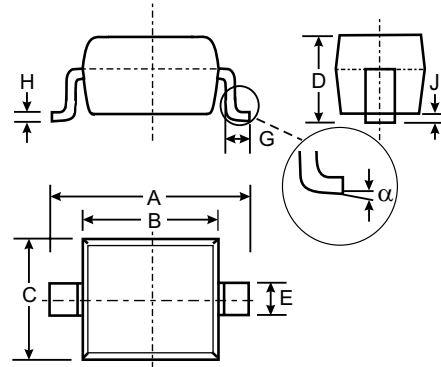


### Features

- Very Low Forward Voltage Drop
- Guard Ring Construction for Transient Protection
- High Conductance

### Mechanical Data

- Case: SOD-323, Plastic
- Case material - UL Flammability Rating Classification 94V-0
- Moisture sensitivity: Level 1 per J-STD-020A
- Polarity: Cathode Band
- Leads: Solderable per MIL-STD-202, Method 208
- Marking: SD, See Page 2
- Weight: 0.004 grams (approx.)



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	
$\alpha$	0°	8°
All Dimensions in mm		

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

Single phase, half wave, 60Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.

Characteristic	Symbol	B0520WS	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	$V_{RRM}$ $V_{RWM}$ $V_R$	20	V
RMS Reverse Voltage	$V_{R(RMS)}$	14	V
Average Rectified Output Current	$I_O$	0.5	A
Non-Repetitive Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	2	A
Power Dissipation (Note 1)	$P_d$	235	mW
Typical Thermal Resistance Junction to Ambient (Note 1)	$R_{\theta JA}$	426	$^\circ\text{C/W}$
Operating and Storage Temperature Range	$T_j, T_{STG}$	-55 to +125	$^\circ\text{C}$

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

Characteristic	Symbol	B0520WS	Unit	Test Conditions
Minimum Reverse Breakdown Voltage (Note 2)	$V_{(BR)R}$	20	V	$I_R = 0.5\text{mA}$
Maximum Forward Voltage Drop (Note 2)	$V_F$	0.310 0.430	V	$I_F = 0.1\text{A}$ $I_F = 0.5\text{A}$
Maximum Leakage Current (Note 2)	$I_R$	100 250	$\mu\text{A}$	$V_R = 10\text{V}$ $V_R = 20\text{V}$
Typical Total Capacitance	$C_T$	170	pF	$f = 1\text{MHz}, V_R = 0\text{VDC}$

### Ordering Information (Note 3)

Device	Packaging	Shipping
B0520WS-7	SOD-323	3000/Tape and Reel

- 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. Short duration test pulse used to minimize self-heating effect.
  3. For Packaging Details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

Marking Information

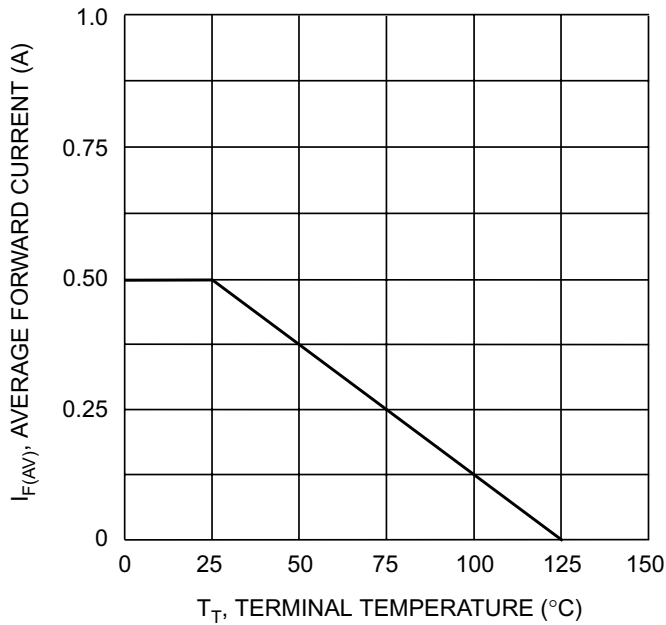
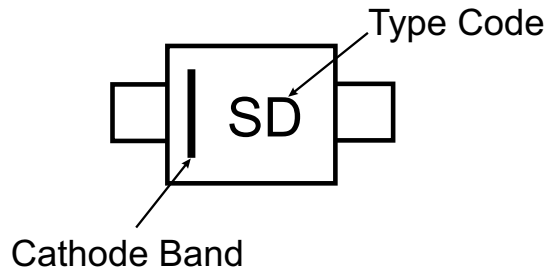


Fig. 1 Forward Current Derating Curve

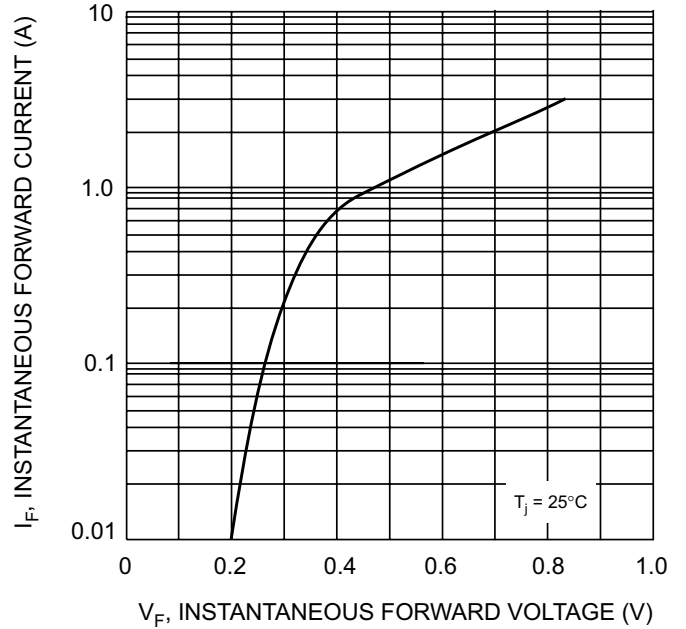


Fig. 2 Typical Forward Characteristics

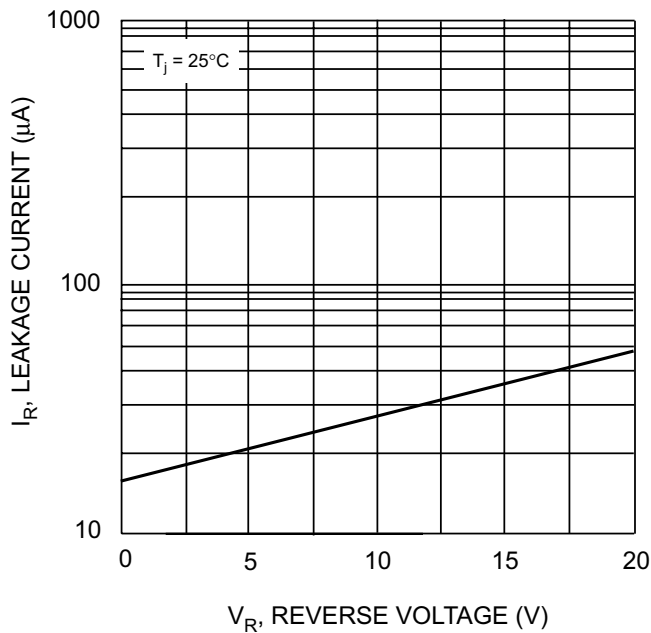


Fig. 3 Typical Reverse Characteristics

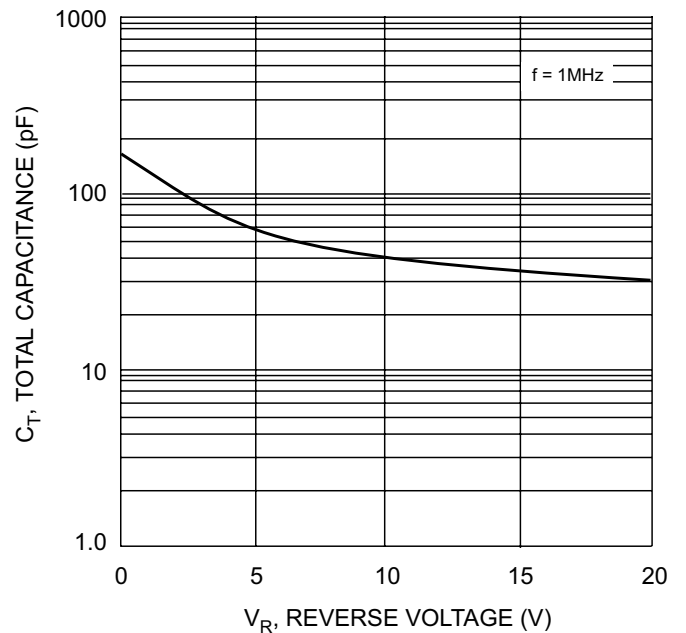


Fig. 4 Total Capacitance vs Reverse Voltage