

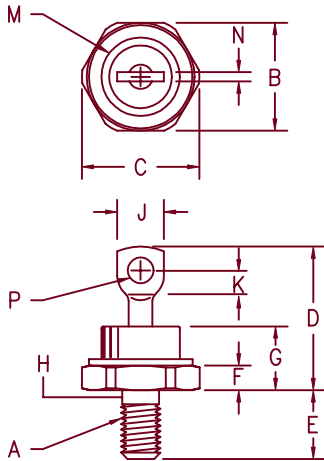


# THE DATASHEET OF SBR8050



# 80 Amp Schottky Rectifier

## SBR8040 — SBR8050



Notes:  
 1. Full threads within 2 1/2 threads  
 2. Standard Polarity: Stud is Cathode  
 Reverse Polarity: Stud is Anode

Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	----	----	----	----	1/4-28
B	.669	.688	17.00	17.47	
C	----	.794	----	20.16	
D	.750	1.00	19.05	25.40	
E	.422	.453	10.72	11.50	
F	.115	.200	2.93	5.08	
G	----	.450	----	11.43	
H	.220	.249	5.59	6.32	1
J	----	.375	----	9.52	
K	.156	----	3.97	----	
M	----	.510	----	12.95	Dia
N	----	.080	----	2.03	
P	.140	.175	3.56	4.44	Dia

DO-203AB (DO-5)

Microsemi Catalog Number	Industry Part Number	Working Reverse Voltage	Peak Reverse Voltage	Repetitive Peak Reverse Voltage	
SBR8040 *	75HQ035, 85HQ035 75HQ040, 85HQ040 MBR8040	40V	40V	40V	<ul style="list-style-type: none"> <li>● Schottky Barrier Rectifier</li> <li>● 175°C Junction Temperature</li> <li>● Guard Ring Protection</li> <li>● Reverse Energy Tested</li> <li>● VRRM – 40 to 50 Volts</li> <li>● 80 Amperes</li> </ul>
SBR8045 *	75HQ045, 85HQ045 MBR8045	45V	45V	45V	
SBR8050 *		50V	50V	50V	

\*Add Suffix R For Reverse Polarity

Electrical Characteristics		
Average forward current,	$I_{F(AV)} = 80$ Amps	$T_C = 130^\circ\text{C}$ , Square wave, $R_{\theta JC} = 0.8^\circ\text{C/W}$ 8.3 ms, half sine $T_J = 175^\circ\text{C}$ $f = 1$ KHz, $25^\circ\text{C}$ , 1 $\mu\text{sec}$ Square wave
Maximum surge current,	$I_{FSM} = 1200$ Amps	
Max repetitive peak reverse current	$I_{R(OV)} = 2$ Amps	$I_{FM} = 80\text{A}$ , $T_J = 175^\circ\text{C}^*$ $I_{FM} = 80\text{A}$ , $T_J = 25^\circ\text{C}^*$ $V_{RRM}$ , $T_J = 125^\circ\text{C}^*$ $V_{RRM}$ , $T_J = 25^\circ\text{C}$ $V_R = 5.0\text{V}$ , $T_J = 25^\circ\text{C}$
Max peak forward voltage,	$V_{FM} = 0.58$ Volts	
Max peak forward voltage,	$V_{FM} = 0.74$ Volts	
Max peak reverse current	$I_{RM} = 30$ mA	
Max peak reverse current	$I_{RM} = 2$ mA	
Typical junction capacitance	$C_J = 2300$ pF	

\*Pulse test: Pulse width 300  $\mu\text{sec}$ , Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temp range	$T_{STG}$	$-65^\circ\text{C}$ to $+175^\circ\text{C}$
Operating junction temp range	$T_J$	$-65^\circ\text{C}$ to $+175^\circ\text{C}$
Max thermal resistance	$R_{\theta JC}$	$0.8^\circ\text{C/W}$ Junction to sink
Typical thermal resistance (greased)	$R_{\theta CS}$	$0.5^\circ\text{C/W}$ Case to sink
Mounting torque		25-30 inch pounds
Weight		.54 ounce (15.3 grams) typical

# SBR8040 — SBR8050

Figure 1  
Typical Forward Characteristics

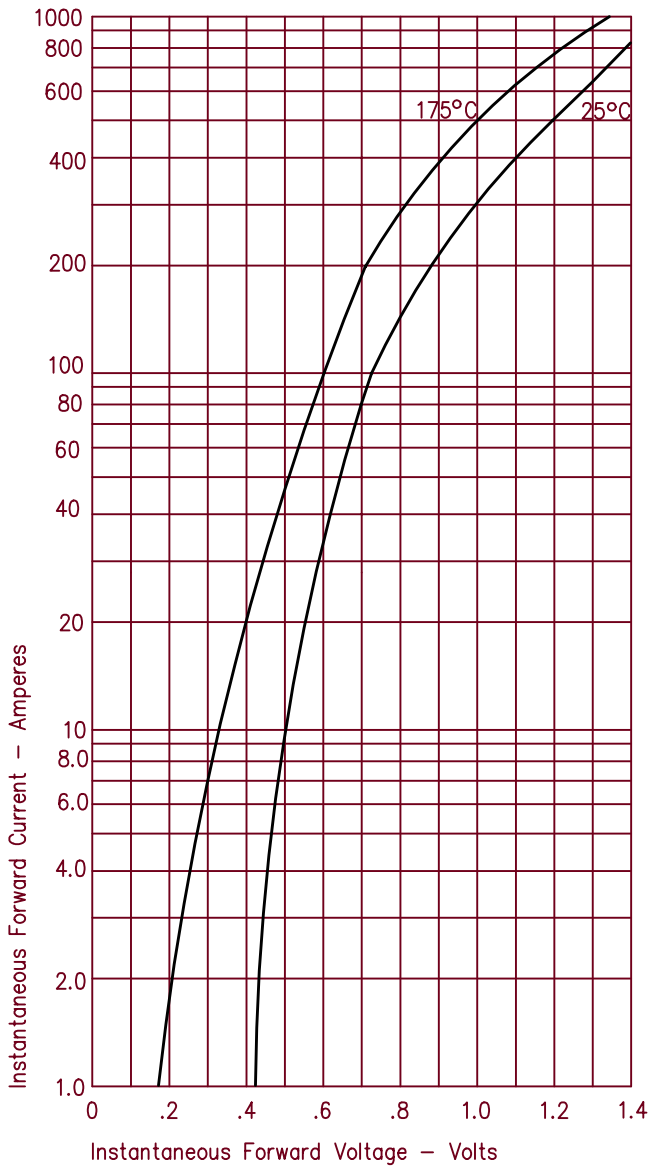


Figure 3  
Typical Junction Capacitance

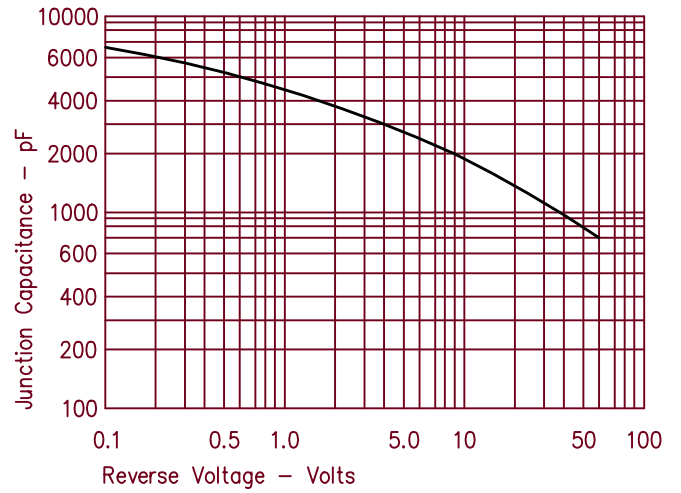


Figure 4  
Forward Current Derating

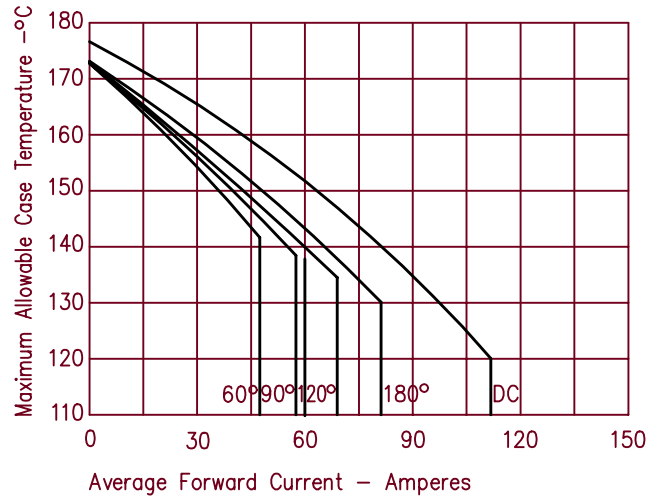


Figure 2  
Typical Reverse Characteristics

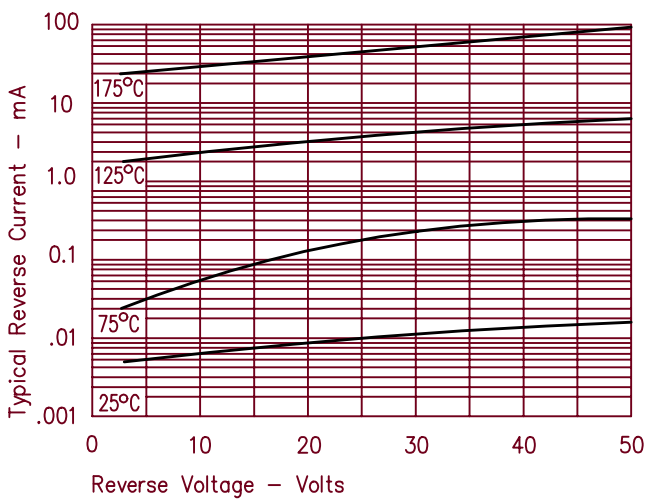
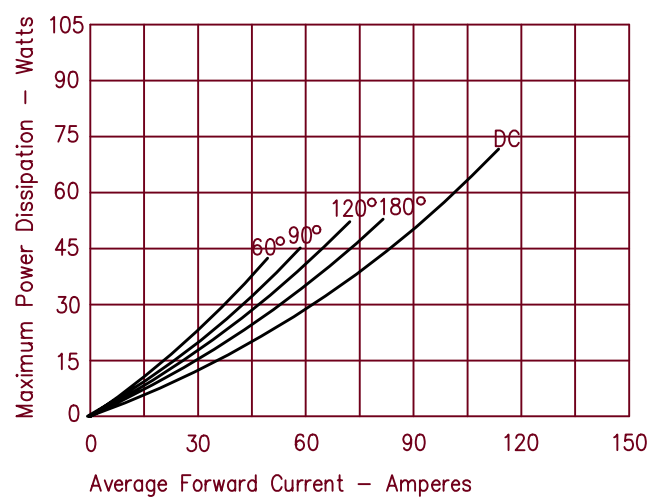




Figure 5  
Maximum Forward Power Dissipation



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