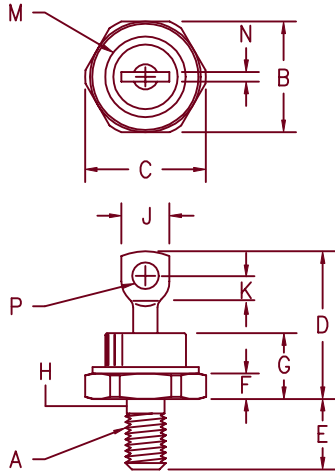


# Military Ultra Fast Rectifier

## 1N6304 — 1N6306



### Notes:

- 1/4-28UNF3A threads
- Full threads within 2 1/2 threads
- 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

- Available in JAN, JANTX, JANTXV
- Mil-PRF-19500/550
- 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 forward voltage	$V_{FM}$ 1.18 Volts	$I_{FM} = 150A: T_J = 25^\circ C^*$
Max peak forward voltage	$V_{FM}$ .84 Volts	$I_{FM} = 70A: T_J = 150^\circ C^*$
Max peak reverse current	$I_{RM}$ 30 mA	$V_{RRM}, T_J = 150^\circ C^*$
Max peak reverse current	$I_{RM}$ 25 $\mu A$	$V_{RRM}, T_J = 25^\circ C$
Max reverse recovery time	$t_{RR}$ 50 ns	$I_F = .5A, I_R = 1A, I(REC) = .25A, di/dt = 85A/\mu s$
Max reverse recovery time	$t_{RR}$ 60 ns	70A, 130A/ $\mu s, T_J = 25^\circ C$
Max junction capacitance	$C_J$ 600 pF	$V_R = 10V, f = 1Mhz, T_J = 25^\circ C$

\*Pulse test: Pulse width 300  $\mu sec$ , 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		30 inch pounds maximum
Weight		.54 ounces (15.3 grams) typical

8-25-00 Rev. 2

# MILITARY 1N6304 — 1N6306

Figure 1  
Typical Forward Characteristics

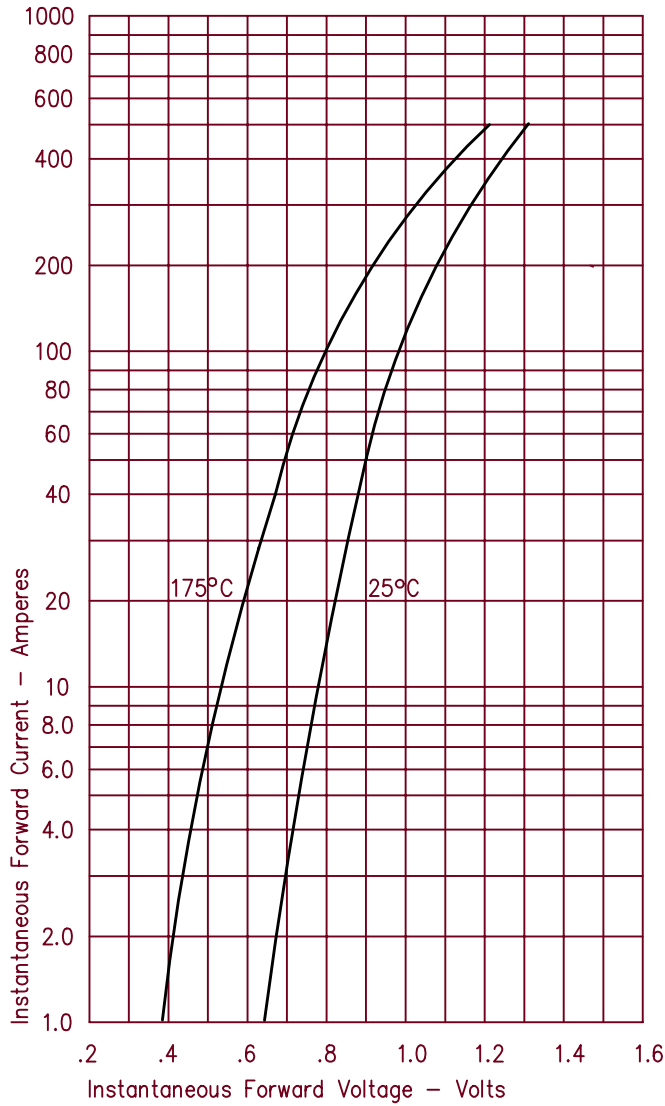


Figure 3  
Typical Junction Capacitance

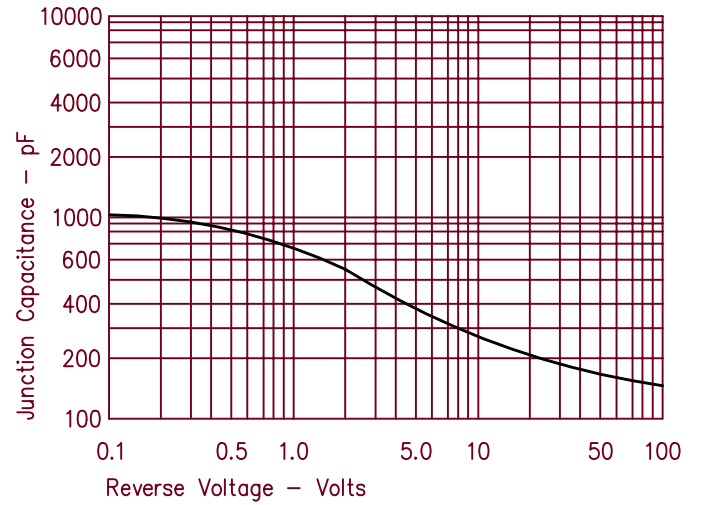


Figure 4  
Forward Current Derating

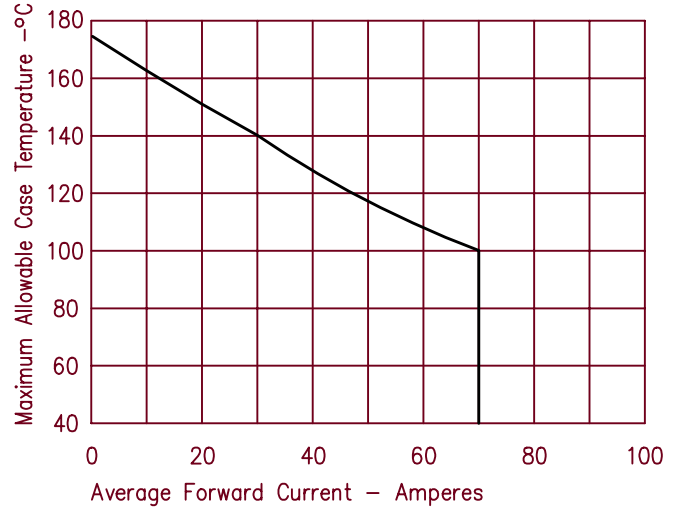


Figure 2  
Typical Reverse Characteristics

