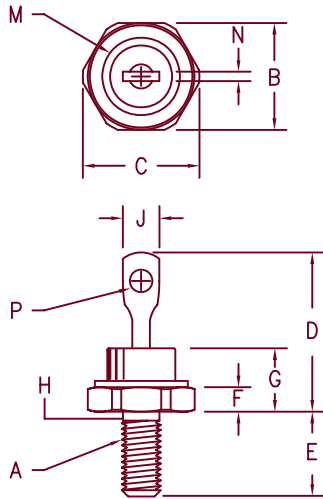


Ultra Fast Recovery Rectifier 1N5812 — 1N5816



- 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	2
F	.075	.175	1.91	4.44	
G	---	.405	---	10.29	
H	.163	.189	4.15	4.80	
J	---	.250	2.54	3.56	Dia.
M	---	.350	---	8.89	
N	.020	.065	.510	1.65	Dia.
P	.070	.100	1.78	2.54	

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

Electrical Characteristics

Average forward current	$I_F(AV)$ 20 Amps	$T_C = 100^\circ C$, Square wave, $R_{\theta JC} = 1.5^\circ C/W$
Maximum surge current	I_{FSM} 400 Amps	8.3 ms, half sine $T_C = 100^\circ C$
Max peak forward voltage	V_{FM} .86 Volts	$I_{FM} = 10A$: $T_J = 25^\circ C^*$
Max peak forward voltage	V_{FM} .95 Volts	$I_{FM} = 20A$: $T_J = 25^\circ C^*$
Max peak reverse current	I_{RM} 10 μA	V_{RRM} , $T_J = 25^\circ C$
Max peak reverse current	I_{RM} 1 mA	V_{RRM} , $T_J = 100^\circ C$
Max reverse recovery time	t_{RR} 35 ns	$I_F = I_R = 1A$ dc (pk), $I(REC) = 0.1A$, $di/dt = 85A/\mu s$
Max junction capacitance	C_J 300 pF	$V_R = 10V$, $f = 1MHz$, $T_J = 25^\circ C$

*Pulse test: Pulse width 300 μsec , 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	$R_{\theta JC}$	1.5 $^\circ C/W$ Junction to case
Mounting torque		12-15 inch pounds
Weight		.16 ounces (5.0 grams) typical



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05-03-07 Rev. 1

1N5812 — 1N5816

Figure 1
Typical Forward Characteristics

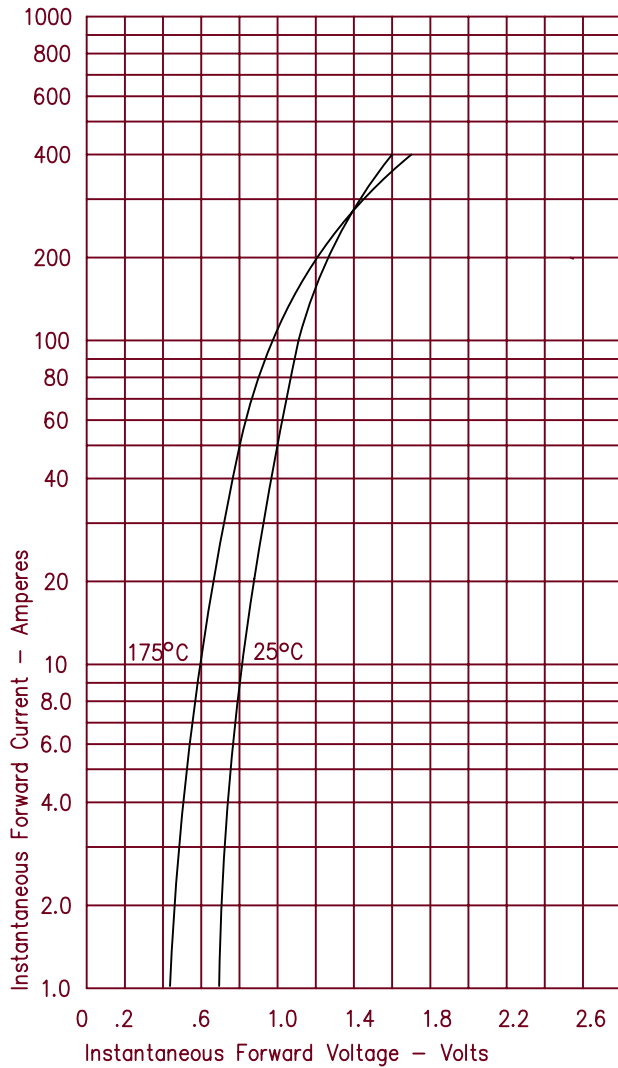


Figure 3
Typical Junction Capacitance

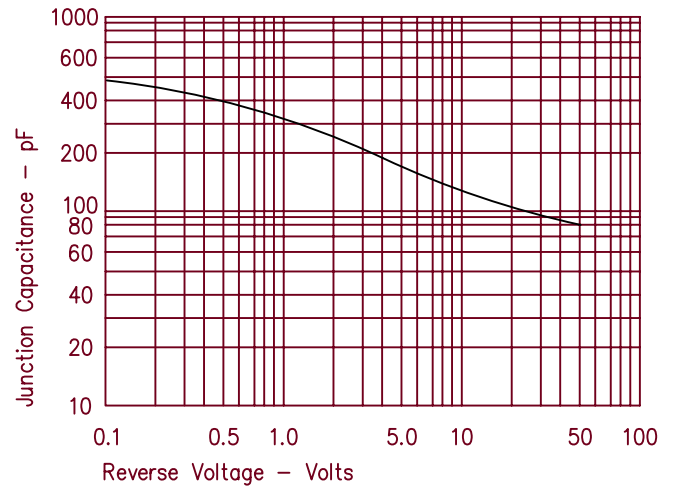


Figure 4
Forward Current Derating

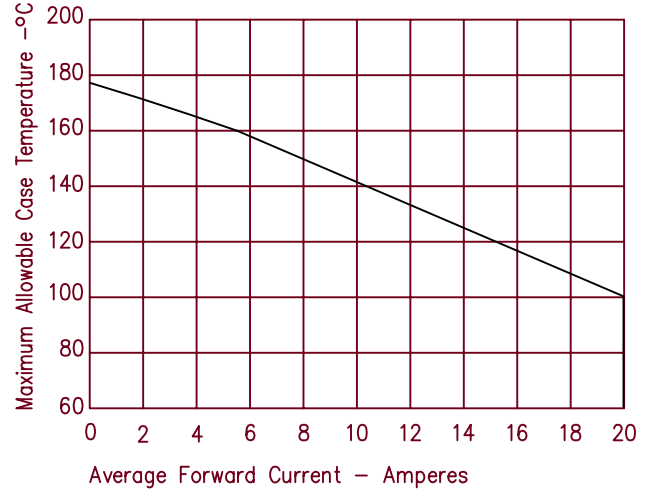


Figure 2
Typical Reverse Characteristics

