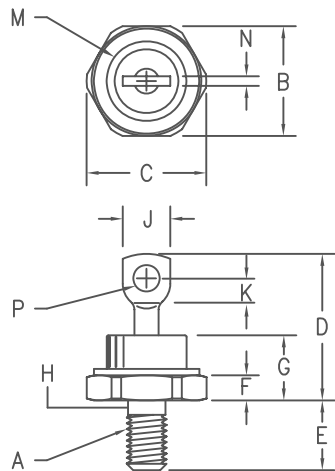


# Silicon Power Rectifier

## 1N1183–1N1190, 1N3765–1N3768



### 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    | .667    | .687    | 16.95      | 17.44   |        |
| C    | ---     | .793    | ---        | 20.14   |        |
| D    | ---     | 1.00    | ---        | 25.40   |        |
| E    | .422    | .453    | 10.72      | 11.50   | 1      |
| F    | .115    | .200    | 2.92       | 5.08    |        |
| G    | ---     | .450    | ---        | 11.43   |        |
| H    | .220    | .249    | 5.59       | 6.32    |        |
| J    | .250    | .375    | 6.35       | 9.52    | Dia    |
| K    | .156    | ---     | 3.97       | ---     |        |
| M    | ---     | .667    | ---        | 16.94   |        |
| N    | ---     | .080    | ---        | 2.03    |        |
| P    | .140    | .175    | 3.56       | 4.44    | Dia    |

D0203AB (D0-5)

| JEDEC Numbers   | Peak Reverse Voltage |
|-----------------|----------------------|
| 1N1183, 1N1183A | 50V                  |
| 1N1184, 1N1184A | 100V                 |
| 1N1185, 1N1185A | 150V                 |
| 1N1186, 1N1186A | 200V                 |
| 1N1187, 1N1187A | 300V                 |
| 1N1188, 1N1188A | 400V                 |
| 1N1189, 1N1189A | 500V                 |
| 1N1190, 1N1190A | 600V                 |
| 1N3765          | 700V                 |
| 1N3766          | 800V                 |
| 1N3767          | 900V                 |
| 1N3768          | 1000V                |

For Reverse Polarity add R to Part Number

- Glass Passivated Die
- 800A surge rating
- Glass to metal construction
- $V_{RRM}$  to 1000V
- Low cost Non-RoHS package

### Electrical Characteristics

|                                     |                      |                                                                        |
|-------------------------------------|----------------------|------------------------------------------------------------------------|
| Average forward current             | $I_F(AV)$ 40 Amps    | $T_C = 146^\circ C$ , half sine wave, $R_{\theta JC} = 1.25^\circ C/W$ |
| Maximum surge current               | $I_{FSM}$ 800 Amps   | 8.3ms, half sine, $T_J = 200^\circ C$                                  |
| Max $I^2 t$ for fusing              | $I^2 t$ 2600 $A^2 s$ |                                                                        |
| Max peak forward voltage            | $V_{FM}$ 1.19 Volts  | $I_{FM} = 90A$ ; $T_J = 25^\circ C^*$                                  |
| Max peak reverse current            | $I_{RM}$ 10 $\mu A$  | $V_{RRM}$ , $T_J = 25^\circ C$                                         |
| Max peak reverse current            | $I_{RM}$ 2.0 mA      | $V_{RRM}$ , $T_J = 150^\circ C$                                        |
| Max Recommended Operating Frequency | 10kHz                |                                                                        |

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

### Thermal and Mechanical Characteristics

|                               |                 |                                    |
|-------------------------------|-----------------|------------------------------------|
| Storage temperature range     | $T_{STG}$       | $-65^\circ C$ to $200^\circ C$     |
| Operating junction temp range | $T_J$           | $-65^\circ C$ to $200^\circ C$     |
| Maximum thermal resistance    | $R_{\theta JC}$ | 1.25 $^\circ C/W$ Junction to Case |
| Mounting torque               |                 | 25–30 inch pounds                  |
| Weight                        |                 | .5 ounces (14 grams) typical       |

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Figure 1  
Typical Forward Characteristics

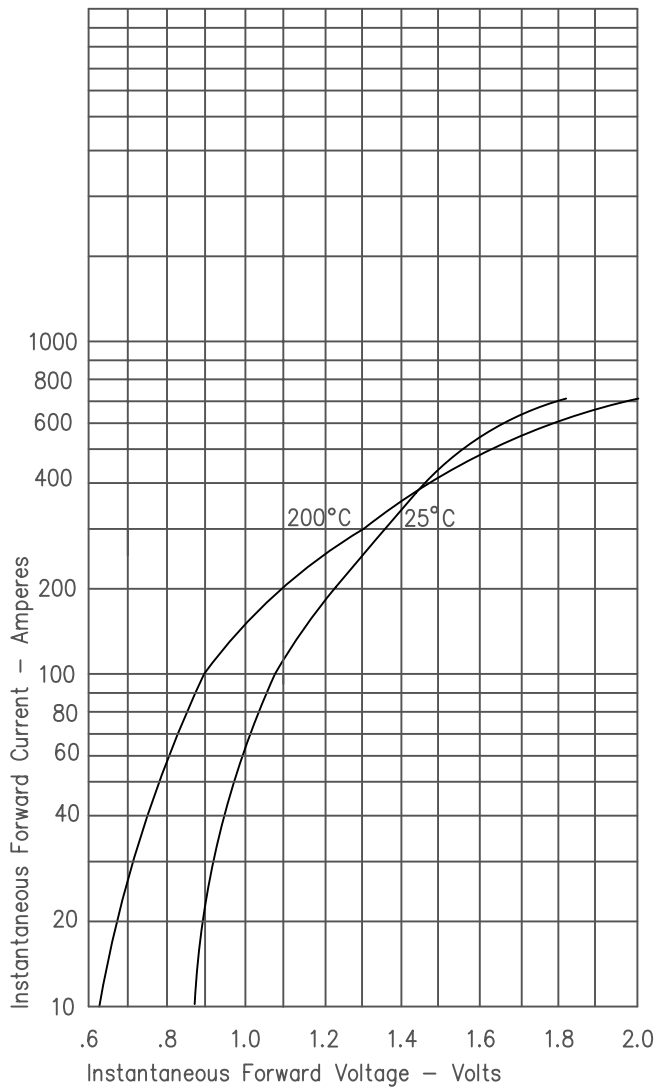


Figure 2  
Typical Reverse Characteristics

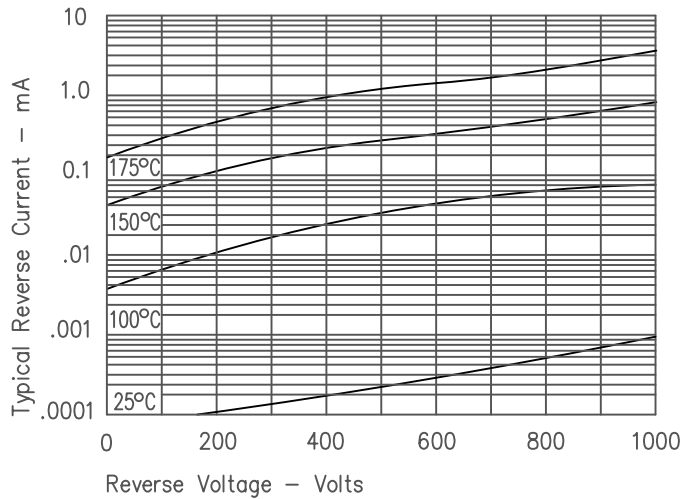


Figure 3  
Forward Current Derating

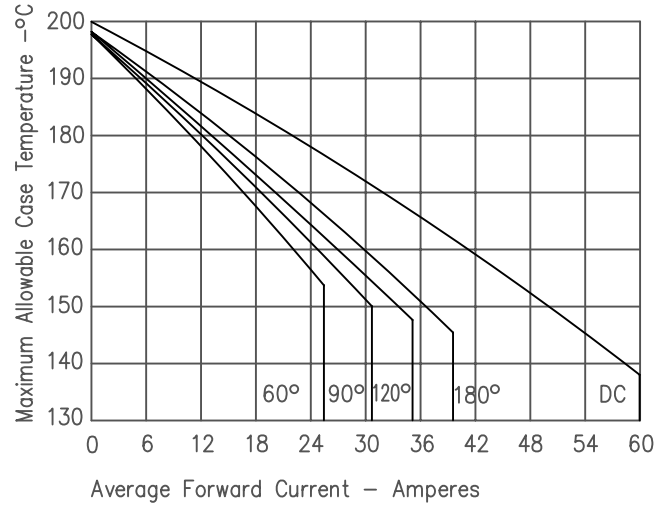


Figure 4  
Maximum Forward Power Dissipation

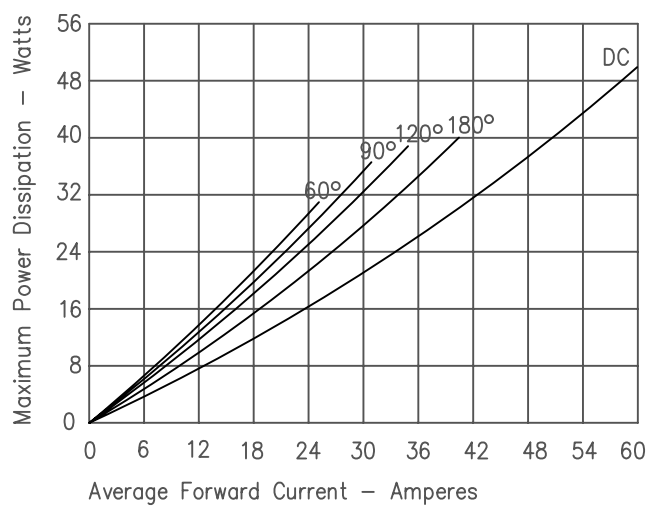


Figure 5  
Transient Thermal Impedance

