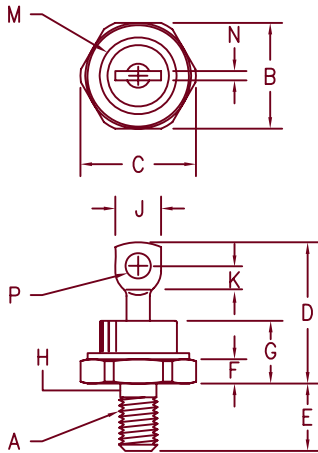


# Silicon Power Rectifier S/R37 Series



- Notes:
- 1/4-28 3A
  - Full threads within 2 1/2 threads
  - Standard polarity:  
Stud is cathode  
Reverse polarity:  
Stud is anode

| Dim. | Inches  |         | Millimeter |         | Notes |
|------|---------|---------|------------|---------|-------|
|      | Minimum | Maximum | Minimum    | Maximum |       |
| A    | ---     | ---     | ---        | ---     | 1     |
| B    | .667    | .687    | 16.95      | 17.44   |       |
| C    | ---     | .793    | ---        | 20.14   |       |
| D    | ---     | 1.00    | ---        | 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    | 2     |
| J    | .250    | .375    | 6.35       | 9.52    |       |
| K    | .156    | ---     | 3.97       | ---     |       |
| M    | ---     | .667    | ---        | 16.94   | Dia   |
| N    | ---     | .080    | ---        | 2.03    |       |
| P    | .140    | .175    | 3.56       | 4.44    | Dia   |

D0203AB (D05)

| Microsemi<br>Catalog Number<br>Standard | Reverse | Peak Reverse<br>Voltage |
|---|---------|-------------------------|
| S3720                                   | R3720   | 200V                    |
| S3740                                   | R3740   | 400V                    |
| S3760                                   | R3760   | 600V                    |
| S3780                                   | R3780   | 800V                    |
| S37100                                  | R37100  | 1000V                   |
| S37120                                  | R37120  | 1200V                   |
| S37140                                  | R37140  | 1400V                   |
| S37160                                  | R37160  | 1600V                   |

- Glass Passivated Die
- 1500 Amps Surge Rating
- Glass to metal seal construction
- VRRM to 1600V
- Excellent reliability

## Electrical Characteristics

|                                     |  |  |
|-------------------------------------|--|--|
| Average forward current             | I <sub>F(AV)</sub> 85 Amps             | T <sub>C</sub> = 147°C, Half Sine Wave, <sup>R</sup> θ <sub>JC</sub> = 0.6°C/W |
| Maximum surge current               | I <sub>FSM</sub> 1500 Amps             | 8.3ms, half sine, T <sub>J</sub> = 200°C                                       |
| Max I <sup>2</sup> t for fusing     | I <sup>2</sup> t 9300 A <sup>2</sup> s |  |
| Max peak forward voltage            | V <sub>FM</sub> 1.15 Volts             | I <sub>FM</sub> = 200A; T <sub>J</sub> = 25°C*                                 |
| Max peak reverse current            | I <sub>RM</sub> 25 μA                  | V <sub>R</sub> = 1600V, T <sub>J</sub> = 25°C                                  |
| Max peak reverse current            | I <sub>RM</sub> 2.0 mA                 | V <sub>R</sub> = 1600V, T <sub>J</sub> = 150°C                                 |
| Max Recommended Operating Frequency | 10kHz                                  |  |

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

## Thermal and Mechanical Characteristics

|                                      |                  |                              |
|--------------------------------------|------------------|------------------------------|
| Storage temperature range            | T <sub>STG</sub> | -65°C to 200°C               |
| Operating junction temp range        | T <sub>J</sub>   | -65°C to 200°C               |
| Maximum thermal resistance           | R <sub>θJC</sub> | 0.6°C/W junction to case     |
| Typical thermal resistance (greased) | R <sub>θCS</sub> | 0.5°C/W case to sink         |
| Mounting torque                      |                  | 25-30 inch pounds            |
| Weight                               |                  | .6 ounces (17 grams) typical |



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05-02-07 Rev. 3

# S/R37

Figure 1  
Typical Forward Characteristics

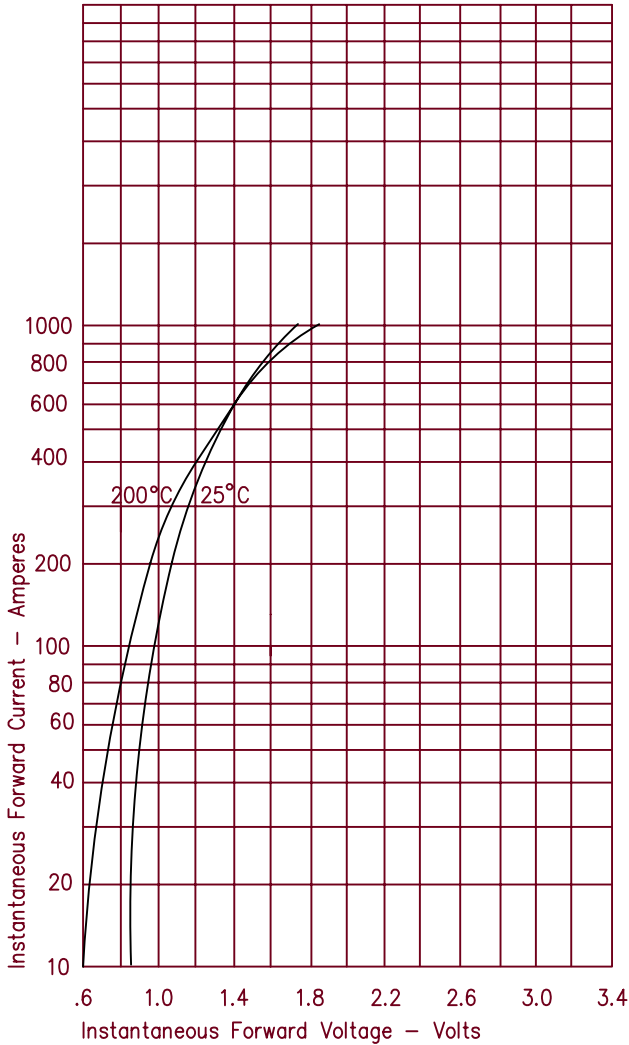


Figure 3  
Forward Current Derating

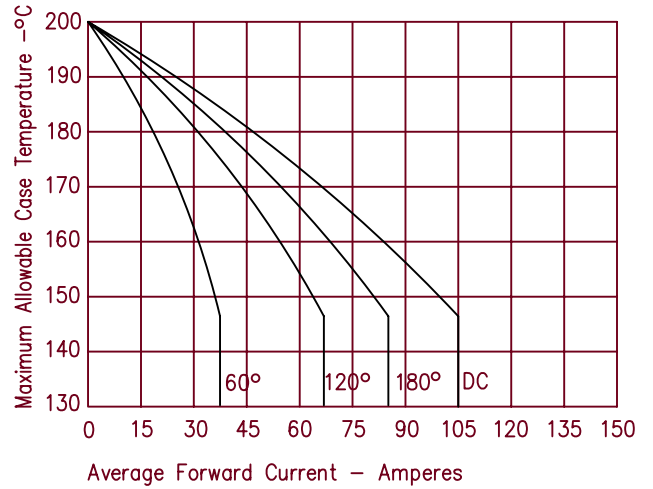


Figure 4  
Maximum Forward Power Dissipation

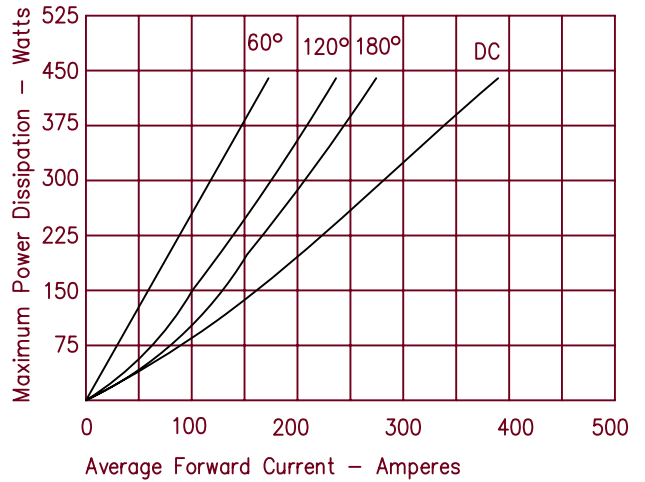


Figure 2  
Typical Reverse Characteristics

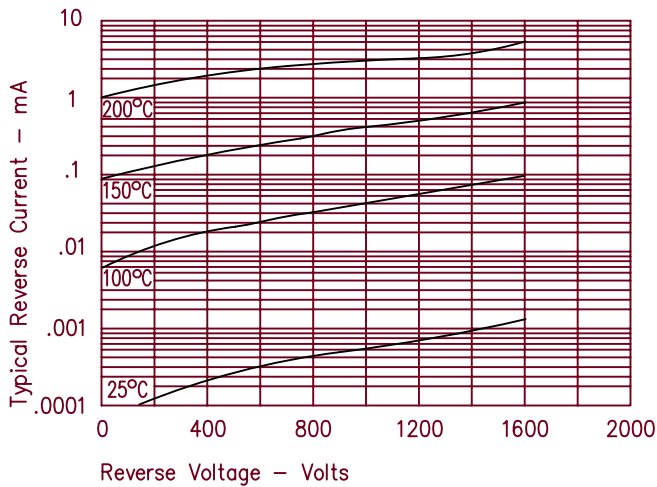


Figure 5  
Transient Thermal Impedance

