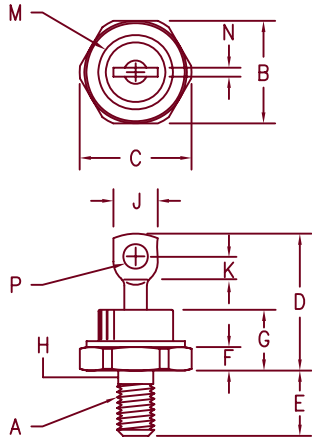


# 100 Amp Schottky Rectifier

## SBR10040 — SBR10050



- 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
SBR10040*	40V	40V
SBR10045*	45V	45V
SBR10050*	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
- 100 Amperes
- Mil-PRF19500 Equivalents Available

### Electrical Characteristics

Average forward current,	I <sub>F(AV)</sub> = 100 Amps	T <sub>C</sub> = 122°C, Square wave, R <sub>θJC</sub> = 0.7°C/W
Maximum surge current,	I <sub>FSM</sub> = 1500 Amps	8.3 ms, half sine T <sub>J</sub> = 175°C
Max repetitive peak reverse current	I <sub>R(OV)</sub> = 2 Amps	f = 1 KHz, 25°C, 1 μsec Square wave
Max peak forward voltage,	V <sub>FM</sub> = 0.60 Volts	I <sub>FM</sub> = 100A, T <sub>J</sub> = 175°C*
Max peak forward voltage,	V <sub>FM</sub> = 0.77 Volts	I <sub>FM</sub> = 100A, T <sub>J</sub> = 25°C*
Max peak reverse current	I <sub>RM</sub> = 50 mA	V <sub>RRM</sub> , T <sub>J</sub> = 125°C*
Max peak reverse current	I <sub>RM</sub> = 3 mA	V <sub>RRM</sub> , T <sub>J</sub> = 25°C
Typical junction capacitance	C <sub>J</sub> = 3600 pF	V <sub>R</sub> = 5.0V, T <sub>J</sub> = 25°C

\*Pulse test: Pulse width 300 μsec, Duty cycle 2%

### Thermal and Mechanical Characteristics

Storage temp range	T <sub>STG</sub>	-65°C to +175°C
Operating junction temp range	T <sub>J</sub>	-65°C to +175°C
Max thermal resistance	R <sub>θJC</sub>	0.7°C/W Junction to sink
Typical thermal resistance (greased)	R <sub>θCS</sub>	0.5°C/W Case to sink
Mounting torque		25-30 inch pounds
Weight		.54 ounce (15.3 grams) typical



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05-30-07 Rev. 1

# SBR10040 — SBR10050

Figure 1  
Typical Forward Characteristics

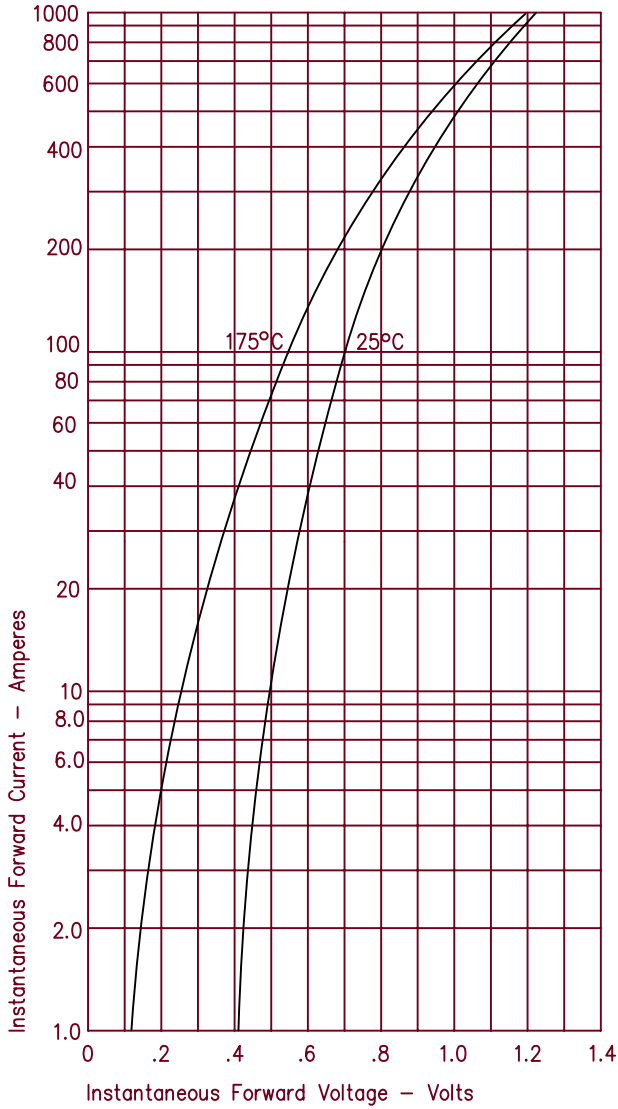


Figure 2  
Typical Reverse Characteristics

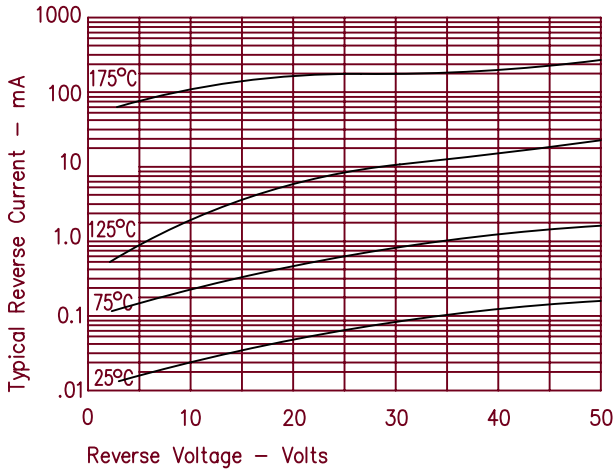


Figure 3  
Typical Junction Capacitance

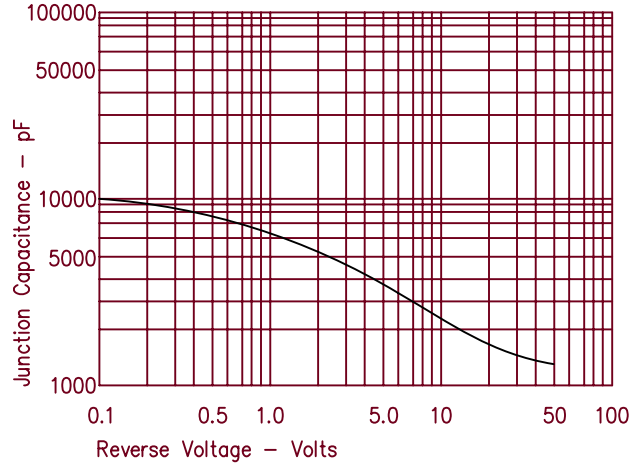


Figure 4  
Forward Current Derating

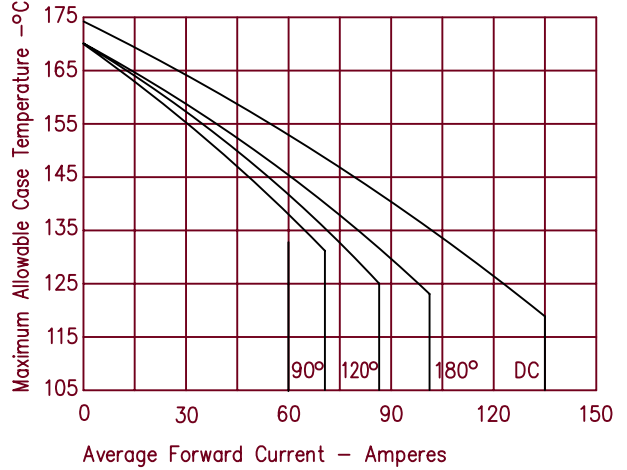


Figure 5  
Maximum Forward Power Dissipation

