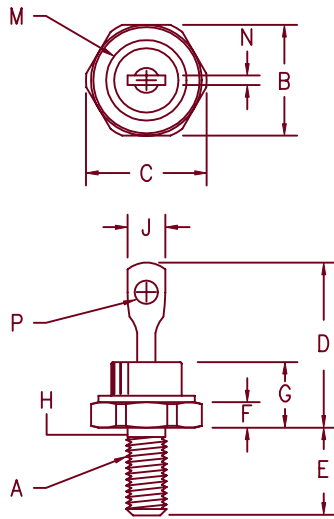


# Military Fast Recovery Rectifier 1N3890 — 1N3893



## Notes:

1. 10-32 UNF3A threads
2. Full threads within 2 1/2 threads
3. 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	2
G	---	.405	---	10.29	
H	.163	.189	4.14	4.80	
J	---	.250	---	6.35	
M	---	.424	---	10.77	
N	.020	.065	.510	1.65	Dia.
P	.060	---	1.52	---	

D0203AA (D04)

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
1N3890*	100V	100V
1N3891*	200V	200V
1N3893*	400V	400V

\*Add Suffix R For Reverse Polarity

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

## Electrical Characteristics

Average forward current	$I_F(AV)$ 12 Amps	$T_C = 100^\circ C$ , Square wave, $R_{\theta JC} = 2.0^\circ C/W$
Maximum surge current	$I_{FSM}$ 175 Amps	8.3 ms, half sine $T_C = 100^\circ C$
Max peak forward voltage	$V_{FM}$ 2.75 Volts	$I_{FM} = 175A$ ; $T_J = 25^\circ C$ (800 $\mu s$ pulse width)
Max peak forward voltage	$V_{FM}$ 1.50 Volts	$I_{FM} = 38A$ $T_J = 25^\circ C^*$
Max peak reverse current	$I_{RM}$ 2 mA	$V_{RRM}$ , $T_J = 150^\circ C$
Max peak reverse current	$I_{RM}$ 10 $\mu A$	$V_{RRM}$ , $T_J = 25^\circ C$
Max reverse recovery time	$t_{RR}$ 200 ns	$I_F = 1A$ dc, $V_R = 30V$ , $di/dt = 25A/\mu s$ , $T_C = 55^\circ C$
Max junction capacitance	$C_J$ 115 pF	$V_R = 10V$ , $f = 1Mhz$ , $T_J = 25^\circ C$

\*Pulse test: Pulse width 300  $\mu s$ , Duty cycle 2%

## Thermal and Mechanical Characteristics

Storage temp range	$T_{STG}$	$-65^\circ C$ to $175^\circ C$
Operating junction temp range	$T_J$	$-65^\circ C$ to $175^\circ C$
Max thermal resistance	$R_{\theta JC}$	$2.0^\circ C/W$ Junction to case
Mounting torque		15 inch pounds maximum
Weight		.16 ounces (5.0 grams) typical

# 1N3890 — 1N3893

Figure 1  
Typical Forward Characteristics

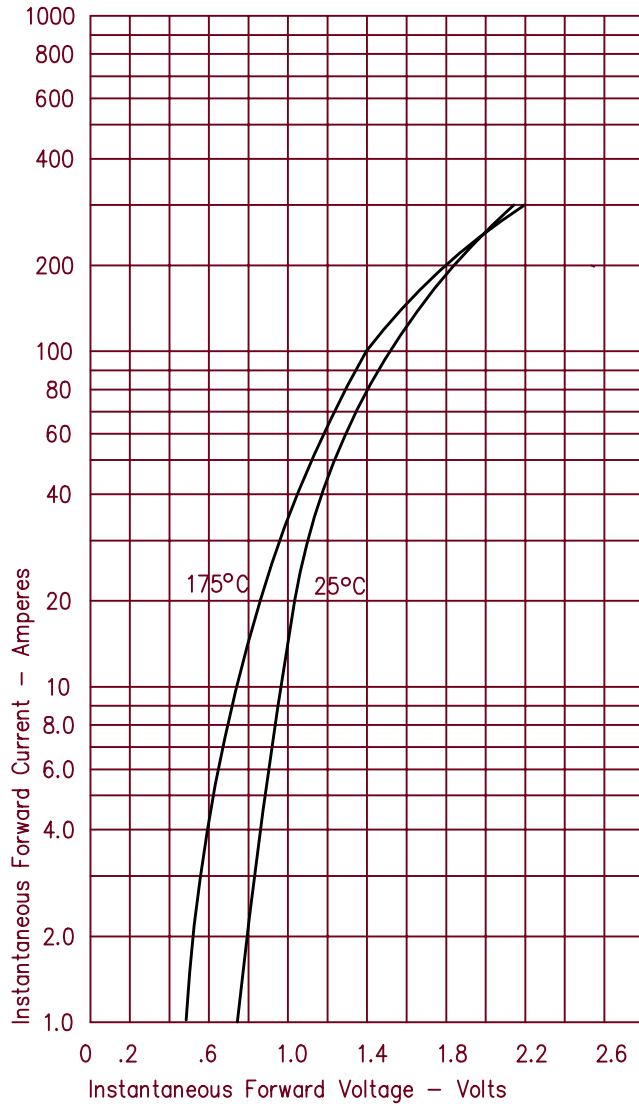


Figure 3  
Typical Junction Capacitance

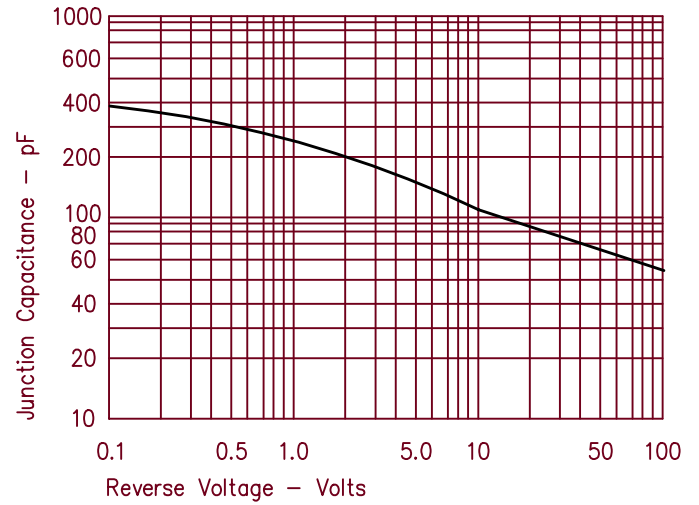


Figure 4  
Forward Current Derating

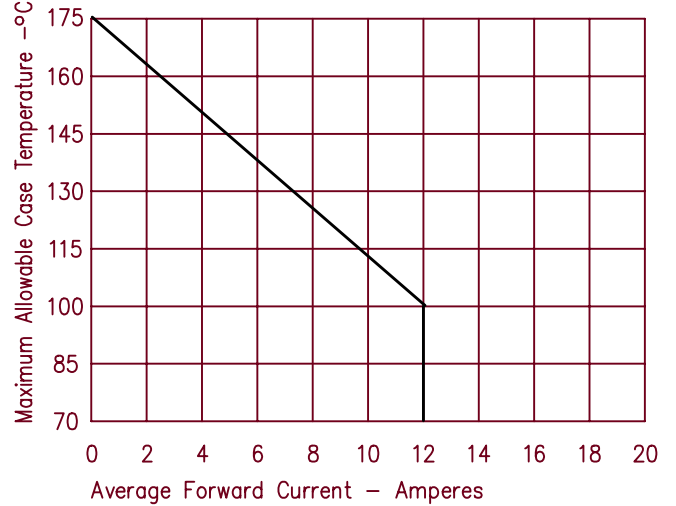


Figure 2  
Typical Reverse Characteristics

