



**THE DATASHEET OF
SDM20N40A-7**

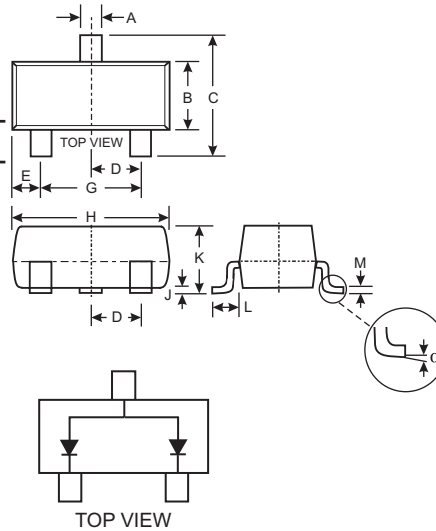


Features

- Low Forward Voltage Drop
- Common Anode Configuration
- **Lead Free By Design/RoHS Compliant (Note 3)**
- **"Green" Device (Note 4)**

Mechanical Data

- Case: SOT-23
- Case Material: Molded Plastic. "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture sensitivity: Level 1 per J-STD-020C
- Terminal Connections: See Diagram
- Terminals: Finish - Matte Tin annealed over Alloy 42 leadframe. Solderable per MIL-STD-202, Method 208
- Marking & Type Code Information: See Last Page
- Ordering Information: See Last Page
- Weight: 0.008 grams (approx.)



SOT-23		
Dim	Min	Max
A	0.37	0.51
B	1.20	1.40
C	2.30	2.50
D	0.89	1.03
E	0.45	0.60
G	1.78	2.05
H	2.80	3.00
J	0.013	0.10
K	0.903	1.10
L	0.45	0.61
M	0.085	0.180
α	0°	8°
All Dimensions in mm		

Maximum Ratings @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	40	V
RMS Reverse Voltage	$V_{R(RMS)}$	28	V
Forward Continuous Current, Per Element	I_{FM}	200	mA
Non-Repetitive Peak Forward Surge Current @ $t = 8.3\text{ms}$	I_{FSM}	1	A
Junction Temperature Range	T_J	-65 to +125	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-65 to +150	$^\circ\text{C}$

Thermal Characteristics @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 1)	P_d	200	mW
Thermal Resistance, Junction to Ambient Air (Note 1)	$R_{\theta JA}$	500	$^\circ\text{C}/\text{W}$

Electrical Characteristics @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 2)	$V_{(BR)R}$	40	—	—	V	$I_R = 500\mu\text{A}$
Forward Voltage (Note 2)	V_F	—	—	300 420 550	mV	$I_F = 10\text{mA}$ $I_F = 100\text{mA}$ $I_F = 200\text{mA}$
Leakage Current (Note 2)	I_R	—	—	15 3	μA mA	$V_R = 30\text{V}$ $V_R = 30\text{V}, T_J = 100^\circ\text{C}$
Total Capacitance	C_T	—	23	50	pF	$V_R = 0\text{V}, f = 1.0\text{MHz}$

- Notes:
1. Mounted on FR4 PC Board with recommended pad layout which can be found on our website at <http://www.diodes.com/datasheets/ap02001.pdf>.
 2. Short duration test pulse used to minimize self-heating effect.
 3. No purposefully added lead.
 4. Diodes Inc.'s "Green" policy can be found on our website at http://www.diodes.com/products/lead_free/index.php.

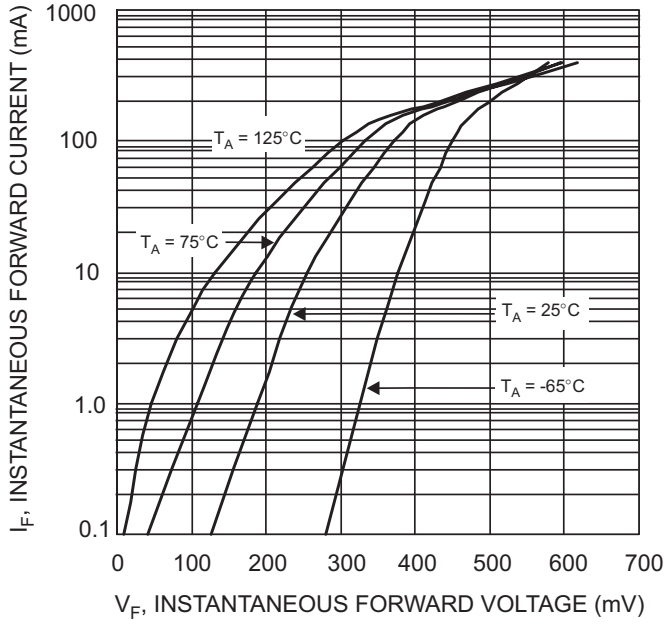


Fig. 1 Typical Forward Characteristics

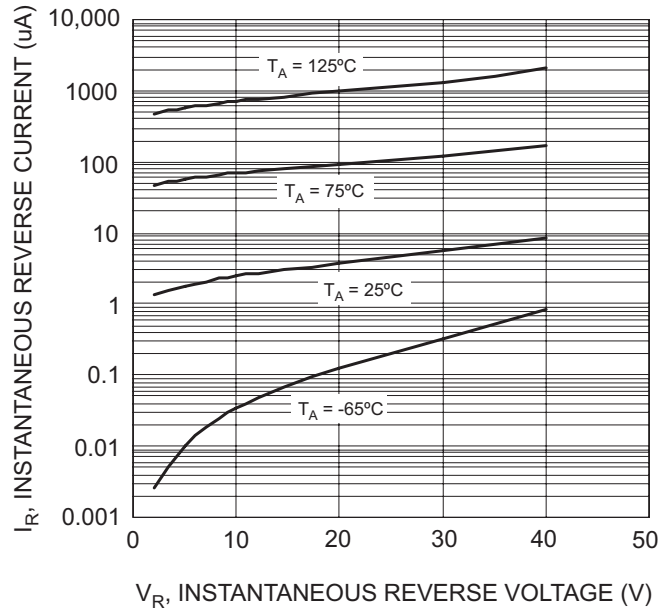


Fig. 2 Typical Reverse Characteristics, per element

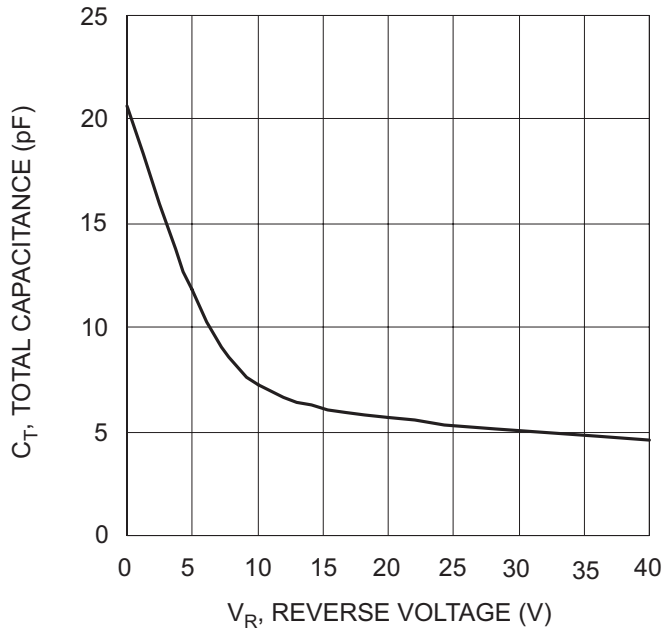


Fig. 3 Typical Total Capacitance

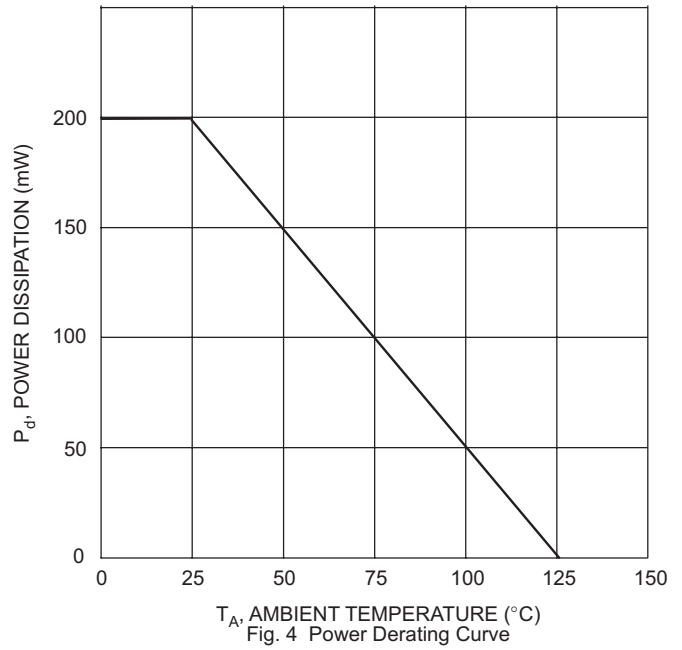


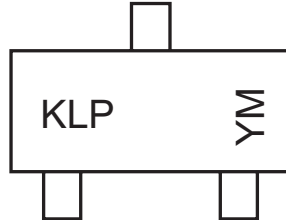
Fig. 4 Power Derating Curve

Ordering Information (Note 5)

Device	Packaging	Shipping
SDM20N40A-7	SOT-23	3000/Tape & Reel

Notes: 5. For Packaging Details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

Marking Information



KLP = Product Type Marking Code
 YM = Date Code Marking
 Y = Year ex: P = 2003
 M = Month ex: 9 = September

Date Code Key

Year	2003	2004	2005	2006	2007	2008	2009
Code	P	R	S	T	U	V	W

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

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