APD Semiconductor, Inc.

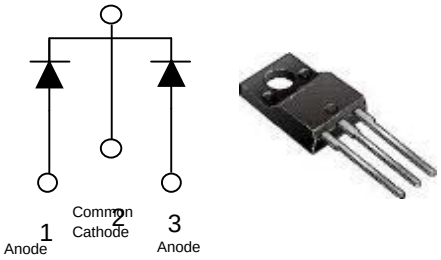
SBR20A40CTF-prel

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}	40	V
V_F@10A, Tj=125°C	0.41	V, typ
Tj(operating/storage)	-65 to 175	°C



ELECTRICAL:
- ***** Ultra Low Forward Voltage Drop
- ***** High Thermal SBR Reliability
- ***** Reliable High Temperature Operation
- ***** Super Barrier Design
- ***** Softest, fast switching capability
- * 175°C Operating Junction Temperature

Device optimized for low forward voltage drop to maximize efficiency in Power Supply applications

MECHANICAL:
- ***** Molded Plastic ITO-220 package

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}	40		Volts
RMS Reverse Voltage	$V_{R(RMS)}$	40		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 0.44 0.56 0.41	Max 0.48 0.60 0.45	Volts
Maximum Reverse Current at Rated V_{RM} T_J = 25°C T_J = 125°C	I_R*	Typ .22 20	Max 1 100	mA 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 +175		°C

NOTE: Dice are available for customer applications.

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

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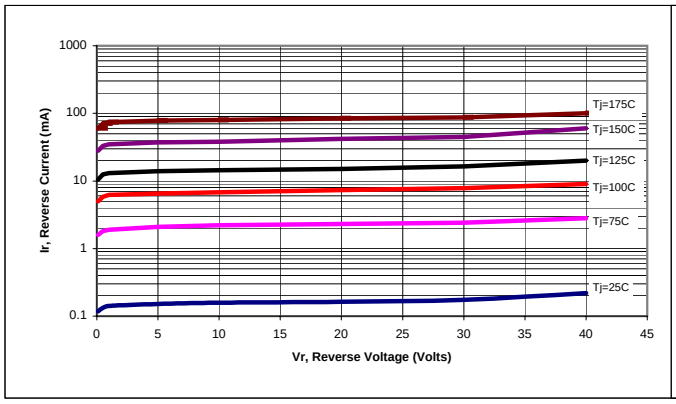

Figure 1: Typical Reverse Current

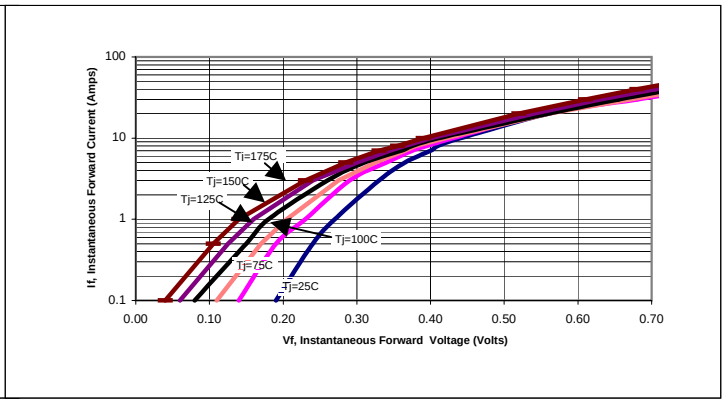

Figure 2: Typical Forward Voltage

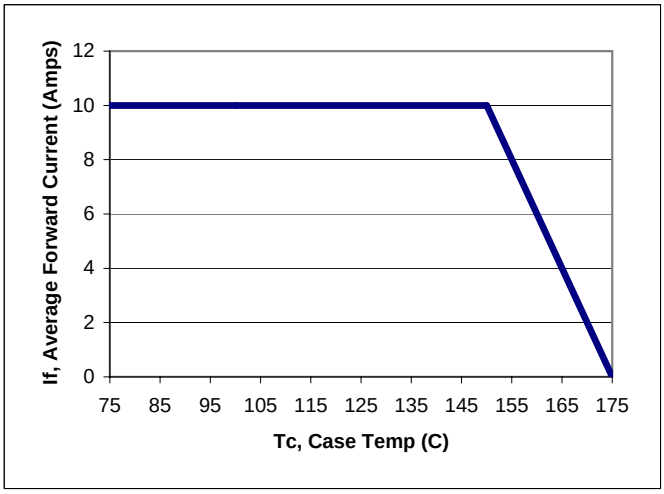

Figure 3: Current Derating, Case

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