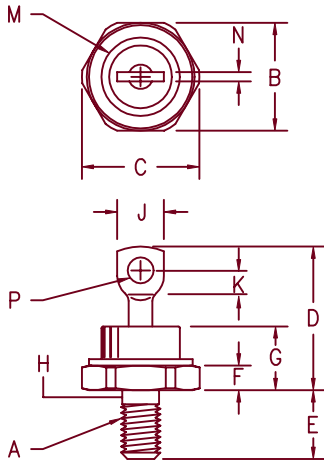


# 120 Amp Schottky Rectifier SBR12040 — SBR12050



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	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
SBR12040*	40V	40V
SBR12045*	45V	45V
SBR12050*	50V	50V

\*Add Suffix R For Reverse Polarity

- Schottky Barrier Rectifier
- 175°C Junction Temperature
- Guard Ring Protection
- Reverse Energy Tested
- VRRM – 40 to 50 Volts
- 120 Amperes
- Mil-PRF19500 Equivalents Available

### Electrical Characteristics

Average forward current,	$I_{F(AV)} = 120$ Amps	$T_C = 124^\circ\text{C}$ , Square wave, $R_{\theta JC} = 0.6^\circ\text{C/W}$
Maximum surge current,	$I_{FSM} = 2500$ Amps	8.3 ms, half sine $T_J = 175^\circ\text{C}$
Max repetitive peak reverse current	$I_{R(OV)} = 2$ Amps	$f = 1$ KHz, $25^\circ\text{C}$ , 1 $\mu\text{sec}$ Square wave
Max peak forward voltage,	$V_{FM} = 0.55$ Volts	$I_{FM} = 120\text{A}$ , $T_J = 175^\circ\text{C}^*$
Max peak forward voltage,	$V_{FM} = 0.70$ Volts	$I_{FM} = 120\text{A}$ , $T_J = 25^\circ\text{C}^*$
Max peak reverse current	$I_{RM} = 90$ mA	$V_{RRM}$ , $T_J = 125^\circ\text{C}^*$
Max peak reverse current	$I_{RM} = 3$ mA	$V_{RRM}$ , $T_J = 25^\circ\text{C}$
Typical junction capacitance	$C_J = 4900$ pF	$V_R = 5.0\text{V}$ , $T_J = 25^\circ\text{C}$

\*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	$R_{\theta JC}$	$0.6^\circ\text{C/W}$ 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

# SBR12040 — SBR12050

Figure 1  
Typical Forward Characteristics

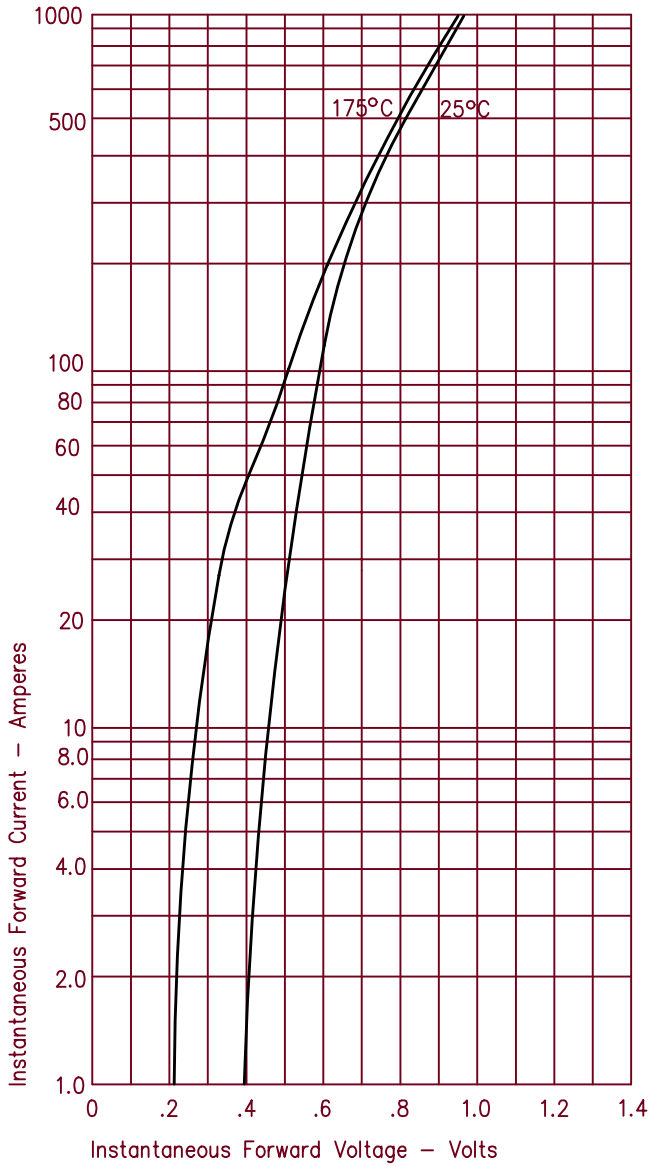


Figure 3  
Typical Junction Capacitance

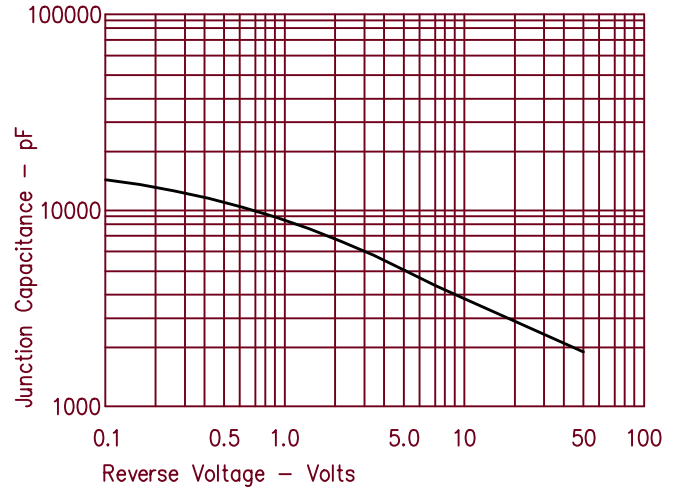


Figure 4  
Forward Current Derating

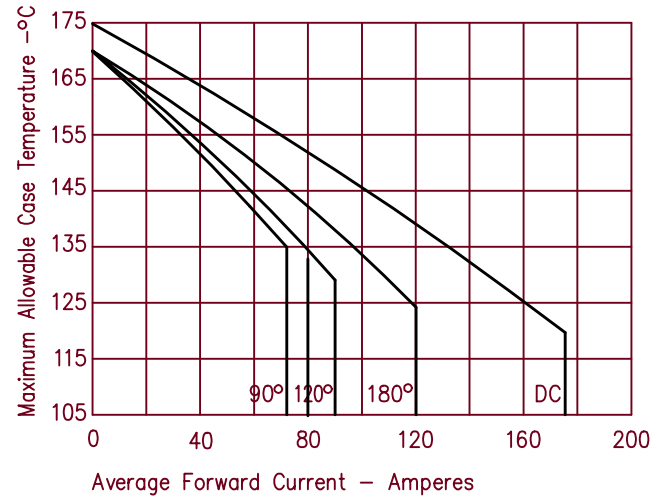


Figure 2  
Typical Reverse Characteristics

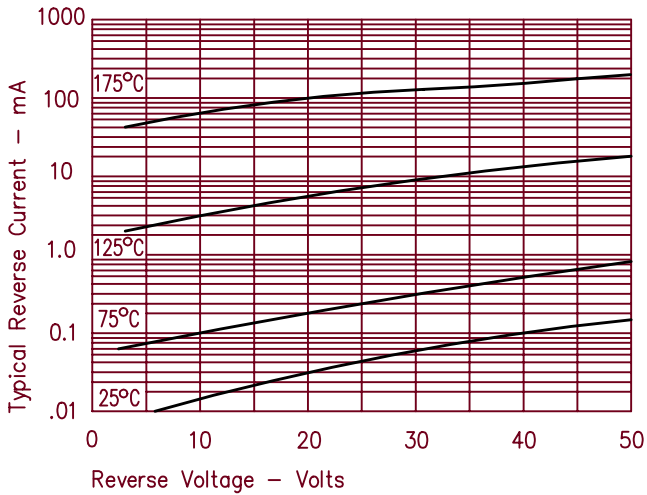


Figure 5  
Maximum Forward Power Dissipation

