SD101AWS - SD101CWS

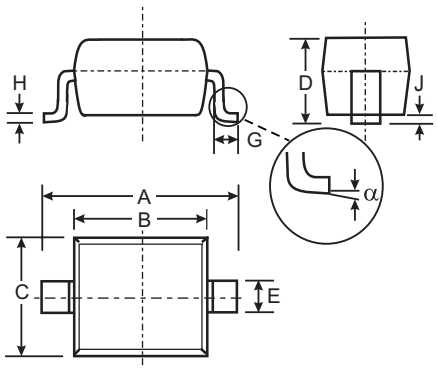
SURFACE MOUNT SCHOTTKY BARRIER DIODE

Features

- Low Forward Voltage Drop
- Guard Ring Construction for Transient Protection
- Negligible Reverse Recovery Time
- Low Capacitance
- Ultra-small Surface Mount Package
- **Lead Free/RoHS Compliant Version (Note 2)**

Mechanical Data

- Case: SOD-323
- Case material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Polarity: Cathode Band
- Leads: Solderable per MIL-STD-202, Method 208
- Lead Free Plating (Matte Tin Finish annealed over Alloy 42 leadframe).
- Marking: See Page 3
- SD101AWS Marking Code: S1 or SK
- SD101BWS Marking Code: S2 or SK
- SD101CWS Marking Code: S3 or SC or SK
- Weight: 0.004 grams (approximate)



SOD-323		
Dim	**Min**	**Max**
A	2.30	2.70
B	1.60	1.80
C	1.20	1.40
D	1.05 Typical	
E	0.25	0.35
G	0.20	0.40
H	0.10	0.15
J	0.05 Typical	
α	0°	8°
All Dimensions in mm		

Maximum Ratings @ T_A = 25°C unless otherwise specified

Characteristic	Symbol	SD101AWS	SD101BWS	SD101CWS	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	60	50	40	V
RMS Reverse Voltage	$V_{R(RMS)}$	42	35	28	V
Forward Continuous Current (Note 1)	I_{FM}	15			mA
Non-Repetitive Peak Forward Surge Current @ t ≤ 1.0s @ t = 10μs	I_{FSM}	50 2.0			mA A
Power Dissipation (Note 1)	P_D	200			mW
Thermal Resistance, Junction to Ambient Air (Note 1)	$R_{\theta JA}$	625			°C/W
Operating and Storage Temperature Range	T_j, T_{STG}	-65 to +125			°C

Note: 1. Part mounted on FR-4 PC board with recommended pad layout, which can be found on our website at http://www.diodes.com/datasheets/ap02001.pdf.
2. No purposefully added lead.

Electrical Characteristics @ $T_A = 25°C$ unless otherwise specified

Characteristic		Symbol	Min	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 3)	SD101AWS SD101BWS SD101CWS	$V_{(BR)R}$	60 50 40	—	V	$I_R = 10\mu A$ $I_R = 10\mu A$ $I_R = 10\mu A$
Forward Voltage Drop	SD101AWS SD101BWS SD101CWS SD101AWS SD101BWS SD101CWS	V_{FM}	—	0.41 0.40 0.39 1.00 0.95 0.90	V	$I_F = 1.0mA$ $I_F = 1.0mA$ $I_F = 1.0mA$ $I_F = 15mA$ $I_F = 15mA$ $I_F = 15mA$
Peak Reverse Current (Note 3)	SD101AWS SD101BWS SD101CWS	I_{RM}	—	200	nA	$V_R = 50V$ $V_R = 40V$ $V_R = 30V$
Total Capacitance	SD101AWS SD101BWS SD101CWS	C_T	—	2.0 2.1 2.2	pF	$V_R = 0V$, f = 1.0MHz
Reverse Recovery Time		t_{rr}	—	1.0	ns	$I_F = I_R = 5.0mA$, $I_{rr} = 0.1 \times I_R$, $R_L = 100\Omega$

Notes: 3. Short duration test pulse used to minimize self-heating effect.

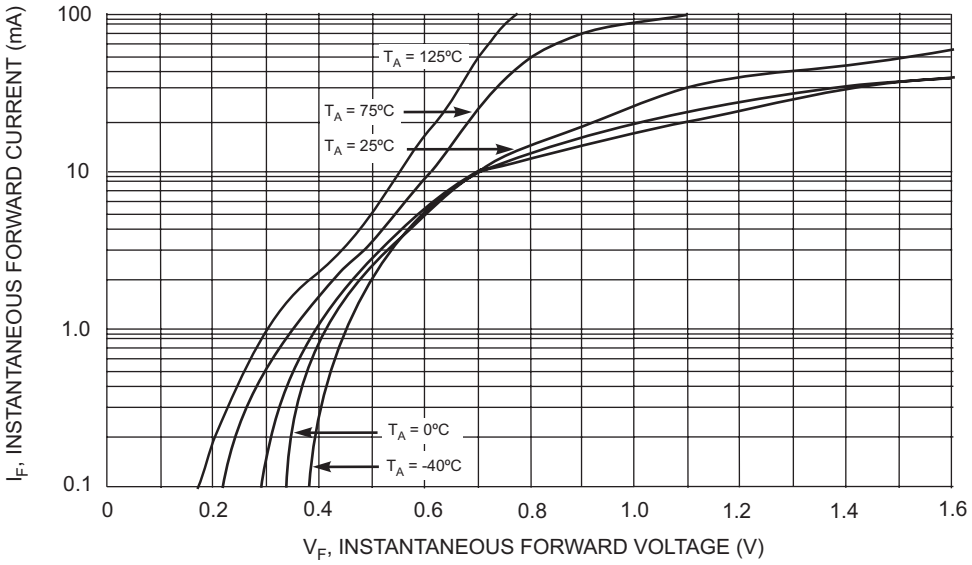


Fig. 1 Typical Forward Characteristics

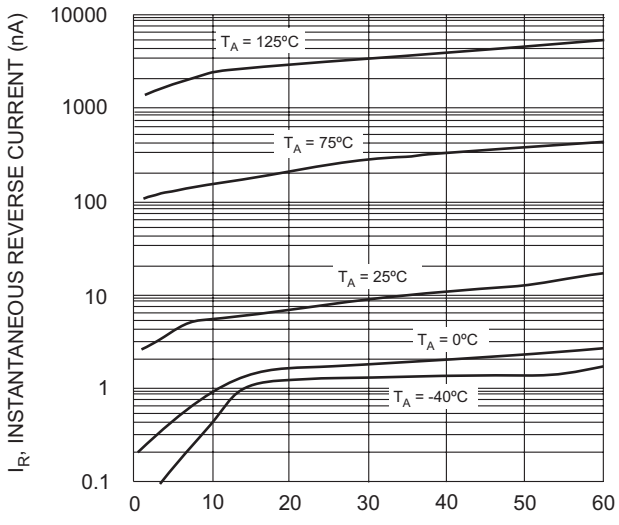


Fig. 2 Typical Reverse Characteristics

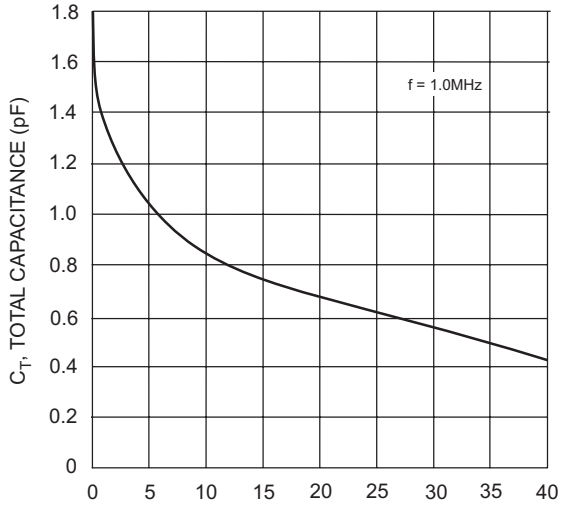


Fig. 3 Typical Capacitance

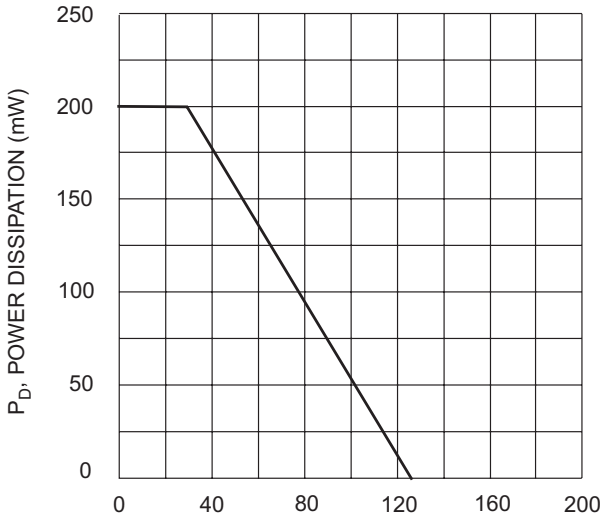


Fig. 4 Power Derating Curve

Ordering Information (Note 4)

Device	Packaging	Shipping
SD101AWS-7-F	SOD-323	3000/Tape & Reel
SD101BWS-7-F	SOD-323	3000/Tape & Reel
SD101CWS-7-F	SOD-323	3000/Tape & Reel

Notes: 4. For Packaging Details, go to our website at: http://www.diodes.com/datasheets/ap02007.pdf.

Marking Information

XX = Product Type Marking Code
(See Page 1)