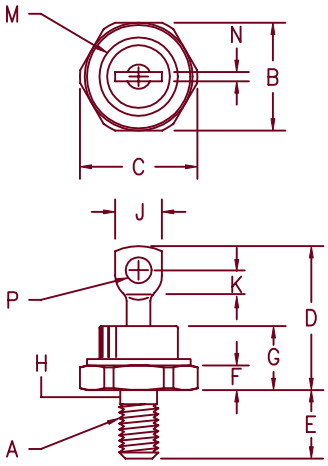
Ultra Fast Recovery Rectifiers

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		
	Minimum	Maximum	Minimum	Maximum	Notes
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

DO203AB (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°C, Square wave, $R_{\theta JC}$ = 0.45°C/W
Maximum surge current	I_{FSM} 1700 Amps	8.3 ms, half sine, T_J = 175°C
Max peak forward voltage	V_{FM} .975 Volts	I_{FM} = 100A: T_J = 25°C*
Max reverse recovery time	t_{RR} 80 ns	I_F = 1A, V_R = 30V, di/dt = –50A/uS
Max peak reverse current	I_{RM} 5 mA	V_{RRM}, T_J = 125°C
Max peak reverse current	I_{RM} 25 uA	V_{RRM}, T_J = 25°C
Typical Junction Capacitance	C_J 675 pF	V_R = 10V, f = 1Mhz, T_J = 25°C

*Pulse test: Pulse width 300 μsec, 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

COLORADO Microsemi
800 Hoyt Street
Broomfield, CO. 80020
PH: (303) 469–2161
FAX: (303) 466–3775
www.microsemi.com

4–2–02 Rev. IR

UFR10010 – UFR10020

Figure 1
Typical Forward Characteristics

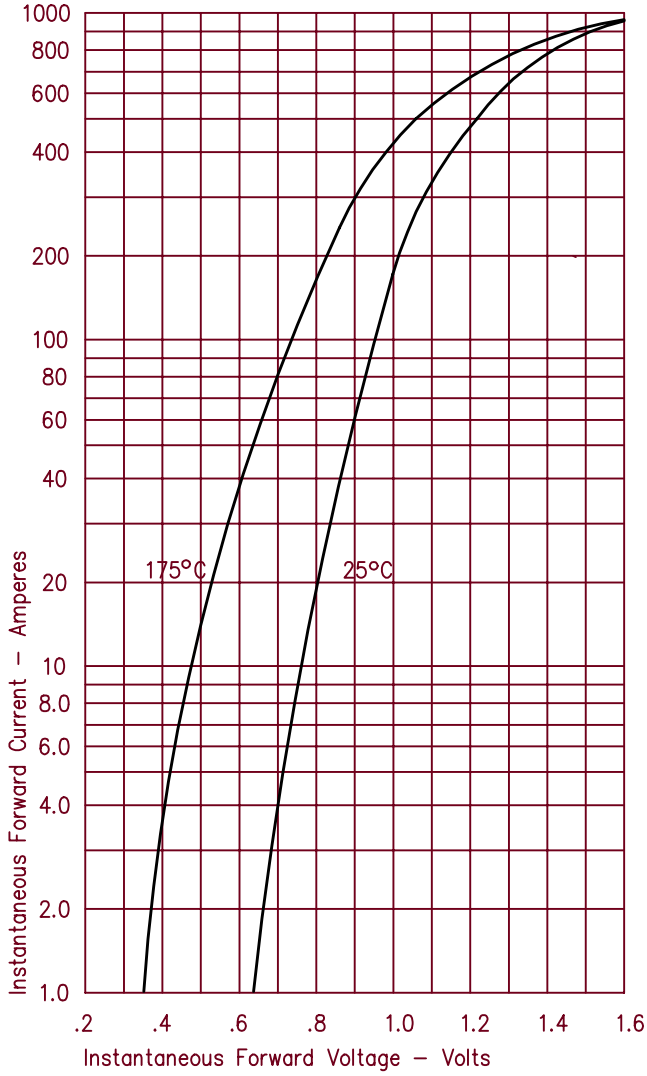


Figure 2
Typical Reverse Characteristics

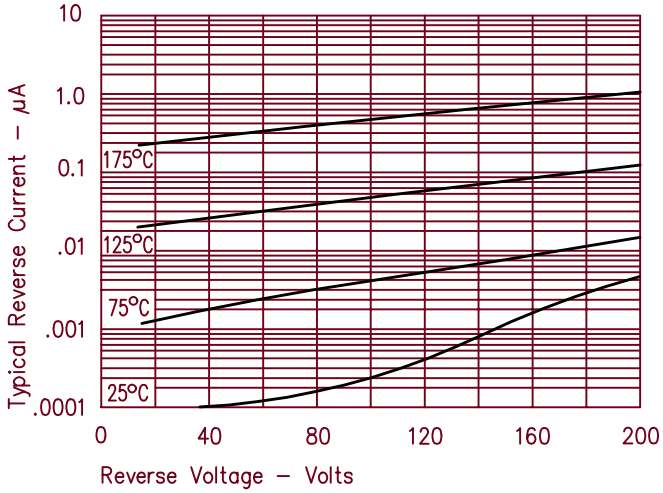


Figure 3
Typical Junction Capacitance

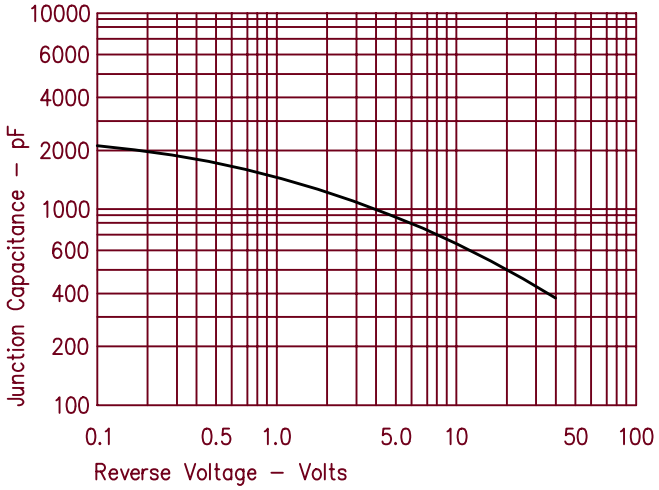


Figure 4
Forward Current Derating

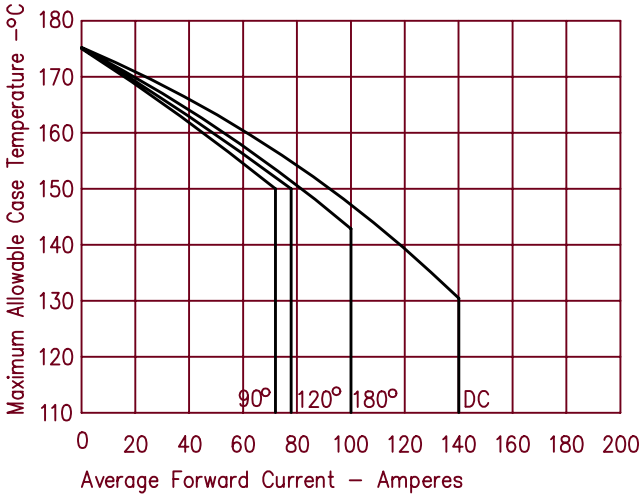


Figure 5
Maximum Forward Power Dissipation