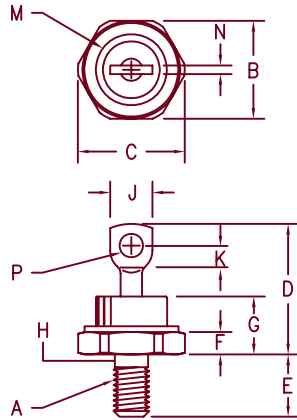


# Ultra Fast Recovery Rectifiers

## UFR10010 — UFR10020



### Notes:

1. Full threads within 2 1/2 threads
2. Standard Polarity: Stud is Cathode  
Reverse Polarity: Stud is Anode

Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A			1/4-28 UNF 3A		1
B	.667	.687	16.94	17.45	
C	---	.793	---	20.14	
D	---	1.00	---	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	.250	.375	6.35	9.52	
K	.140	---	3.56	---	
M	---	.667	---	16.94	Dia
N	---	.080	---	2.03	
P	.140	.175	3.56	4.44	Dia

D0203AB (D05)

Microsemi Catalog Number	Working Peak Reverse Voltage	Peak Reverse Voltage
UFR10010*	100V	100V
UFR10015*	150V	150V
UFR10020*	200V	200V

\*Add Suffix R For Reverse Polarity

- Ultra Fast Recovery Rectifier
- 175°C Junction Temperature
- 100 Amps current rating
- $V_{RRM}$  100 to 200 Volts
- $t_{RR}$  80 nsec maximum

### Electrical Characteristics

Average forward current	$I_F(AV)$ 100 Amps	$T_C = 143^\circ C$ , Square wave, $R_{\theta JC} = 0.45^\circ C/W$ 8.3 ms, half sine, $T_J = 175^\circ C$
Maximum surge current	$I_{FSM}$ 1700 Amps	
Max peak forward voltage	$V_{FM}$ .975 Volts	$I_{FM} = 100A$ : $T_J = 25^\circ C^*$
Max reverse recovery time	$t_{RR}$ 80 ns	$I_F = 1A, V_R = 30V, di/dt = -50A/\mu S$
Max peak reverse current	$I_{RM}$ 5 mA	$V_{RRM}, T_J = 125^\circ C$
Max peak reverse current	$I_{RM}$ 25 $\mu A$	$V_{RRM}, T_J = 25^\circ C$
Typical Junction Capacitance	$C_J$ 675 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°C to 175°C
Operating junction temp range	$T_J$	-65°C to 175°C
Max thermal resistance	$R_{\theta JC}$	0.45°C/W Junction to case
Typical thermal resistance (greased)	$R_{\theta CS}$	0.5°C/W Case to sink
Mounting torque		25-30 inch pounds
Weight		.52 ounces (14.7 grams) typical



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# UFR10010 — UFR10020

Figure 1  
Typical Forward Characteristics

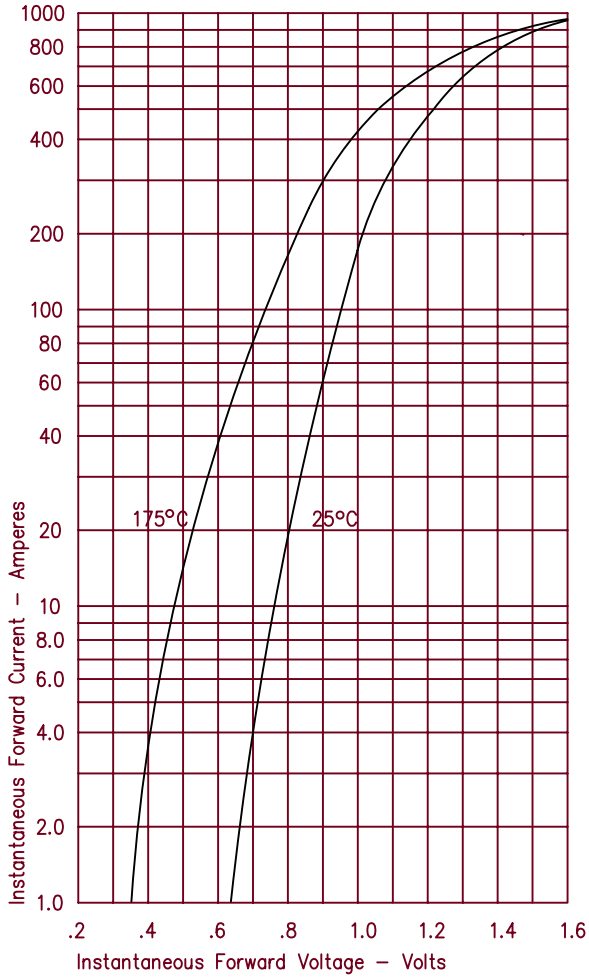


Figure 3  
Typical Junction Capacitance

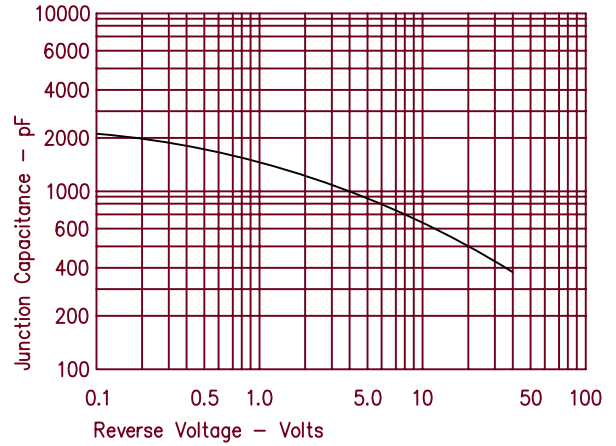


Figure 4  
Forward Current Derating

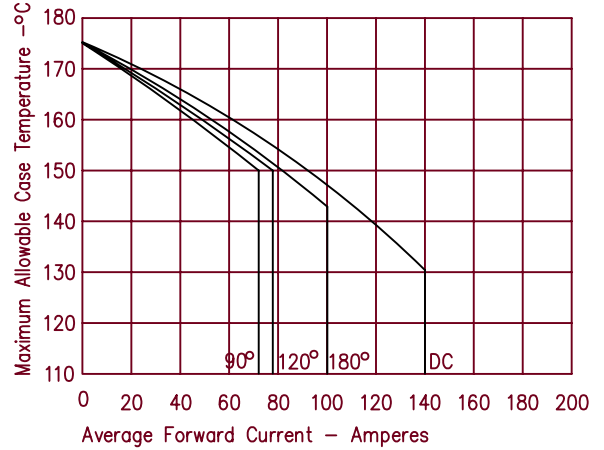


Figure 2  
Typical Reverse Characteristics

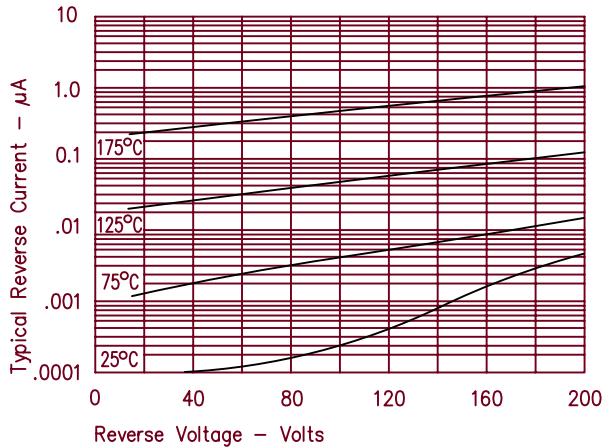


Figure 5  
Maximum Forward Power Dissipation

