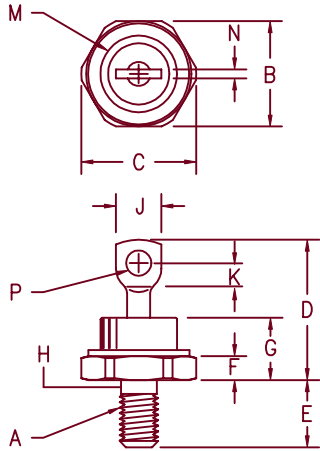


Ultra Fast Rectifier

1N6304 — 1N6306



Notes:

1. 1/4–28UNF3A threads
2. Full threads within 2 1/2 threads
3. For Reverse Polarity add R to Part Number
Standard Polarity: Stud is Cathode
Reverse Polarity: Stud is Anode

Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	---	---	---	---	1
B	.669	.688	16.99	17.48	
C	---	.793	---	20.14	
D	.750	1.00	19.05	25.40	
E	.422	.453	10.72	11.51	
F	.115	.200	2.92	5.08	
G	---	.450	---	11.43	
H	.220	.249	5.59	6.32	2
J	---	.375	---	9.53	
K	.156	---	3.97	---	
M	---	.667	---	16.94	Dia
N	---	.080	---	2.03	
P	.140	.175	3.56	4.45	Dia

D0203AB (D05)

Microsemi Catalog Number	Working Peak Reverse Voltage	Peak Reverse Voltage
1N6304*	50V	50V
1N6305*	100V	100V
1N6306*	150V	150V

*Add Suffix R For Reverse Polarity

- Ultra Fast Recovery Rectifier
- 70 Amps current rating
- 800 Amps surge rating
- V_{RRM} 50 to 150 Volts

Electrical Characteristics

Average forward current	$I_F(AV)$ 70 Amps	$T_C = 100^\circ C$, Square wave, $R_{\theta JC} = 0.8^\circ C/W$
Maximum surge current	I_{FSM} 800 Amps	8.3 ms, half sine $T_C = 55^\circ C$
Max peak forward voltage	V_{FM} .975 Volts	$I_{FM} = 70A$: $T_J = 25^\circ C^*$
Max peak reverse current	I_{RM} 30 mA	V_{RRM} , $T_J = 150^\circ C^*$
Max peak reverse current	I_{RM} 25 μA	V_{RRM} , $T_J = 25^\circ C$
Max reverse recovery time	t_{RR} 50 ns	$I_F = .5A$, $I_R = 1A$, $I(REC) = .25A$, $di/dt = 85A/\mu s$
Typical junction capacitance	C_J 300 pF	$V_R = 10V$, $f = 1Mhz$, $T_J = 25^\circ C$

*Pulse test: Pulse width 300 μs , 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	$R_{\theta JC}$	$0.8^\circ C/W$ Junction to case
Mounting torque		25–30 inch pounds
Weight		.54 ounces (15.3 grams) typical

10–25–00 Rev. IR

1N6304 — 1N6306

Figure 1
Typical Forward Characteristics

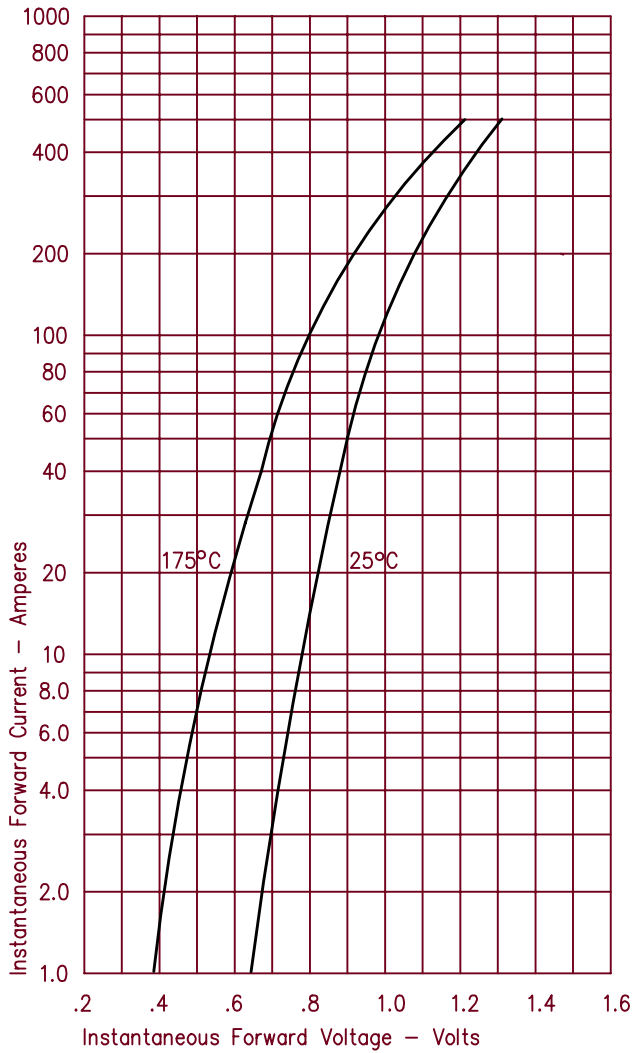


Figure 3
Typical Junction Capacitance

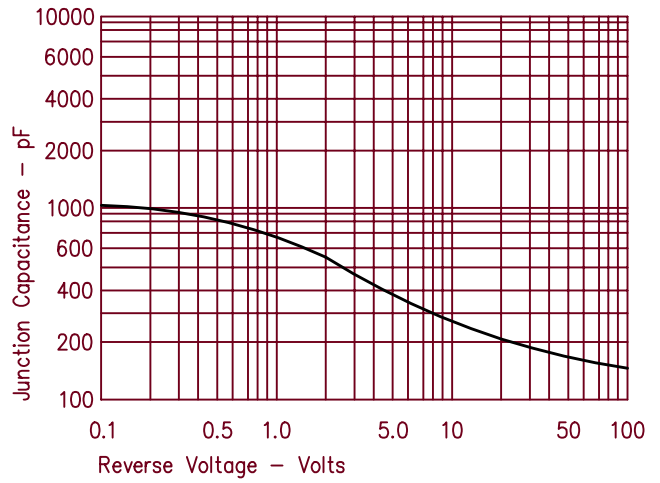


Figure 4
Forward Current Derating

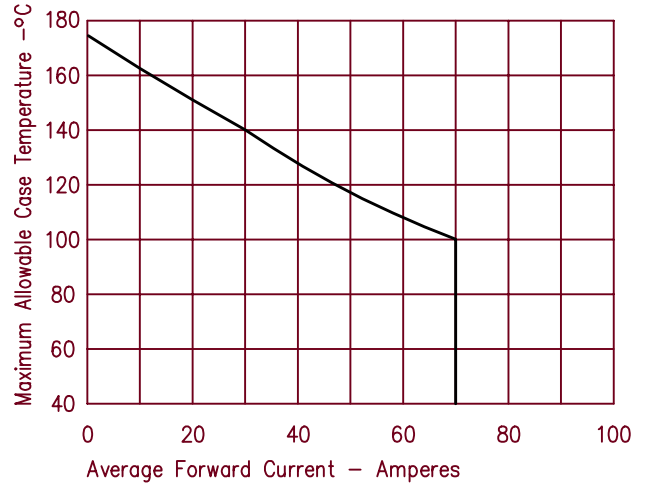


Figure 2
Typical Reverse Characteristics

