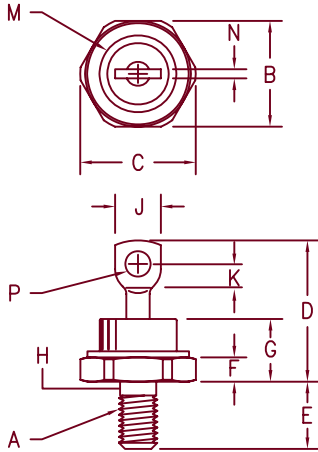


Fast Recovery Rectifier

1N3899 — 1N3903



- Notes:
1. 1/4-28 UNF3A threads
 2. Full threads within 2 1/2 threads
 3. Standard Polarity: Stud is Cathode

| Dim. | Inches | | Millimeter | | Notes |
|------|---------|---------|------------|---------|-------|
| | Minimum | Maximum | Minimum | Maximum | |
| A | --- | --- | --- | --- | 1 |
| B | .669 | .688 | 16.99 | 17.48 | |
| C | --- | .794 | --- | 20.16 | |
| D | .750 | 1.000 | 19.05 | 25.40 | |
| E | .422 | .453 | 10.72 | 11.51 | |
| F | .115 | .200 | 2.92 | 5.08 | |
| G | --- | .450 | --- | 11.43 | |
| H | .220 | .249 | 5.58 | 6.32 | 2 |
| J | .250 | .375 | 6.35 | 9.53 | |
| K | .156 | --- | 3.96 | --- | |
| M | --- | .667 | --- | 16.94 | Dia. |
| N | .030 | .080 | .760 | 2.03 | |
| P | .140 | .175 | 3.56 | 4.45 | Dia. |

D0203AB (D05)

| Microsemi Catalog Number | Working Peak Reverse Voltage | Repetitive Peak Reverse Voltage |
|--------------------------|------------------------------|---------------------------------|
| 1N3899* | 50V | 50V |
| 1N3900* | 100V | 100V |
| 1N3901* | 200V | 200V |
| 1N3902* | 300V | 300V |
| 1N3903* | 400V | 400V |

*Add the Suffix R for reverse polarity

- Fast Recovery Rectifier
- 150°C Junction Temperature
- 20 Amp current rating
- VRRM 50 to 400 Volts

Electrical Characteristics

| | | |
|---------------------------|---------------------|-------------------------------------------------------------------------------------------------------------|
| Average forward current | $I_F(AV)$ 20 Amps | $T_C = 100^\circ C$, Square wave, $R_{\theta JC} = 1.8^\circ C/W$ 8.3 ms, half_sine $T_C = 100^\circ C$ |
| Maximum surge current | I_{FSM} 225 Amps | |
| Max peak forward voltage | V_{FM} 1.40 Volts | $I_{FM} = 63A$ $T_J = 25^\circ C^*$ |
| Max peak reverse current | I_{RM} 6 mA | V_{RRM} , $T_J = 150^\circ C$ |
| Max peak reverse voltage | I_{RM} 50 μA | V_{RRM} , $T_J = 25^\circ C$ |
| Max reverse recovery time | t_{RR} 200 ns | $I_F = 1A$ dc, $V_R = 30V$, $di/dt = 25A/\mu s$ |
| Max junction capacitance | C_J 150 pF | $V_R = 10V$, $f = 1Mhz$, $T_J = 25^\circ C$ |

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

Thermal and Mechanical Characteristics

| | | |
|-------------------------------|-----------------|---------------------------------|
| Storage temp range | TSTG | -65°C to 175°C |
| Operating junction temp range | T_J | -65°C to 150°C |
| Max thermal resistance | $R_{\theta JC}$ | 1.8°C/W Junction to case |
| Mounting torque | | 25-30 inch pounds |
| Weight | | .54 ounces (15.3 grams) typical |



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04-18-07 Rev. 2

1N3899 — 1N3903

Figure 1
Typical Forward Characteristics

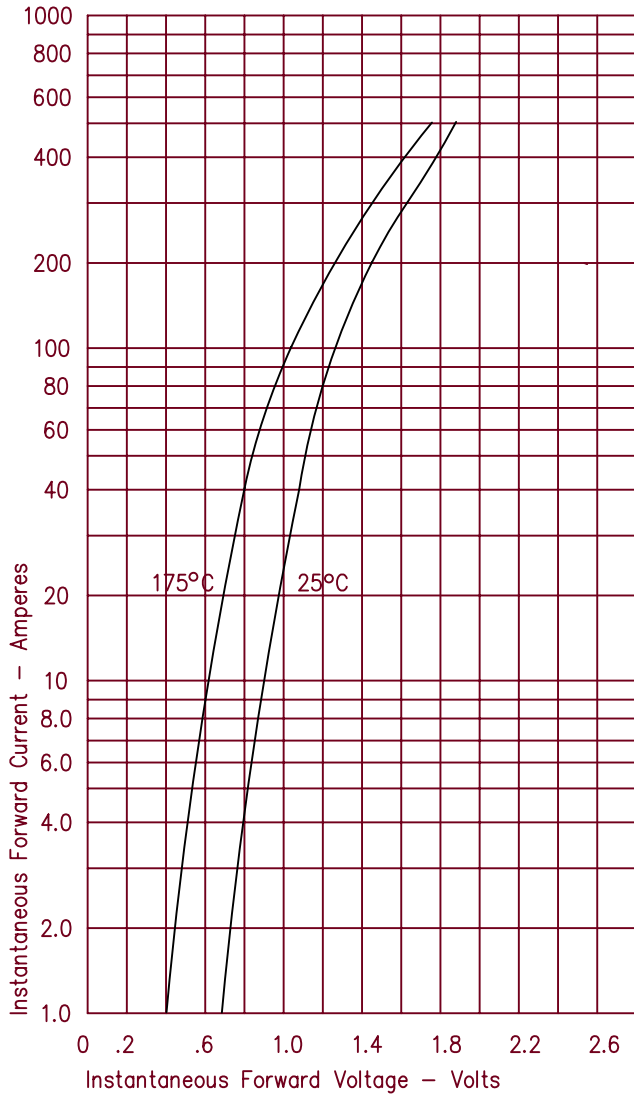


Figure 3
Typical Junction Capacitance

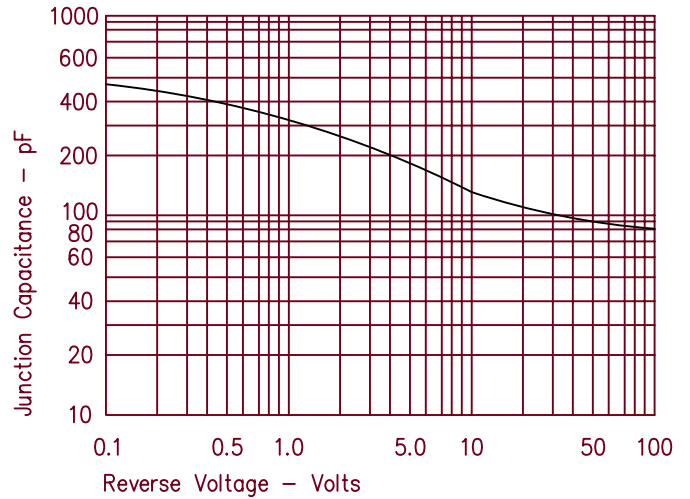


Figure 4
Forward Current Derating

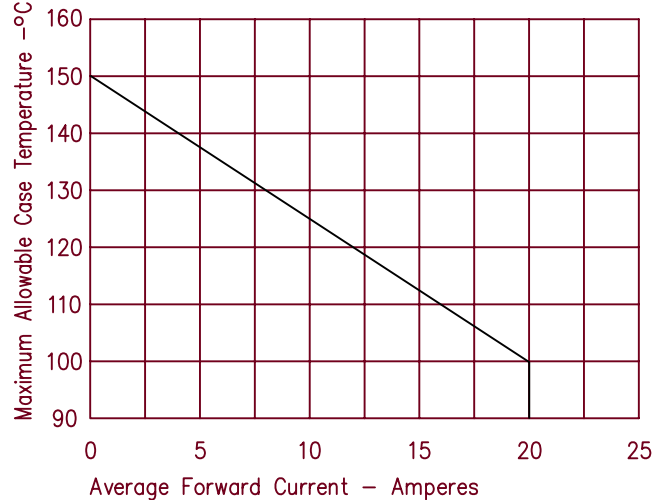


Figure 2
Typical Reverse Characteristics

