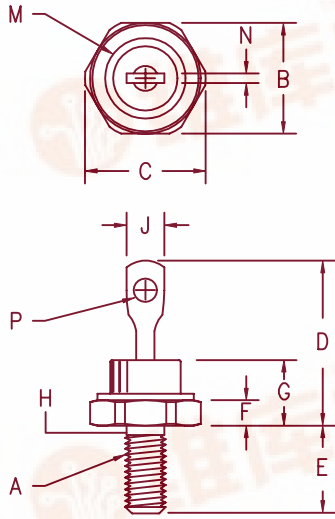


# Military Fast Recovery Rectifier

## 1N3890A — 1N3893A

[查询"1N3890AR"供应商](#)



### Notes:

- 10–32 UNF3A threads
- 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    | .424    | .437    | 10.77      | 11.10   |       |
| C    | ---     | .505    | ---        | 12.82   |       |
| D    | ---     | .800    | ---        | 20.32   |       |
| E    | .422    | .453    | 10.72      | 11.50   |       |
| F    | .075    | .175    | 1.90       | 4.44    |       |
| G    | ---     | .405    | ---        | 10.29   |       |
| H    | .163    | .189    | 4.14       | 4.80    | 2     |
| J    | ---     | .250    | ---        | 6.35    |       |
| M    | ---     | .424    | ---        | 10.77   | Dia.  |
| N    | .020    | .065    | .510       | 1.65    |       |
| P    | .060    | ---     | 1.52       | ---     | Dia.  |

## DO203AA (D04)

| Microsemi Catalog Number | Working Peak Reverse Voltage | Repetitive Peak Reverse Voltage |
|--------------------------|------------------------------|---------------------------------|
| 1N3890A*                 | 100V                         | 100V                            |
| 1N3891A*                 | 200V                         | 200V                            |
| 1N3893A*                 | 400V                         | 400V                            |

\*Add Suffix R For Reverse Polarity

- Fast Recovery Rectifier
- Available in JAN, JANTX, JANTXV
- Mil-PRF-19500/304A
- 175°C Junction Temperature
- VRRM 100 to 400 Volts
- 20 Amps Current Rating

### Electrical Characteristics

|                           |                           |  |
|---------------------------|---------------------------|--|
| Average forward current   | $I_F(AV)$ 20 Amps         | $T_C = 100^\circ\text{C}$ , Square wave, $R_{\theta JC} = 1.5^\circ\text{C/W}$                         |
| Maximum surge current     | $I_{FSM}$ 250 Amps        | 8.3 ms, half sine $T_C = 100^\circ\text{C}$  |
| Max peak forward voltage  | $V_{FM}$ 2.75 Volts       | $I_{FM} = 250\text{A}$ ; $T_J = 25^\circ\text{C}$ (800 $\mu\text{s}$ pulse width)                      |
| Max peak forward voltage  | $V_{FM}$ 1.50 Volts       | $I_{FM} = 38\text{A}$ $T_J = 25^\circ\text{C}^*$   |
| Max peak reverse current  | $I_{RM}$ 2 mA             | $V_{RRM}$ , $T_J = 150^\circ\text{C}$  |
| Max peak reverse current  | $I_{RM}$ 10 $\mu\text{A}$ | $V_{RRM}$ , $T_J = 25^\circ\text{C}$   |
| Max reverse recovery time | $t_{RR}$ 150 ns           | $I_F = 1\text{A}$ dc, $V_R = 30\text{V}$ , $di/dt = 25\text{A}/\mu\text{s}$ , $T_C = 55^\circ\text{C}$ |
| Max junction capacitance  | $C_J$ 115 pF              | $V_R = 10\text{V}$ , $f = 1\text{Mhz}$ , $T_J = 25^\circ\text{C}$                                      |

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

### Thermal and Mechanical Characteristics

|                               |                 |  |
|-------------------------------|-----------------|--|
| Storage temp range            | $T_{STG}$       | $-65^\circ\text{C}$ to $175^\circ\text{C}$ |
| Operating junction temp range | $T_J$           | $-65^\circ\text{C}$ to $175^\circ\text{C}$ |
| Max thermal resistance        | $R_{\theta JC}$ | 1.5 $^\circ\text{C/W}$ Junction to case    |
| Mounting torque               |                 | 15 inch pounds maximum                     |
| Weight                        |                 | .16 ounces (5.0 grams) typical             |



COLORADO

**Microsemi**

800 Hoyt Street  
Broomfield, CO. 80020  
PH: (303) 469-2161  
FAX: (303) 466-3775  
[www.microsemi.com](http://www.microsemi.com)

8-25-00 Rev. 1

MILITARY

1N3890A — 1N3893A

Figure 1  
Typical Forward Characteristics

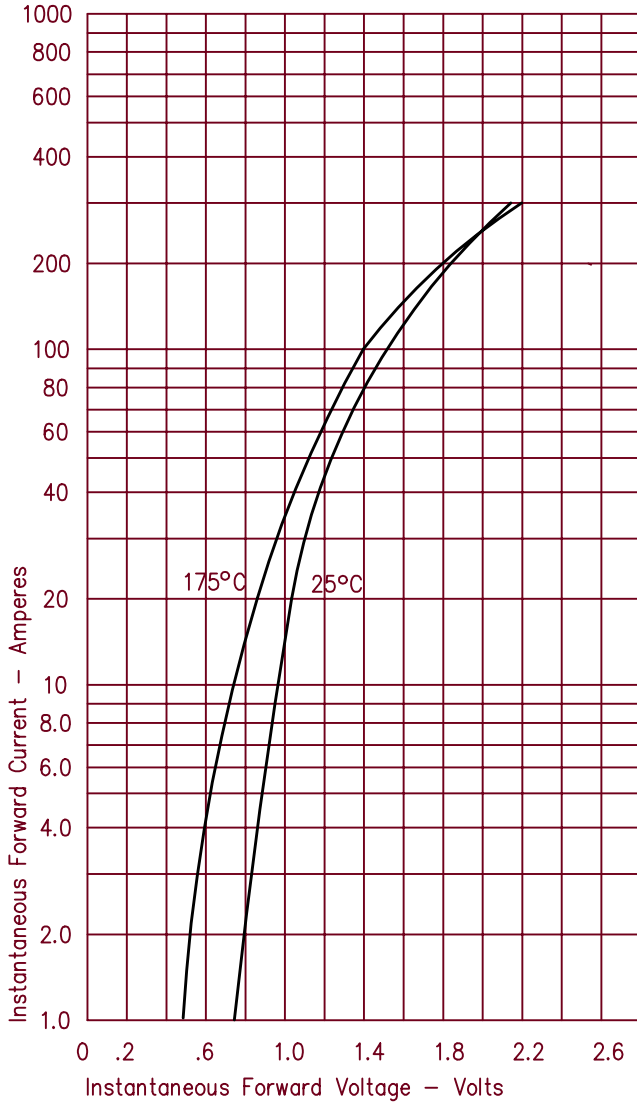


Figure 3  
Typical Junction Capacitance

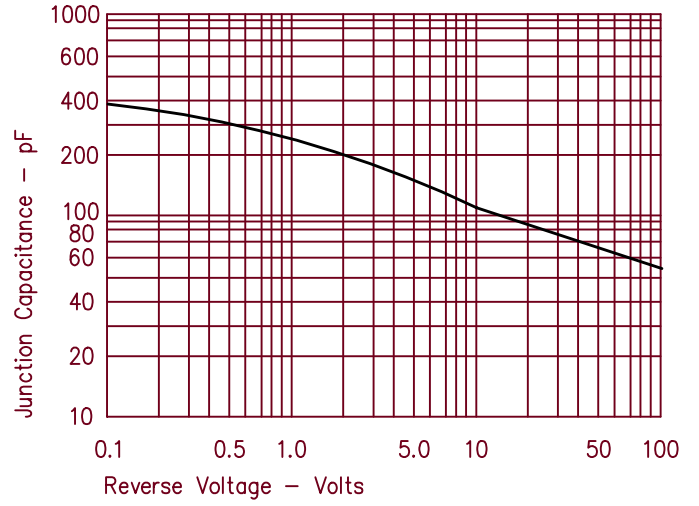


Figure 4  
Forward Current Derating

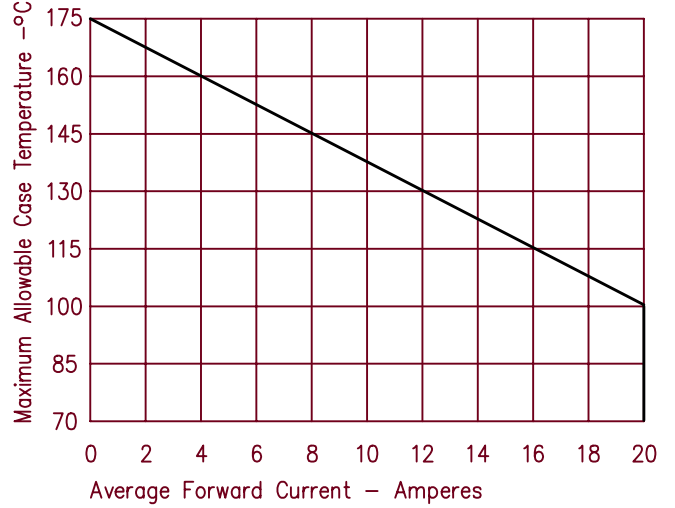


Figure 2  
Typical Reverse Characteristics

