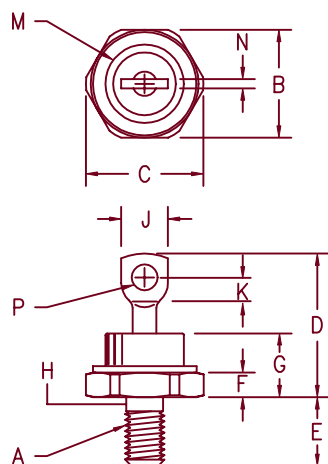


# 60 Amp Schottky Rectifier SBR6090 — SBR60100



- 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   | 1      |
| F    | .115    | .200    | 2.93       | 5.08    |        |
| G    | ---     | .450    | ---        | 11.43   |        |
| H    | .220    | .249    | 5.59       | 6.32    |        |
| J    | ---     | .375    | ---        | 9.52    | Dia    |
| K    | .156    | ---     | 3.97       | ---     |        |
| M    | ---     | .510    | ---        | 12.95   |        |
| N    | ---     | .080    | ---        | 2.03    |        |
| P    | .140    | .175    | 3.56       | 4.44    | Dia    |

DO-203AB (DO-5)

| Microsemi Catalog Number | Industry Part Number | Working Peak Reverse Voltage | Peak Reverse Voltage |
|--------------------------|----------------------|------------------------------|----------------------|
| SBR6090*                 | 60HQ080<br>MBR6080   | 90V                          | 90V                  |
| SBR60100*                | 60HQ100<br>MBR60100  | 100V                         | 100V                 |

\*Add Suffix R For Reverse Polarity

- Schottky barrier rectifier
- Hermetic packaging
- Guard ring protected
- Reverse Energy Tested
- 175°C junction temperature
- $V_{RRM}$  - 90 to 100 Volts

## Electrical Characteristics

|                                     |                     |                                                                    |
|-------------------------------------|---------------------|--------------------------------------------------------------------|
| Average forward current             | $I_F(AV)$ 60 Amps   | $T_C = 130^\circ C$ , square wave, $R_{\theta JC} = 1.0^\circ C/W$ |
| Maximum surge current               | $I_{FSM}$ 1000 Amps | 8.3ms, half sine, $T_J = 175^\circ C$                              |
| Max repetitive peak reverse current | $I_R(0V)$ 2 Amp     | $f = 1$ KHz, $25^\circ C$ , 1 $\mu sec$ square wave                |
| Max peak forward voltage            | $V_{FM}$ .89 Volts  | $I_{FM} = 60A: 25^\circ C *$                                       |
| Max peak forward voltage            | $V_{FM}$ .70 Volts  | $I_{FM} = 60A: 125^\circ C *$                                      |
| Max peak reverse current            | $I_{RM}$ 50 mA      | $V_{RRM}, T_J = 125^\circ C *$                                     |
| Max peak reverse current            | $I_{RM}$ 1.0 mA     | $V_{RRM}, T_J = 25^\circ C$                                        |
| Typical junction capacitance        | $C_J$ 1250 pF       | $V_R = 5.0V, T_J = 25^\circ C$                                     |

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

## Thermal and Mechanical Characteristics

|                                      |                 |                                  |
|--------------------------------------|-----------------|----------------------------------|
| Storage temp range                   | $T_{STG}$       | $-65^\circ C$ to $175^\circ C$   |
| Operating junction temp range        | $T_J$           | $-65^\circ C$ to $175^\circ C$   |
| Maximum thermal resistance           | $R_{\theta JC}$ | $1.0^\circ C/W$ Junction to case |
| Typical thermal resistance (greased) | $R_{\theta CS}$ | $0.5^\circ C/W$ Case to sink     |
| Mounting torque                      |                 | 25-30 inch pounds                |
| Weight                               |                 | .54 ounces (15.3 grams) typical  |

# SBR6090 — SBR60100

Figure 1  
Typical Forward Characteristics

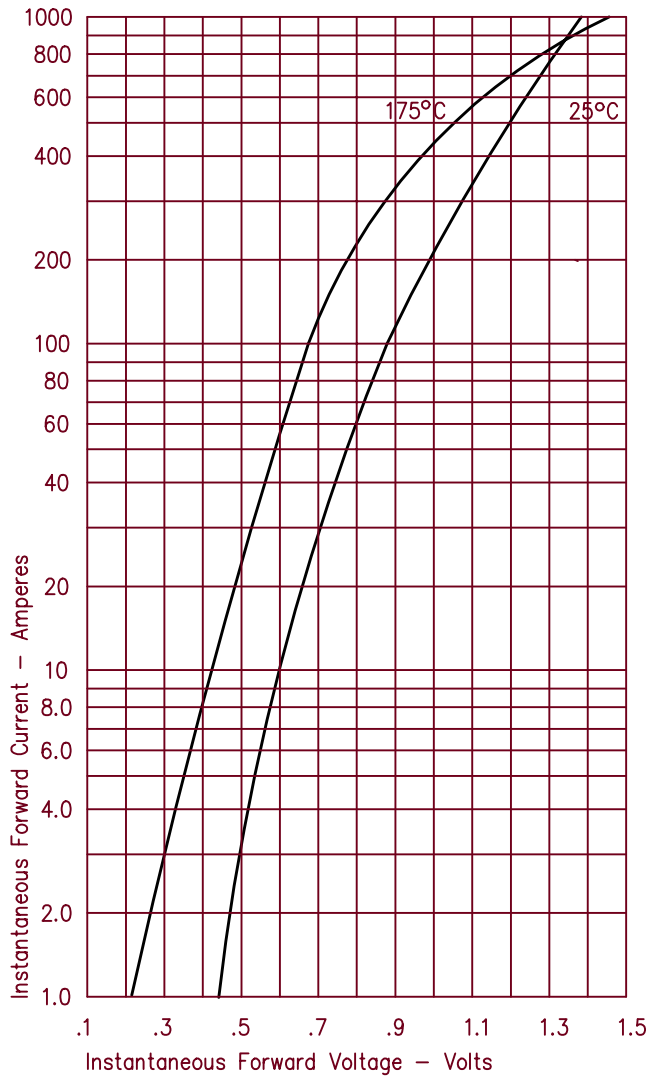


Figure 3  
Typical Junction Capacitance

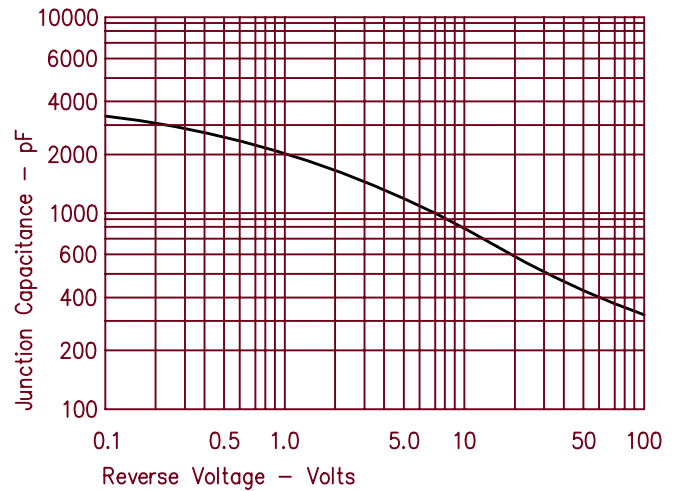


Figure 4  
Forward Current Derating

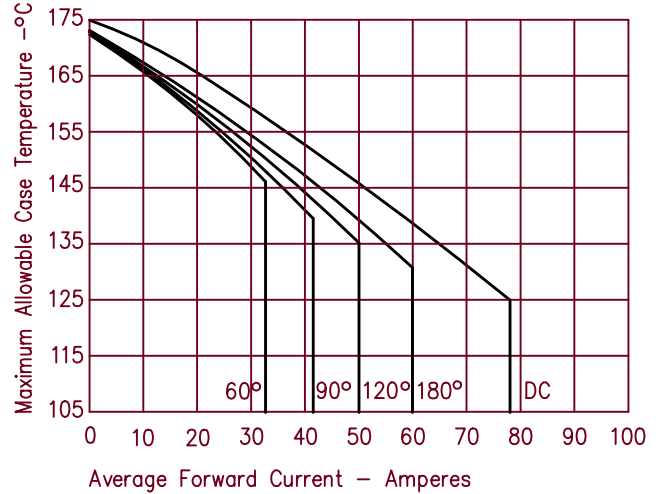


Figure 2  
Typical Reverse Characteristics

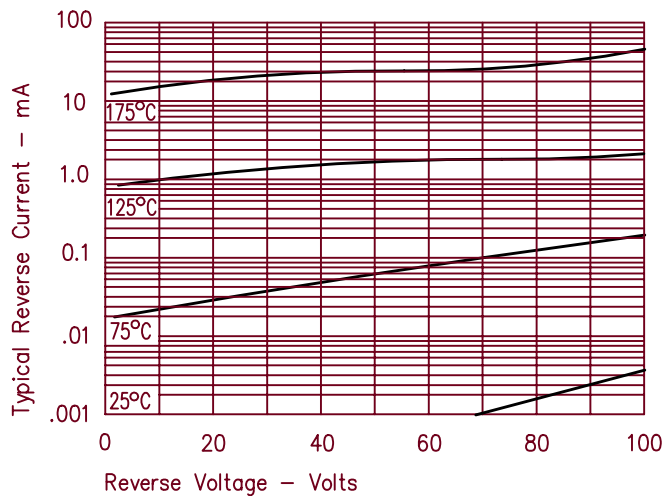


Figure 5  
Maximum Forward Power Dissipation

