APD Semiconductor, Inc.

SBR0120S3
SBR0120S5

Super Barrier Rectifier ™

Using state-of-the-art SBR IC process technology,
the following features are made possible in a single device:

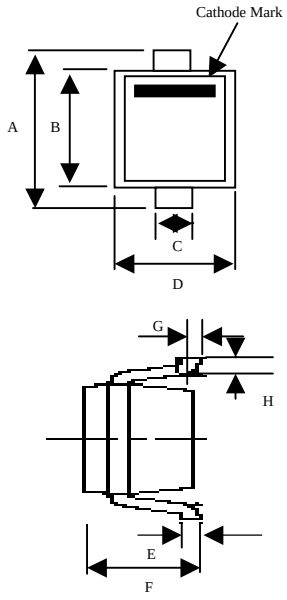
Major ratings and characteristics

Characteristics	Values	Units
$I_{F(AV)}$ Rectangular Waveform	0.10	A
V_{RRM}	20	V
V_F@0.1A, T_J=75°C	0.35	V, typ
T_J (operating/storage)	-65 to 125	°C

ELECTRICAL:
* Low Forward Voltage Drop
* Low Reverse Leakage
* Reliable High Temperature Operation
* Super Barrier Design
* Softest, fast switching capability
* 125°C Operating Junction Temperature

MECHANICAL:
* Molded Plastic SOD-323, SOD-523 packages

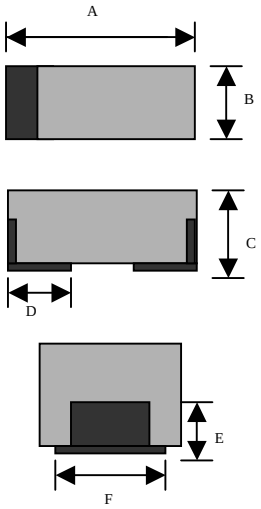
SBR0120S3



SOD-323		
Di	Min	Max
A	2.30	2.70
B	1.60	1.80
C	0.25	0.40
D	1.15	1.45
E	0.10	0.18
F	0.85	1.05
G	-	0.10
H	0.20	0.40
All Dimensions in mm		

SOD-323

SBR0120S5



SOD-523		
Di	Min	Max
A	1.60	1.80
B	0.80	1.0
C	0.70	0.85
D	0.35 (typ)	
E	0.30 (typ)	
F	0.70 (typ)	
All Dimensions in mm		

SOD-523

Maximum Ratings and Electrical Characteristics
(at 25°C unless otherwise specified)

	SYMBOL			UNITS
DC Blocking Voltage Working Peak Reverse Voltage Peak Repetitive Reverse Voltage	V_{RM} V_{RWM} V_{RRM}	20		Volts
Average Rectified Forward Current (Rated V_R-20Khz Square Wave)-50% duty cycle	I_O	0.10		Amps
Peak Forward Surge Current - 1/2 60hz	I_{FSM}	2		Amps
Instantaneous Forward Voltage I_F = 100mA; T_J = 25°C I_F = 100mA; T_J = 75°C	V_F	Typ --- ---	Max 0.41 0.38	Volts
Maximum Reverse Current at Rated V_{RM} T_J = 25°C T_J = 75°C	I_R *	Typ --- ---	Max 20 500	 uA uA
Operating and Storage Junction Temperature	T_J	-65 to +125		°C

NOTE: Dice are available for customer applications.

* Pulse width < 300 uS, Duty cycle < 2%

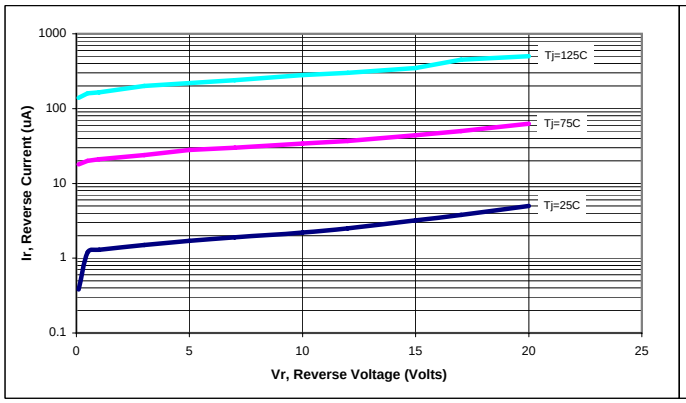


Figure 1: Typical Reverse Current

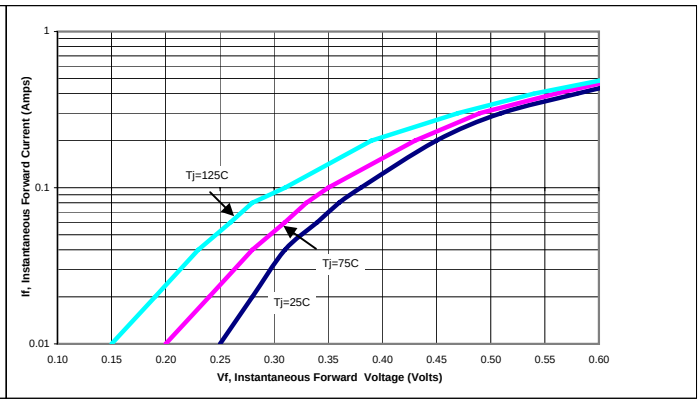


Figure 2: Typical Forward Voltage

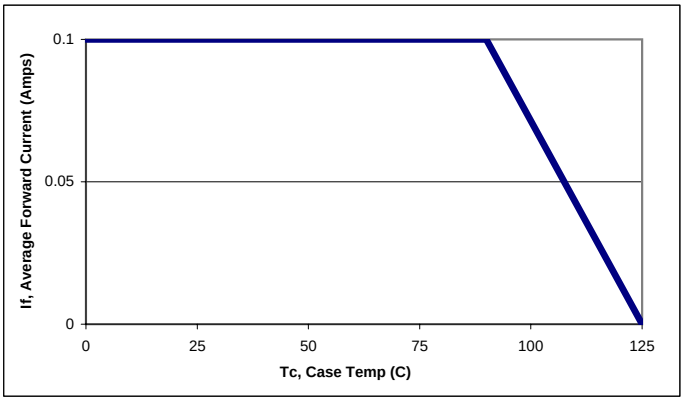


Figure 3: Current Derating, Case

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