APD Semiconductor, Inc.

SBR20150CT-prel
SBR20150CTI-prel
SBR20150CTB-prel

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

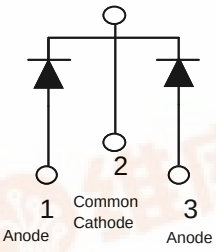
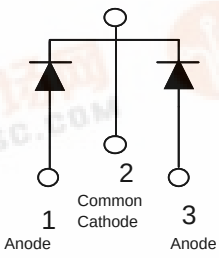
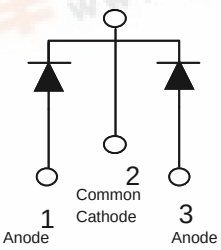
Characteristics	Values	Units
$I_{F(AV)}$ Rectangular Waveform	20	A
V_{RRM}	150	V
I_R@150V, Tj=25°C	12	nA, typ
Tj(operating/storage)	-65 to 200	°C

Device optimized for high temperature Power Supply applications

MECHANICAL:
* Molded Plastic TO-220AB, TO-262, TO-263 packages

ELECTRICAL:
* Ultra High Thermal Reliability
* Low Reverse Leakage
* Reliable High Temperature Operation
* Super Barrier Design
* Softest, fast switching capability
* 200°C Operating Junction Temperature

Case Styles

SBR20150CT	SBR20150CTI	SBR20150CTB
  TO-220AB	  TO-262	  TO-263

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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}	150		Volts
RMS Reverse Voltage	$V_{R(RMS)}$	150		Volts
Average Rectified Forward Current (Rated V_R-20Khz Square Wave)-50% duty cycle	I_O	20		Amps
Peak Forward Surge Current - 1/2 60hz	I_{FSM}	180		Amps
Peak Repetitive Reverse Surge Current (2uS-2Khz)	I_{RRM}	3		Amps
Instantaneous Forward Voltage (per leg) I_F = 10A; T_J = 25°C I_F = 20A; T_J = 25°C I_F = 10A; T_J = 125°C	V_F	Typ 0.82 0.94 0.67	Max 0.86 0.98 0.71	Volts
Maximum Instantaneous Reverse Current at Rated V_{RM} T_J = 25°C T_J = 125°C	I_R *	Typ 0.012 0.09	Max 5 1	uA mA
Maximum Rate of Voltage Change (at Rated V_R)	dv/dt	10,000		V/uS
Maximum Thermal Resistance JC	$R\theta_{JC}$	2		°C/W
Operating and Storage Junction Temperature	T_J	-65 to +200		°C

NOTE: Dice are available for customer applications.

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

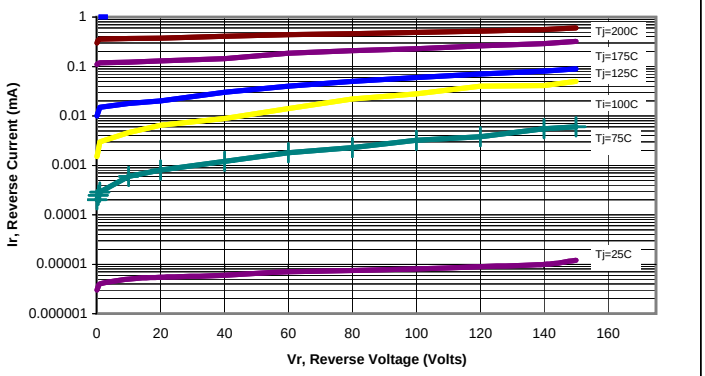

Figure 1: Typical Reverse Current

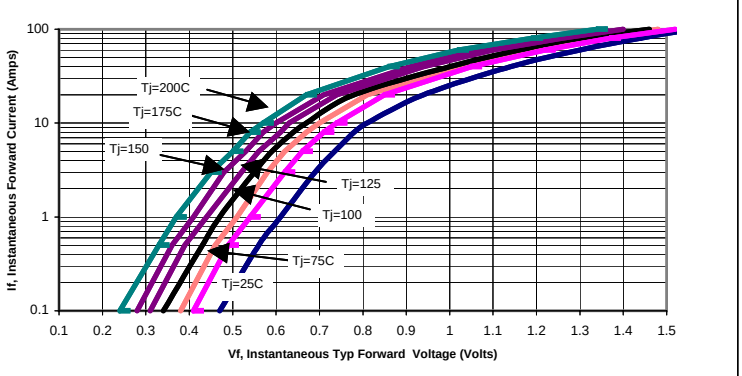

Figure 2: Typical Forward Voltage

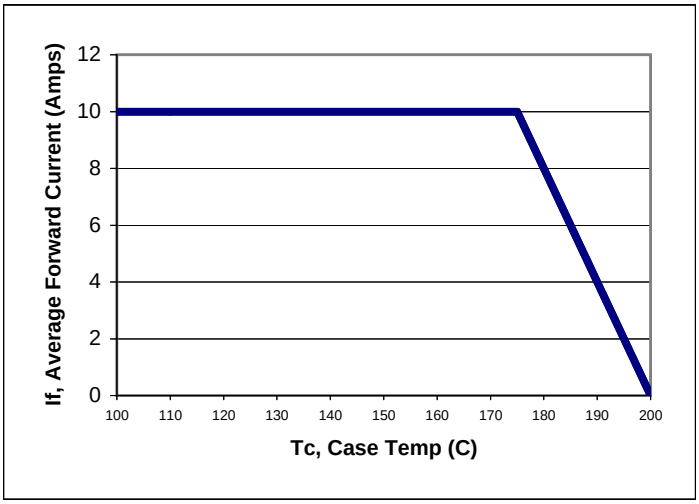

Figure 3: Current Derating, Case

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