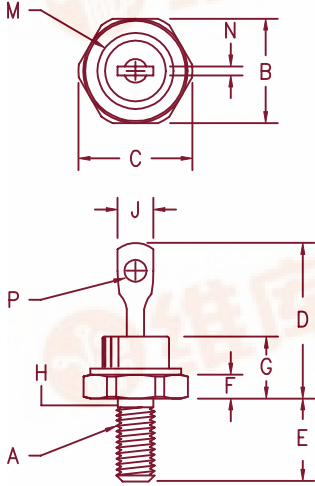


Ultra Fast Recovery Rectifier 1N5812 — 1N5816



- 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	.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
1N5813*	75V	75V
1N5814*	100V	100V
1N5815*	125V	125V
1N5816*	150V	150V

*Add Suffix R For Reverse Polarity

- Ultra Fast Recovery Rectifier
- 175°C Junction Temperature
- VRRM – 50 to 150 Volts
- 20 Amps Current Rating

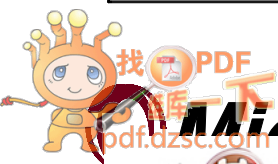
Electrical Characteristics

Average forward current	I _{F(AV)} 20 Amps	T _C = 100°C, Square wave, R _{θJC} = 1.5°C/W
Maximum surge current	I _{FSM} 400 Amps	8.3 ms, half sine T _C = 100°C
Max peak forward voltage	V _{FM} .86 Volts	I _{FM} = 10A: T _J = 25°C*
Max peak forward voltage	V _{FM} .95 Volts	I _{FM} = 20A: T _J = 25°C*
Max peak reverse current	I _{RM} 10 μA	V _{RRM} , T _J = 25°C
Max peak reverse current	I _{RM} 1 mA	V _{RRM} , T _J = 100°C
Max reverse recovery time	t _{RR} 35 ns	I _F = I _R = 1A dc (pk), I _(REC) = 0.1A, di/dt = 85A/μs
Max junction capacitance	C _J 300 pF	V _R = 10V, f = 1Mhz, T _J = 25°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 _{θJC}	1.5°C/W Junction to case
Mounting torque		12–15 inch pounds
Weight		.16 ounces (5.0 grams) typical



1N5812 — 1N5816

Figure 1
Typical Forward Characteristics

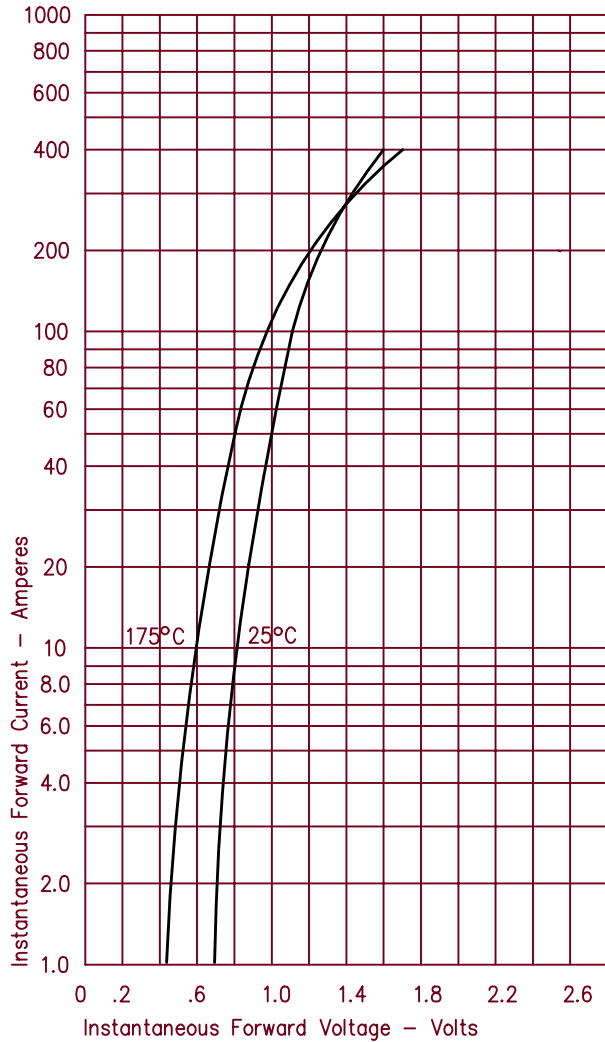


Figure 3
Typical Junction Capacitance

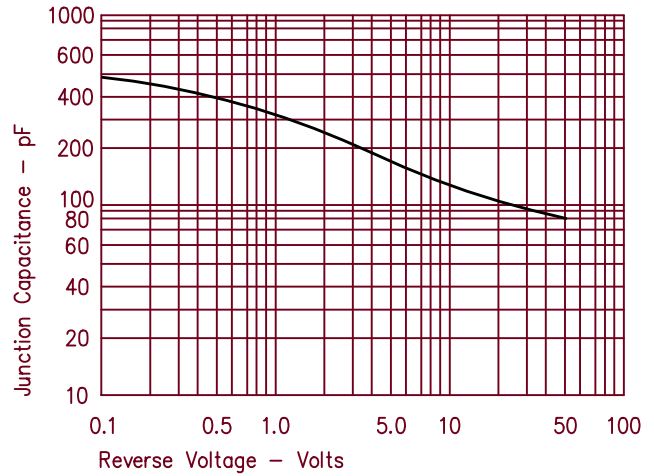


Figure 4
Forward Current Derating

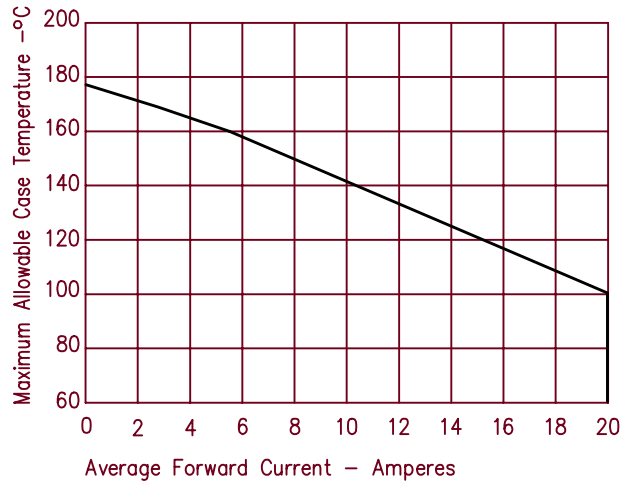


Figure 2
Typical Reverse Characteristics

