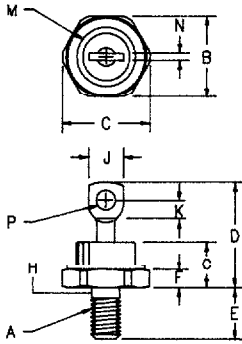


Schottky Rectifier SBR80 Series



- 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 | .687 | 17.19 | 17.44 | |
| C | ---- | .794 | ---- | 20.16 | |
| D | ---- | 1.000 | ---- | 25.40 | |
| E | .422 | .453 | 10.72 | 11.50 | |
| F | .115 | .200 | 2.93 | 5.08 | |
| G | ---- | .450 | ---- | 11.43 | |
| H | .220 | .249 | 5.58 | 6.32 | 1 |
| J | ---- | .375 | ---- | 9.52 | |
| K | .156 | ---- | 3.96 | ---- | |
| M | ---- | .915 | ---- | 13.08 | Dia. |
| N | ---- | .080 | ---- | 2.03 | |
| P | .140 | .175 | 3.56 | 4.45 | Dia. |

D0203AB (D05)

| Microsemi Catalog Number | Working Peak Reverse Voltage | Repetitive Peak Reverse Voltage |
|--------------------------|------------------------------|---------------------------------|
| SBR8035 * | 35V | 35V |
| SBR8040 * | 40V | 40V |
| SBR8045 * | 45V | 45V |
| SBR8050 * | 50V | 50V |

*Add Suffix R For Reverse Polarity

- Schottky Barrier Rectifier
- 175°C Junction Temperature
- Guard Ring Protection
- Low Forward Voltage
- VRRM - 35 to 50 Volts
- 85 Amperes/50 Volts
- Reverse Energy Tested

Electrical Characteristics

| | | |
|-------------------------------------|-----------------------------|--|
| Average forward current, | $I_F(AV) = 85$ Amps | $T_C = 120^\circ\text{C}$, Square wave, $R_{\theta JC} = 0.8^\circ\text{C/W}$ |
| Maximum surge current, | $I_{FSM} = 1200$ 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°C , 1 μsec Square wave |
| Max peak forward voltage, | $V_{FM} = 0.58$ Volts | $I_{FM} = 80\text{A}$, $T_J = 175^\circ\text{C}^*$ |
| Max peak forward voltage, | $V_{FM} = 0.74$ Volts | $I_{FM} = 80\text{A}$, $T_J = 25^\circ\text{C}^*$ |
| Max peak reverse current | $I_{RM} = 30$ mA | V_{RRM} , $T_J = 125^\circ\text{C}^*$ |
| Max peak reverse current | $I_{RM} = 2$ mA | V_{RRM} , $T_J = 25^\circ\text{C}$ |
| Typical reverse current | $I_{RM} = 20$ μA | Y_{RRM} , $T_J = 25^\circ\text{C}$ |
| Typical junction capacitance | $C_J = 2300$ pF | $V_R = 5.0\text{V}$, $T_J = 25^\circ\text{C}$ |

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

Thermal and Mechanical Characteristics

| | | |
|-------------------------------|-----------------|---|
| Storage temp range | T_{STG} | -55°C to $+175^\circ\text{C}$ |
| Operating junction temp range | T_J | -55°C to $+175^\circ\text{C}$ |
| Max thermal resistance | $R_{\theta JC}$ | 0.8°C/W Junction to sink |
| Typical thermal resistance | $R_{\theta CS}$ | 0.5°C/W Case to sink |
| Max mounting torque | | 30.0 inch pounds maximum |
| Weight | | 0.54 ounce (15.3 grams) typical |

Microsemi Corp.
Colorado

SBR80



Figure 1
Typical Forward Characteristics

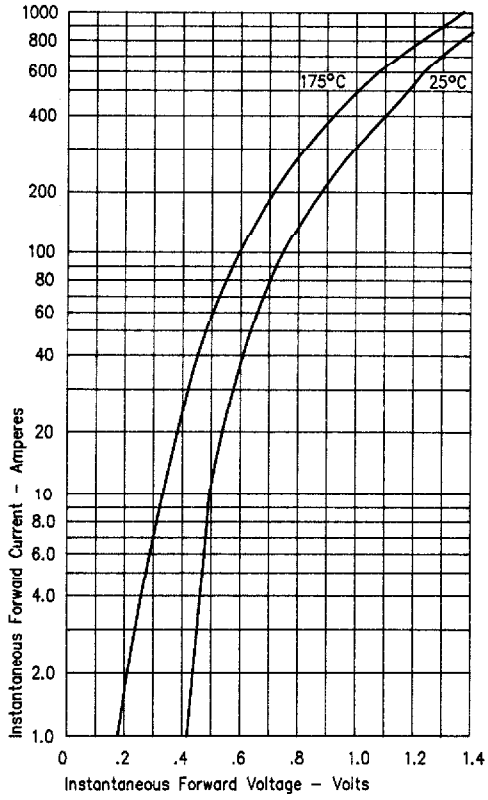


Figure 3
Typical Junction Capacitance

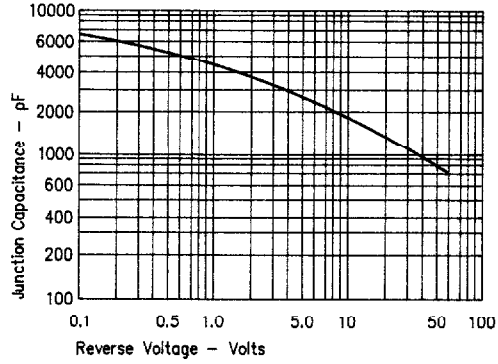


Figure 4
Forward Current Derating

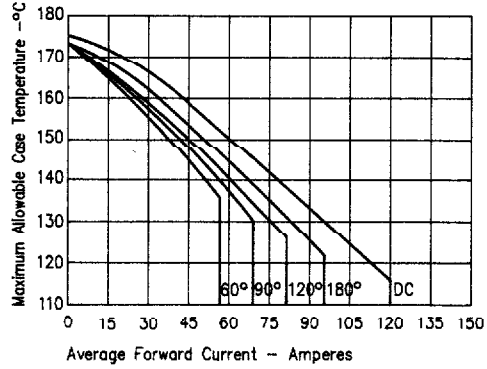


Figure 2
Typical Reverse Characteristics

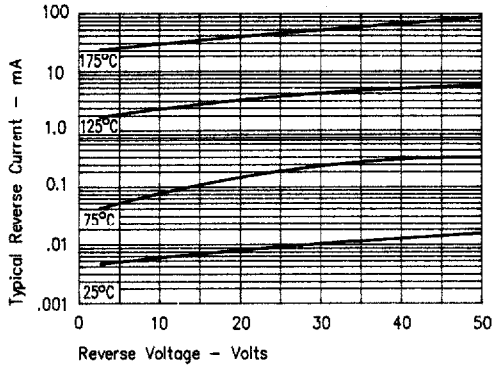


Figure 5
Maximum Forward Power Dissipation

