

# 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	1.0 *	A
$V_{RRM}$	40	V
$V_F @ 1A, T_J = 75^\circ C$	0.42	V, typ
$T_J$ (operating/storage)	-65 to 125	$^\circ C$

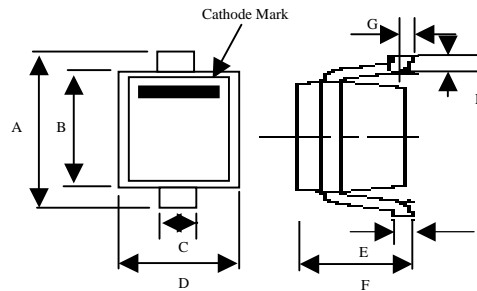
\*Note: Device mounted on a glass epoxy board,  
Board size: 50mm x 50mm,  
Land size: 6mm x 6mm

### ELECTRICAL:

- \* Low Forward Voltage Drop
- \* Low Reverse Leakage
- \* Reliable High Temperature Operation
- \* Super Barrier Design
- \* Softest, fast switching capability
- \* 125 $^\circ C$  Operating Junction Temperature

### MECHANICAL:

\* Molded Plastic SOD-323 package



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		

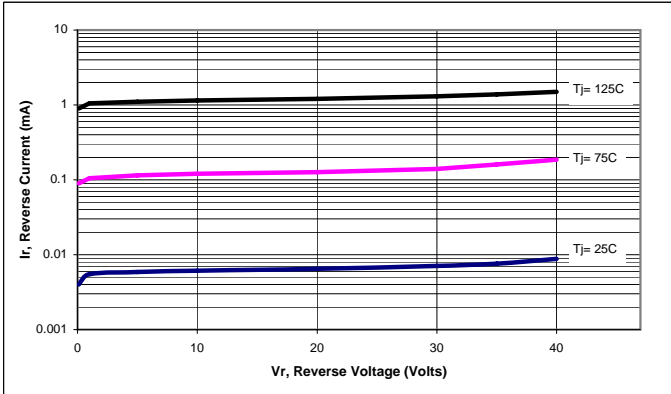
## Maximum Ratings and Electrical Characteristics

(at 25 $^\circ C$  unless otherwise specified)

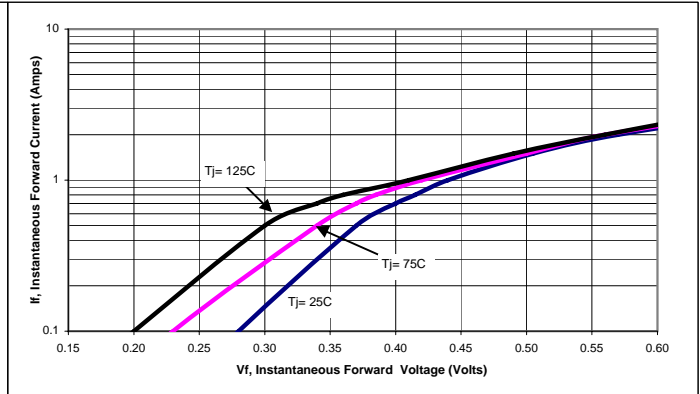
	SYMBOL			UNITS
DC Blocking Voltage	$V_{RM}$	40		Volts
Working Peak Reverse Voltage	$V_{RWM}$			
Peak Repetitive Reverse Voltage	$V_{RRM}$			
Average Rectified Forward Current (Rated $V_R$ - 20Khz Square Wave) - 50% duty cycle	$I_O^{(1)}$	1		Amps
Peak Forward Surge Current - 1/2 60hz	$I_{FSM}$	18		Amps
Instantaneous Forward Voltage $I_F = 0.7A; T_J = 25^\circ C$ $I_F = 1A; T_J = 25^\circ C$ $I_F = 0.7A; T_J = 75^\circ C$	$V_F$	Typ --- 0.44 ---	Max 0.44 --- 0.39	Volts
Maximum Reverse Current at Rated $V_{RM}$ $T_J = 25^\circ C$ $T_J = 75^\circ C$	$I_R^{(2)}$	Typ --- ---	Max 0.2 2	mA mA
Operating and Storage Junction Temperature	$T_J$	-65 to +125		$^\circ C$

(1) We recommend that the worst case current be no greater than 80% of the maximum rating of  $I_O$

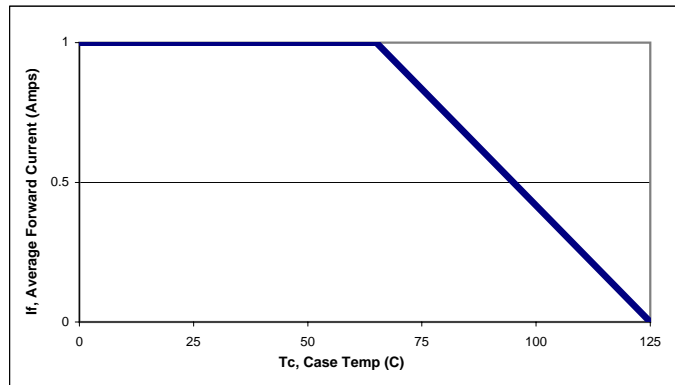
(2) Pulse width < 300 uS, Duty cycle < 2%



**Figure 1: Typical Reverse Current**



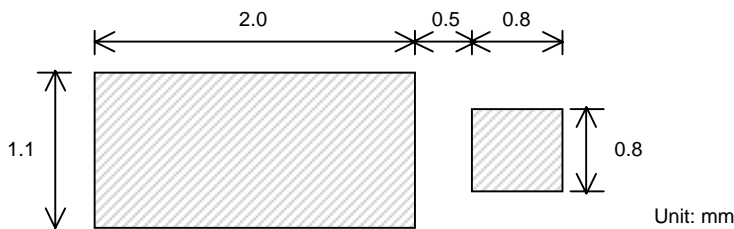
**Figure 2: Typical Forward Voltage**



**Figure 3: Current Derating, Case\***

\*Device mounted on a 50mm x 50mm glass epoxy board, 50% duty cycle

**STANDARD SOLDERING PAD:**



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