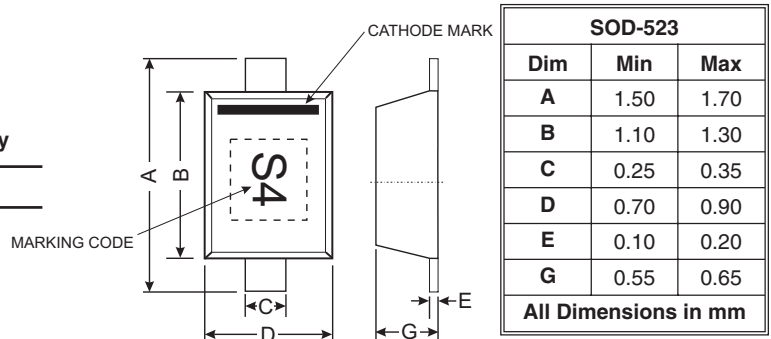


Features

- Low Forward Voltage Drop
- Guard Ring Construction for Transient Protection
- Negligible Reverse Recovery Time
- Low Reverse Capacitance
- Ultra-Small Surface Mount Package
- **Lead Free By Design/RoHS Compliant (Note 1)**
- **"Green" Device, Note 3 and 4**
- **Qualified to AEC-Q101 Standards for High Reliability**

Mechanical Data

- Case: SOD-523
- Case Material: Molded Plastic, "Green" Molding Compound, Note 4. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminal Connections: Cathode Band
- Terminals: Finish - Matte Tin annealed over Alloy 42 leadframe. Solderable per MIL-STD-202, Method 208
- Marking Code: S4
- Ordering Information: See Last Page
- Weight: 0.002 grams (approximate)



Maximum Ratings @ T_A = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	V _{RRM}	40	V
Working Peak Reverse Voltage	V _{RWM}		
DC Blocking Voltage	V _R		
RMS Reverse Voltage	V _{R(RMS)}	28	V
Forward Continuous Current (Note 2)	I _{FM}	250	mA
Non-Repetitive Peak Forward Surge Current @ t ≤ 1.0s	I _{FSM}	1.0	A
Operating and Storage Temperature Range	T _j , T _{STG}	-65 to +125	°C

Thermal Characteristics @ T_A = 25°C unless otherwise specified

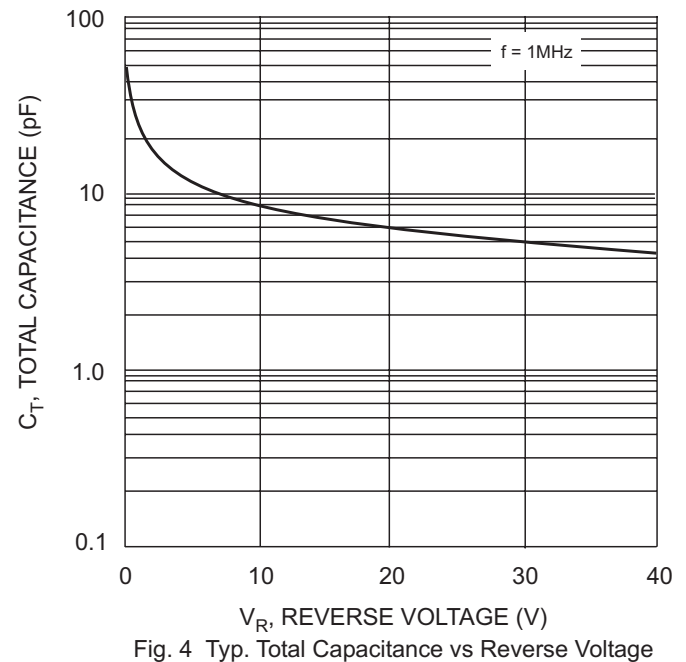
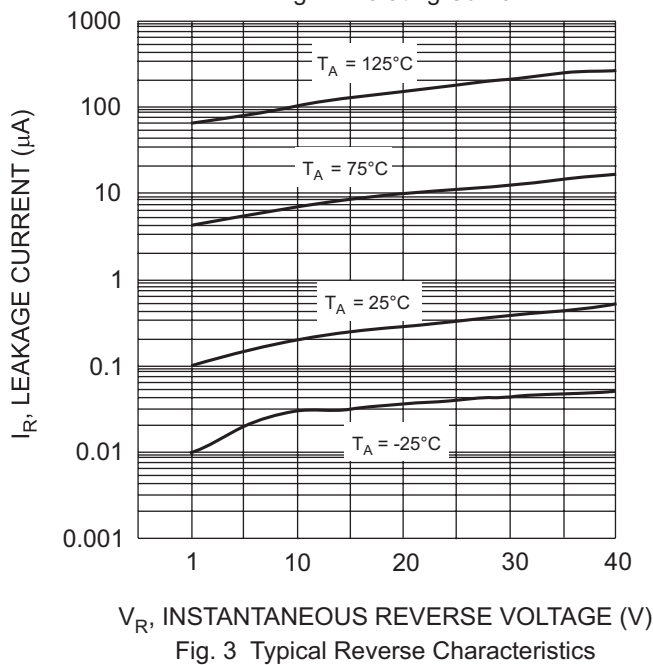
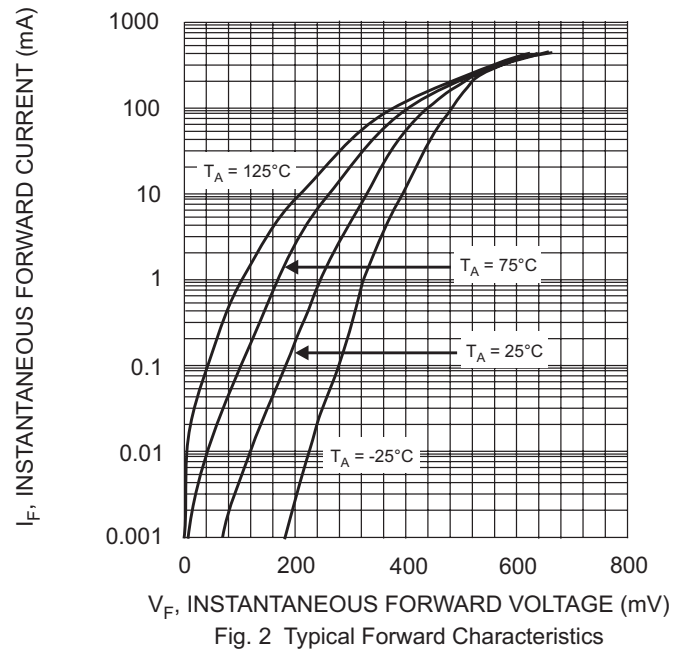
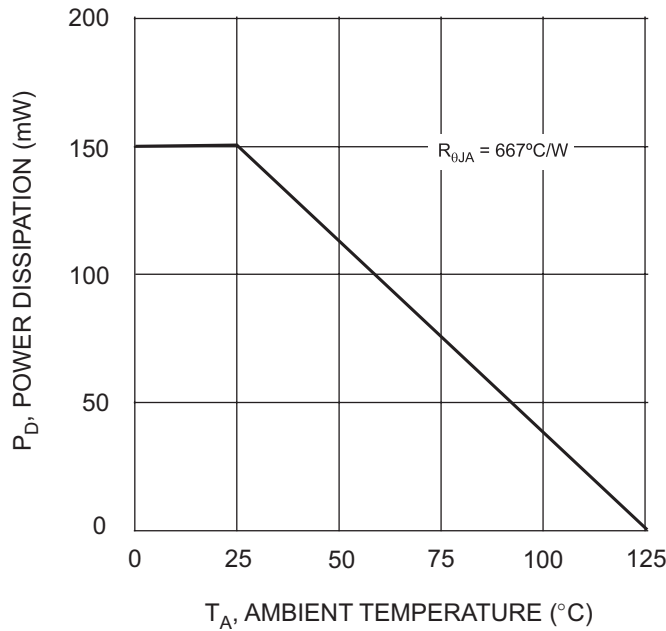
Characteristic	Symbol	Value	Unit
Power Dissipation (Note 2)	P _d	150	mW
Thermal Resistance, Junction to Ambient Air (Note 2)	R _{θJA}	667	°C/W

- Note:
1. No purposefully added lead.
 2. Part mounted on FR-4 board with recommended pad layout, which can be found on our website at <http://www.diodes.com/datasheets/ap02001.pdf>.
 3. Diodes Inc.'s "Green" Policy can be found on our website at http://www.diodes.com/products/lead_free/index.php.
 4. Product manufactured with date code 0609 (week 9, 2006) and newer are built with Green Molding Compound. Product manufactured prior to date code 0609 are built with Non-Green Molding Compound and may contain Halogens or Sb₂O₃ Fire Retardants.

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

Characteristic	Symbol	Min	Typ	Max	Unit	Test Conditions
Reverse Breakdown Voltage (Note 5)	$V_{(BR)R}$	40	—	—	V	$I_R = 10\mu\text{A}$
Forward Voltage Drop	V_F	—	—	0.37 0.60	V	$I_F = 20\text{mA}$ $I_F = 200\text{mA}$
Peak Reverse Current (Note 5)	I_R	—	—	5 1	μA μA	$V_R = 30\text{V}$ $V_R = 10\text{V}$
Total Capacitance	C_T	—	50	—	pF	$V_R = 0\text{V}$, $f = 1.0\text{MHz}$
Reverse Recovery Time	t_{rr}	—	10	—	ns	$I_F = I_R = 200\text{mA}$, $I_{rr} = 0.1 \times I_R$, $R_L = 100\Omega$

Note: 5. Short duration pulse test used so as to minimize self-heating effect.



Ordering Information (Note 4 & 6)

Device	Packaging	Shipping
SDM20U40-7	SOD-523	3000/Tape & Reel

- Note:
- Product manufactured with date code 0609 (week 9, 2006) and newer are built with Green Molding Compound. Product manufactured prior to date code 0609 are built with Non-Green Molding Compound and may contain Halogens or Sb2O3 Fire Retardants.
 - For Packaging Details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

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