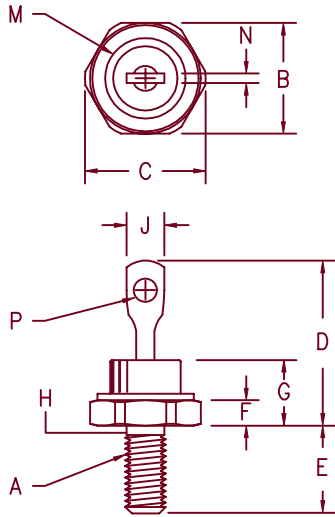


Military Fast Recovery Rectifier 1N3890 — 1N3893



- 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
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	$T_C = 100^\circ\text{C}$, Square wave, $R_{\theta JC} = 2.0^\circ\text{C/W}$
Maximum surge current	I_{FSM} 175 Amps	8.3 ms, half sine $T_C = 100^\circ\text{C}$
Max peak forward voltage	V_{FM} 2.75 Volts	$I_{FM} = 175\text{A}$; $T_J = 25^\circ\text{C}$ (800 μs 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 μA	V_{RRM} , $T_J = 25^\circ\text{C}$
Max reverse recovery time	t_{RR} 200 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 μsec , Duty cycle 2%

Thermal and Mechanical Characteristics

Storage temp range	T_{STG}	-65°C to 175°C
Operating junction temp range	T_J	-65°C to 175°C
Max thermal resistance	$R_{\theta JC}$	2.0°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

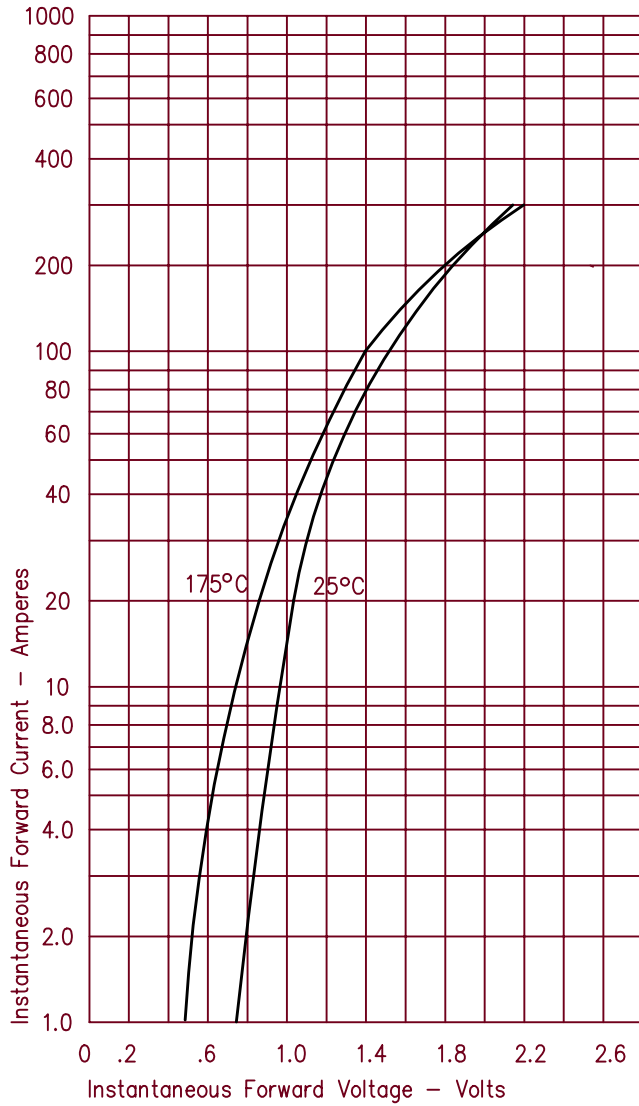


Figure 3
Typical Junction Capacitance

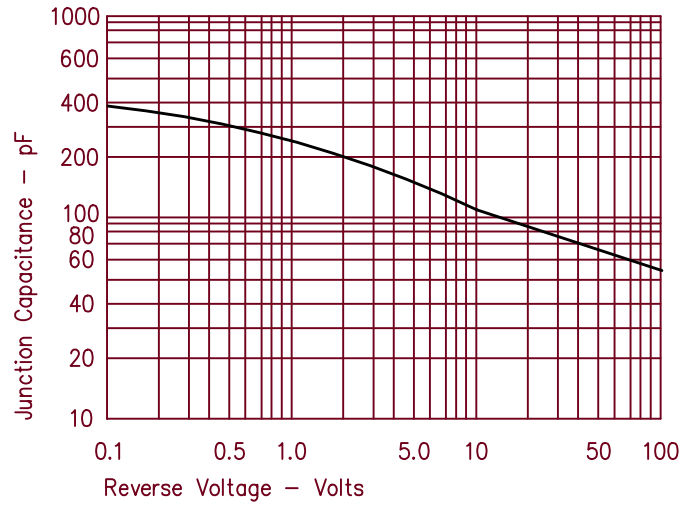


Figure 4
Forward Current Derating

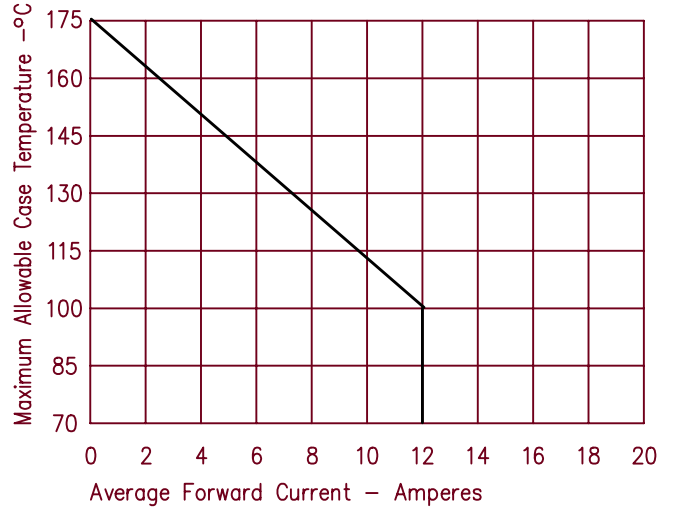


Figure 2
Typical Reverse Characteristics

