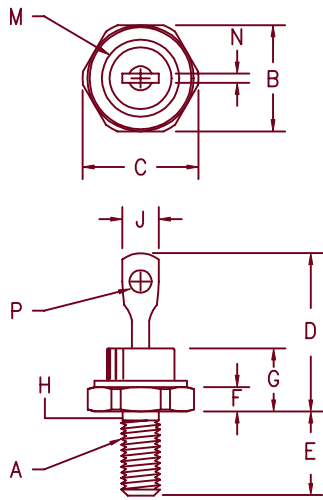


# Military Ultra Fast Recovery Rectifier 1N5812 – 1N5816



- 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	.600	.800	15.24	20.32	
E	.422	.453	10.72	11.50	
F	.075	.175	1.91	4.44	
G	---	.405	---	10.29	
H	.163	.189	4.15	4.80	2
J	---	.250	2.54	3.56	
M	---	.350	---	8.89	Dia.
N	.020	.065	.510	1.65	
P	.070	.100	1.78	2.54	Dia.

## D0203AA (D04)

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
1N5812*	50V	50V
1N5814*	100V	100V
1N5816*	150V	150V

\*Add Suffix R For Reverse Polarity

- Ultra Fast Recovery Rectifier
- Available in JAN, JANTX and JANTXV
- Mil-PRF-19500/478
- 175°C Junction Temperature
- VRRM – 50 to 150 Volts
- 20 Amps Current Rating

## Electrical Characteristics

Average forward current	I <sub>F(AV)</sub> 20 Amps	T <sub>C</sub> = 100°C, Square wave, R <sub>ΘJC</sub> = 1.5°C/W
Maximum surge current	I <sub>FSM</sub> 400 Amps	8.3 ms, half sine T <sub>C</sub> = 100°C
Max peak forward voltage	V <sub>FM</sub> .86 Volts	I <sub>FM</sub> = 10A: T <sub>J</sub> = 25°C*
Max peak forward voltage	V <sub>FM</sub> .95 Volts	I <sub>FM</sub> = 20A: T <sub>J</sub> = 25°C*
Max peak forward voltage,	V <sub>FM</sub> .78 Volts	I <sub>FM</sub> = 10A: T <sub>J</sub> = 100°C*
Max peak reverse current	I <sub>RM</sub> 1 mA	V <sub>R</sub> = VRRM, T <sub>J</sub> = 100°C
Max peak reverse current	I <sub>RM</sub> 10 μA	V <sub>R</sub> = VRRM, T <sub>J</sub> = 25°C
Max reverse recovery time	t <sub>RR</sub> 35 ns	I <sub>F</sub> = I <sub>R</sub> = 1A dc (pk), I(REC) = 0.1A, di/dt = 85A/μs
Max junction capacitance	C <sub>J</sub> 300 pF	V <sub>R</sub> = 10V, f = 1Mhz, T <sub>J</sub> = 25°C

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

## Thermal and Mechanical Characteristics

Storage temp range	T <sub>STG</sub>	-65°C to 175°C
Operating junction temp range	T <sub>J</sub>	-65°C to 175°C
Max thermal resistance	R <sub>ΘJC</sub>	1.5°C/W Junction to case
Mounting torque		15 inch pounds maximum
Weight		.16 ounces (5.0 grams) typical

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# 1N5812 — 1N5816

Figure 1  
Typical Forward Characteristics

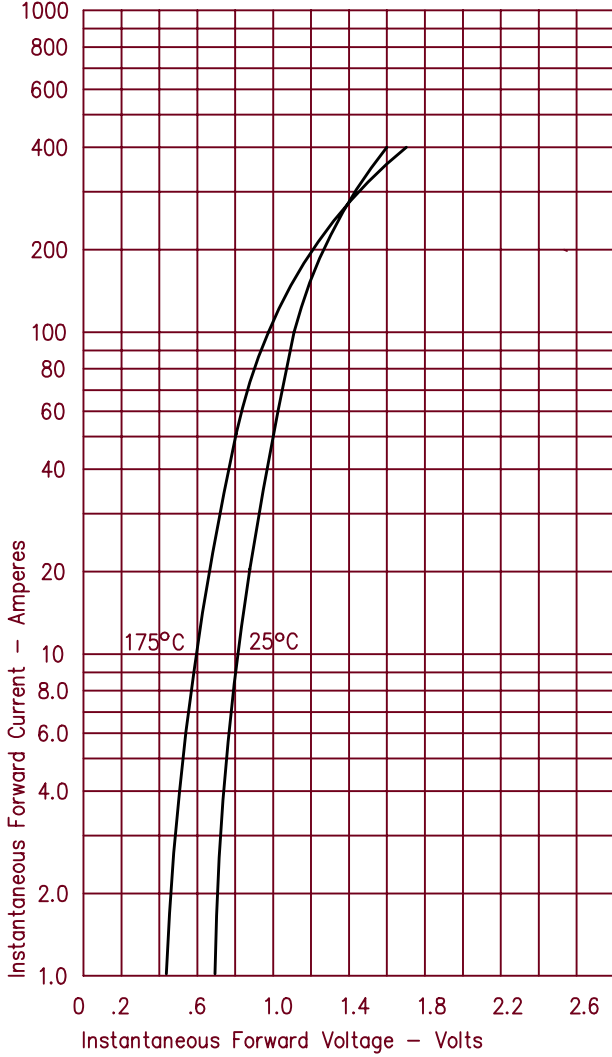


Figure 3  
Typical Junction Capacitance

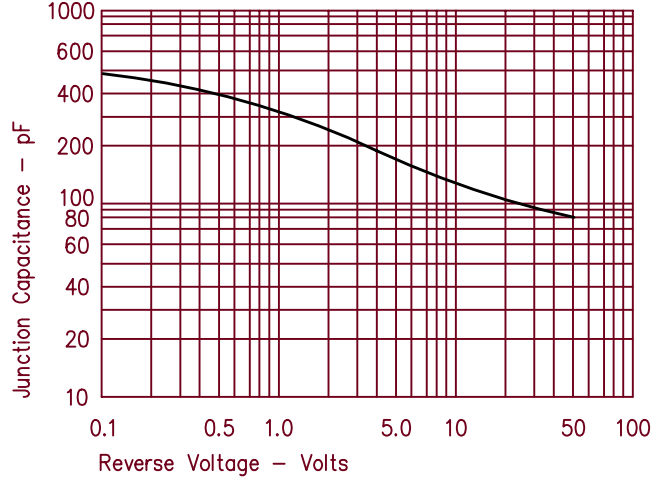


Figure 4  
Forward Current Derating

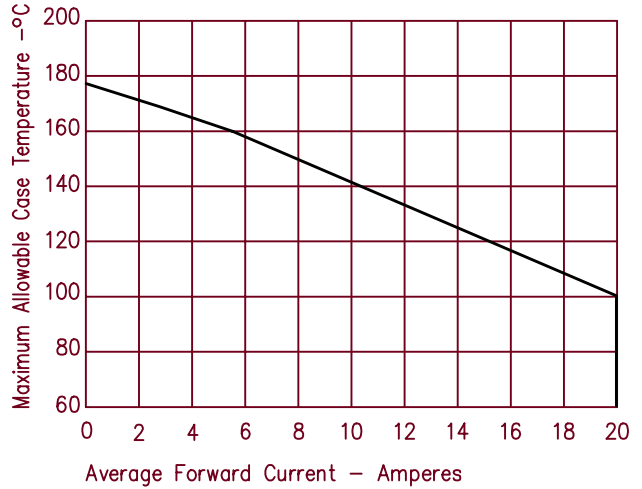


Figure 2  
Typical Reverse Characteristics

