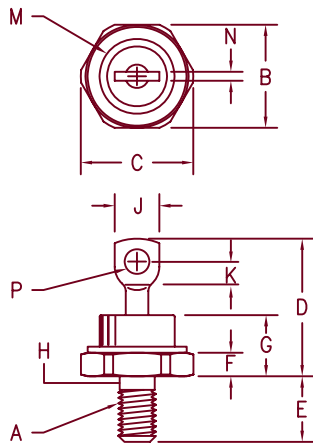


# Ultra Fast Recovery Rectifiers UFR8630 — UFR8650



**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
UFR8630*	300V	300V
UFR8640*	400V	400V
UFR8650*	500V	500V

\*Add Suffix R For Reverse Polarity

- Ultra Fast Recovery Rectifier
- 175°C Junction Temperature
- 85 Amps current rating
- $V_{RRM}$  300 to 500 Volts
- $t_{RR}$  100 nsec maximum

### Electrical Characteristics

Average forward current	$I_{F(AV)}$ 85 Amps	Square wave, $R_{\theta JC} = 0.6^{\circ}C/W$ , $T_C = 130^{\circ}C$ 8.3 ms, half sine, $T_J = 175^{\circ}C$
Maximum surge current	$I_{FSM}$ 1500 Amps	
Max peak forward voltage	$V_{FM}$ 1.25 Volts	$I_{FM} = 85A$ ; $T_J = 25^{\circ}C$ *
Max reverse recovery time	$t_{RR}$ 100 ns	$I_F = 1A$ , $V_R = 30V$ , $di/dt = 25A/\mu S$
Max peak reverse current	$I_{RM}$ 5 mA	$V_{RRM}$ , $T_J = 125^{\circ}C$
Max peak reverse current	$I_{RM}$ 30 $\mu A$	$V_{RRM}$ , $T_J = 25^{\circ}C$
Typical Junction Capacitance	$C_J$ 180 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	$R_{\theta JC}$	0.6°C/W Junction to case
Mounting torque		25-30 inch pounds
Weight		.52 ounces (14.7 grams) typical



6 Lake Street  
Lawrence, MA 01841  
PH: (978) 620-2600  
FAX: (978) 689-0803  
www.microsemi.com

05-09-07 Rev. 1

# UFR8630 — UFR8650

Figure 1  
Typical Forward Characteristics

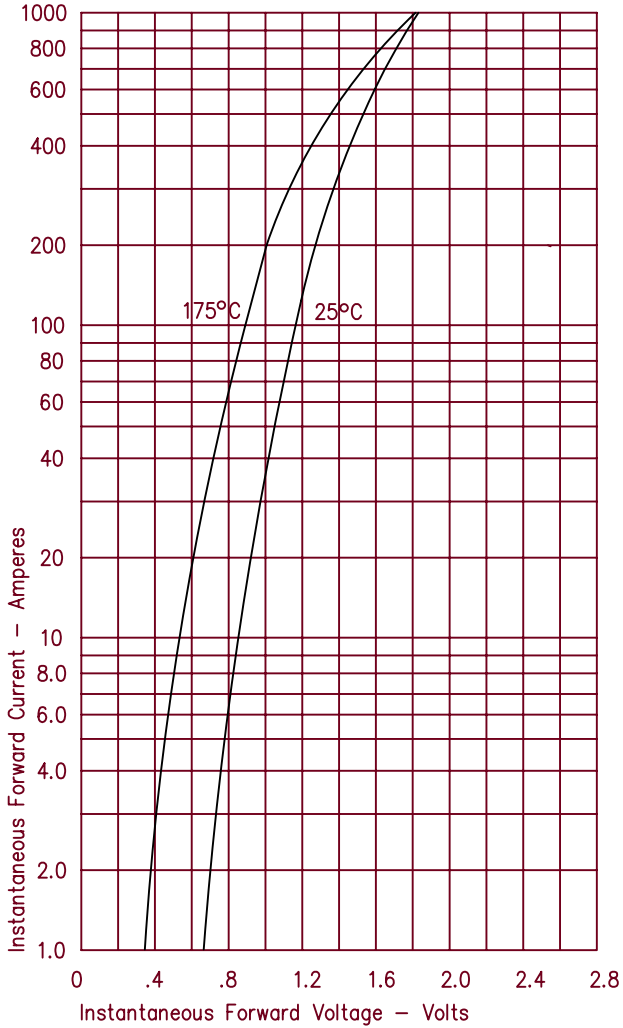


Figure 3  
Typical Junction Capacitance

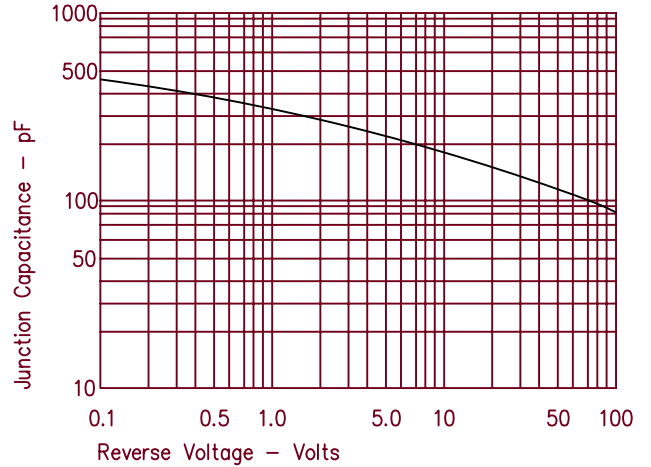


Figure 4  
Forward Current Derating

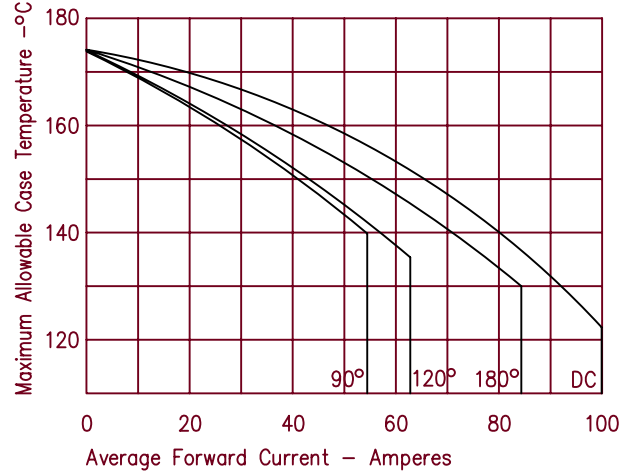


Figure 2  
Typical Reverse Characteristics

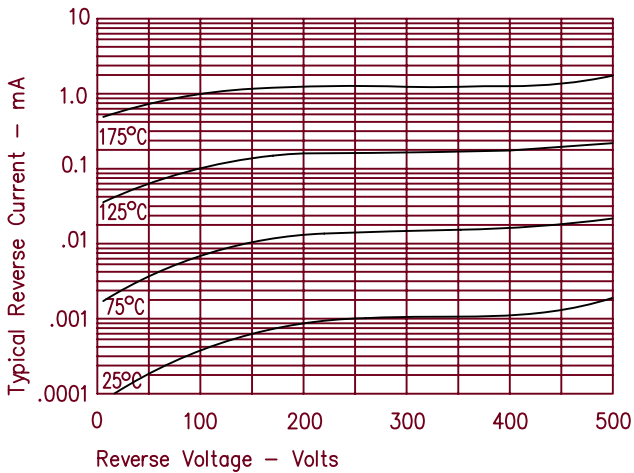


Figure 5  
Maximum Forward Power Dissipation

