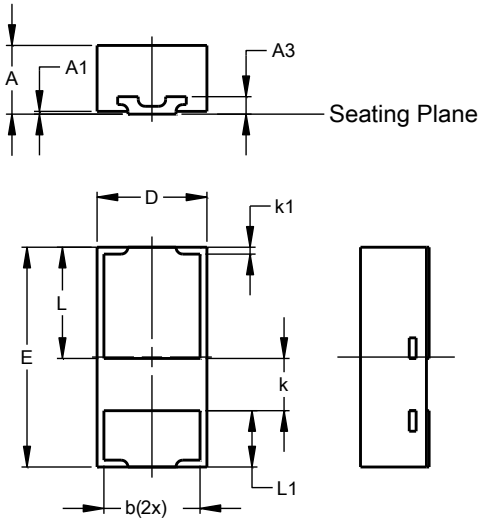


Figure 4 DC Forward Current Derating Curve

Package Outline Dimensions

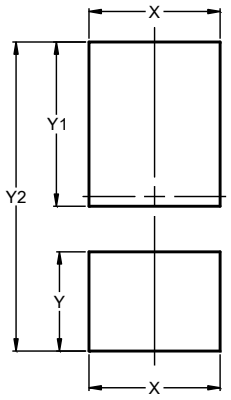
Please see AP02002 at http://www.diodes.com/datasheets/ap02002.pdf for the latest version.



U-DFN1608-2			
Dim	**Min**	**Max**	**Typ**
A	0.47	0.53	0.50
A1	0.00	0.05	0.02
A3	-	-	0.127
b	0.65	0.75	0.70
D	0.75	0.85	0.80
E	1.55	1.65	1.60
k	0.38 BSC		
k1	0.05 BSC		
L	0.76	0.86	0.81
L1	0.36	0.46	0.41
All Dimensions in mm			

Suggested Pad Layout

Please see AP02001 at http://www.diodes.com/datasheets/ap02001.pdf for the latest version.



Dimensions	Value (in mm)
X	0.800
Y	0.610
Y1	1.010
Y2	1.900

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