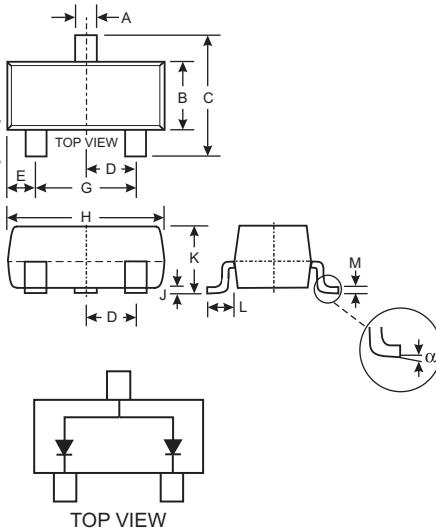


## Features

- 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
$\alpha$	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	$V_{RRM}$		
Working Peak Reverse Voltage	$V_{RWM}$	40	V
DC Blocking Voltage	$V_R$		
RMS Reverse Voltage	$V_{R(\text{RMS})}$	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	°C
Storage Temperature Range	$T_{STG}$	-65 to +150	°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)	$R_{\text{JJA}}$	500	°C/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	mV	$I_F = 10\text{mA}$
		—	—	420		$I_F = 100\text{mA}$
		—	—	550		$I_F = 200\text{mA}$
Leakage Current (Note 2)	$I_R$	—	—	15	$\mu\text{A}$	$V_R = 30\text{V}$
		—	—	3	mA	$V_R = 30\text{V}, T_j = 100^\circ\text{C}$
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](http://www.diodes.com/products/lead_free/index.php).

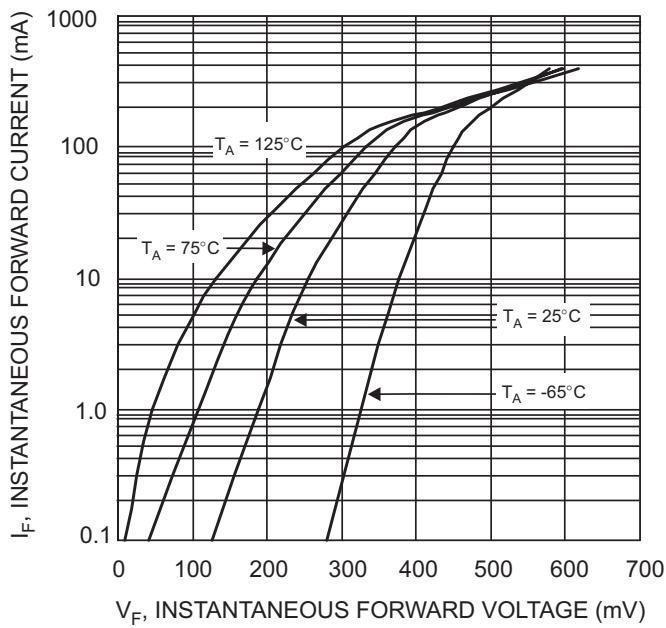


Fig. 1 Typical Forward Characteristics

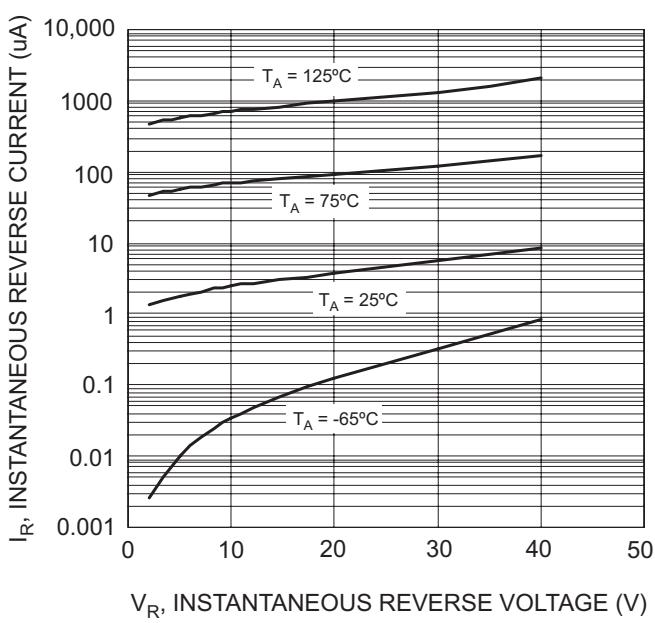


Fig. 2 Typical Reverse Characteristics, per element

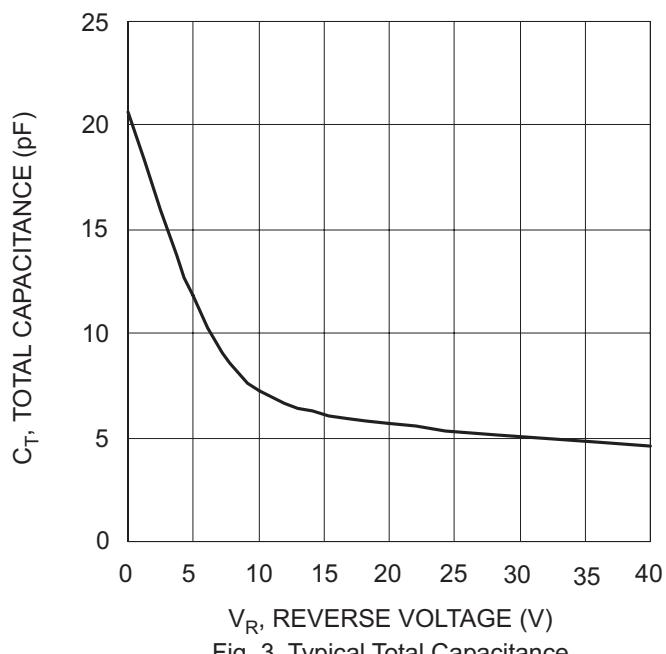


Fig. 3 Typical Total Capacitance

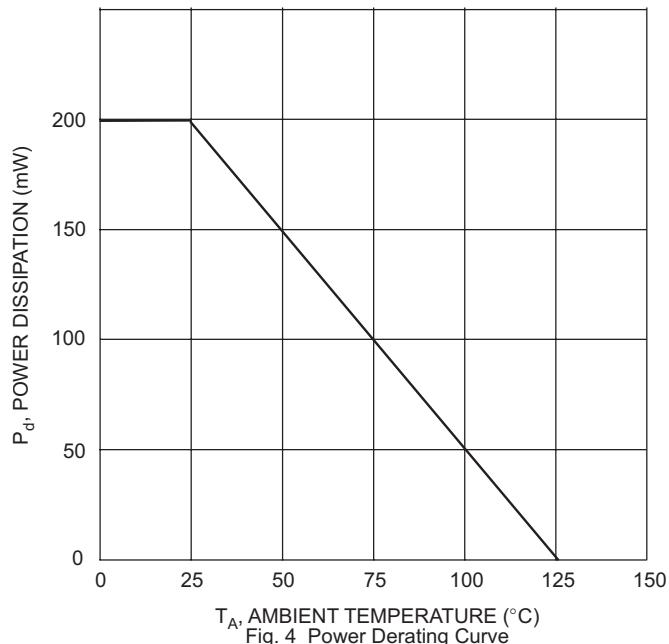
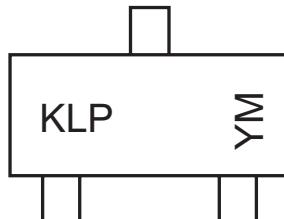


Fig. 4 Power Derating Curve

**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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