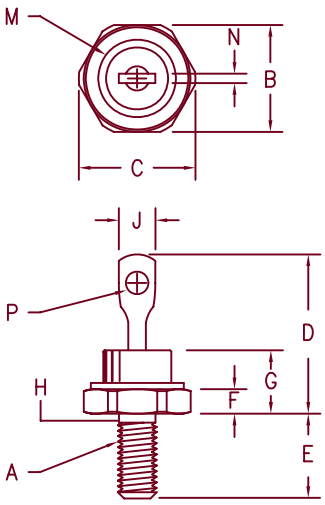
Ultra Fast Recovery Rectifier
1N5812 – 1N5816



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		
	Minimum	Maximum	Minimum	Maximum	Notes
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 (DO4)

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
- V_{RRM} – 50 to 150 Volts
- 20 Amps Current Rating

Electrical Characteristics

Average forward current	$I_{F(AV)}$ 20 Amps	T_C = 100°C, Square wave, $R_{\theta JC}$ = 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	$R_{\theta JC}$	1.5°C/W Junction to case
Mounting torque		12–15 inch pounds
Weight		.16 ounces (5.0 grams) typical

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Figure 1
Typical Forward Characteristics

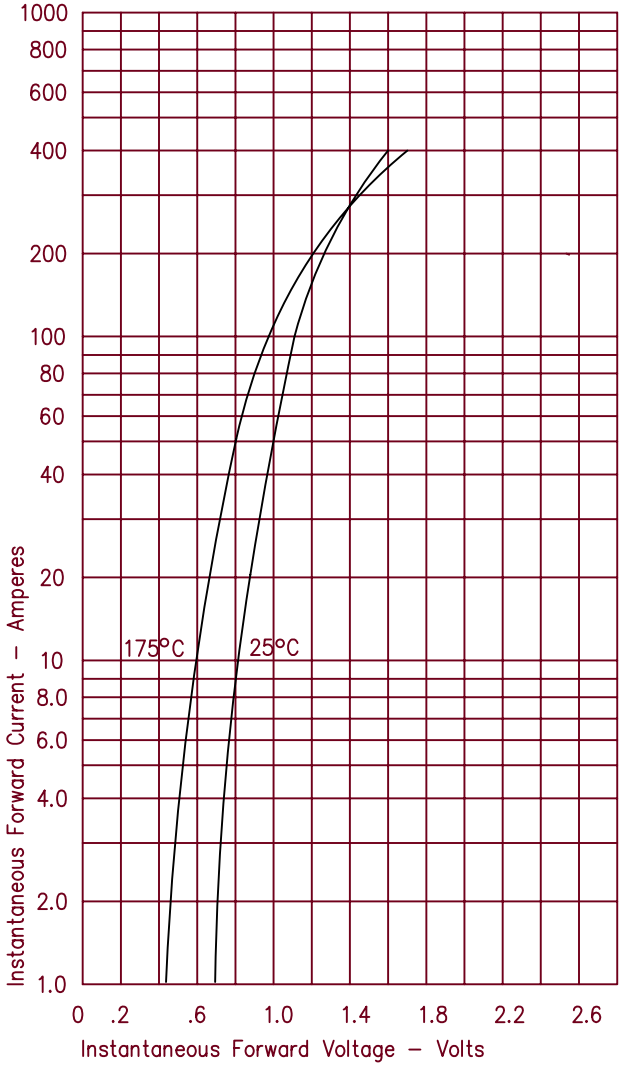

Figure 2
Typical Reverse Characteristics

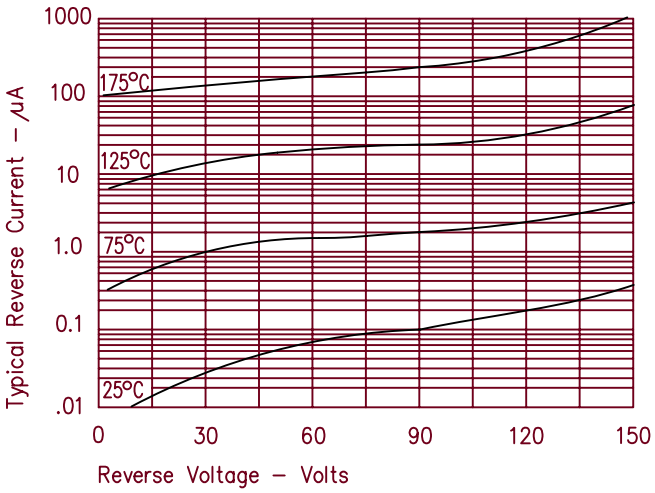

Figure 3
Typical Junction Capacitance

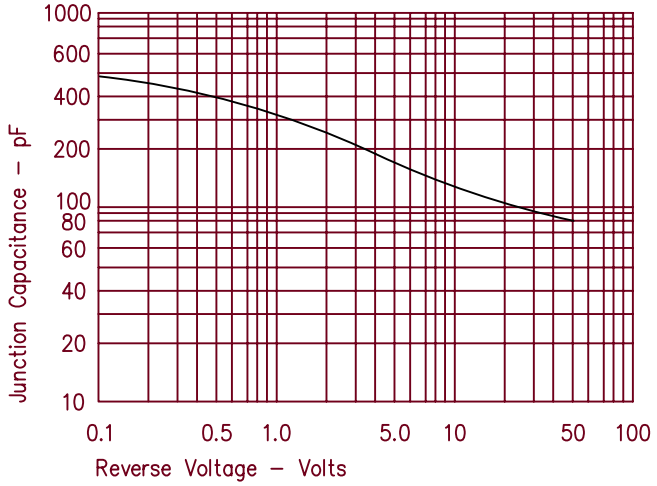

Figure 4
Forward Current Derating