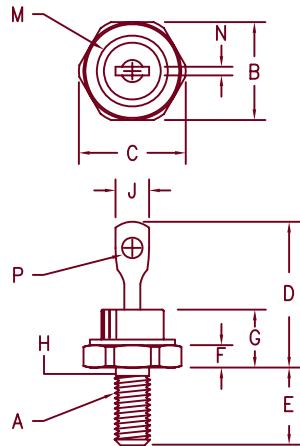


Ultra Fast Recovery Rectifiers UFR30, 31 & 32



Notes:

1. 10–32 UNF3A threads
2. Full threads within 2 1/2 threads Standard Polarity:
Stud is Cathode
Reverse Polarity: Stud is Anode

Dim.	Inches		Millimeter		
	Minimum	Maximum	Minimum	Maximum	Notes
A	---	---	---	---	1
B	.424	.437	10.77	11.10	
C	---	.505	---	12.82	
D	.600	.800	15.24	20.32	
E	.422	.453	10.72	11.50	
F	.075	.175	1.91	4.44	
G	---	.405	---	10.29	
H	.163	.189	4.15	4.80	2
J	.100	.310	2.54	7.87	
M	---	.350	---	8.89	Dia.
N	.020	.065	.510	1.65	
P	.070	.100	1.78	2.54	Dia.

D0203AA (D04)

Microsemi Catalog Number	Working Reverse Voltage	Peak Reverse Voltage
UFR3010*	100V	100V
UFR3015*	150V	150V
UFR3020*	200V	200V
	UFR3120*	300V
	UFR3130*	400V
	UFR3140*	500V
	UFR3150*	600V
UFR3260*	700V	700V
UFR3270*	800V	800V
UFR3280*		

- Ultra Fast Recovery Rectifier
- 175°C Junction Temperature
- V_{RRM} 100 to 800V
- High Reliability
- 30 Amps current rating
- t_{RR} 35 to 60 nsec maximum

Electrical Characteristics

	<u>UFR30</u>	<u>UFR31</u>	<u>UFR32</u>	
Average forward current	$I_{F(AV)}$	30A	30A	30A
Case Temperature	T_C	127°C	110°C	107°C
Maximum surge current	I_{FSM}	500A	400A	300A
Max peak forward voltage	V_{FM}	.975V	1.25V	1.35V
Max reverse recovery time	t_{RR}	35 ns	50 ns	60 ns
Max peak reverse current	I_{RM}	—	1.0 mA	—
Max peak reverse current	I_{RM}	—	15 μ A	—
Typical Junction Capacitance	C_J	140 pF	115 pF	100 pF
				Square wave, $R_{\theta JC} = 1.8^\circ\text{C}/\text{W}$
				8.3 ms, half sine, $T_J = 175^\circ\text{C}$
				$I_{FM} = 30\text{A}$: $T_J = 25^\circ\text{C}^*$
				$1/2\text{A}$, 1A , $1/4\text{A}$, $T_J = 25^\circ\text{C}$
				VR_{RM} , $T_J = 125^\circ\text{C}$
				VR_{RM} , $T_J = 25^\circ\text{C}$
				$VR = 10\text{V}$, $f = 1\text{Mhz}$, $T_J = 25^\circ\text{C}$

*Pulse test: Pulse width 300 μ sec, Duty cycle 2%

Thermal and Mechanical Characteristics

Storage temp range	T _{TG}	-65°C to 175°C
Operating junction temp range	T _J	-65°C to 175°C
Max thermal resistance	R _{θJC}	1.8°C/W Junction to Case
Typical thermal resistance	R _{θJC}	1.3°C/W Junction to Case
Typical thermal resistance (greased)	R _{θCS}	0.4°C/W Case to sink
Mounting torque		12–15 inch pounds
Weight		0.2 ounces (6.0 grams) typical

UFR30

Figure 1
Typical Forward Characteristics

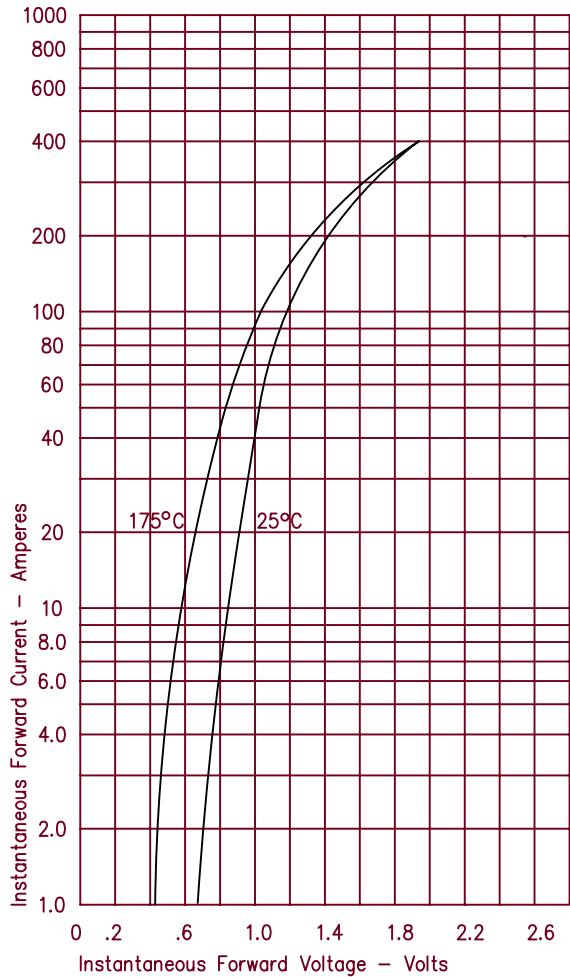


Figure 2
Typical Reverse Characteristics

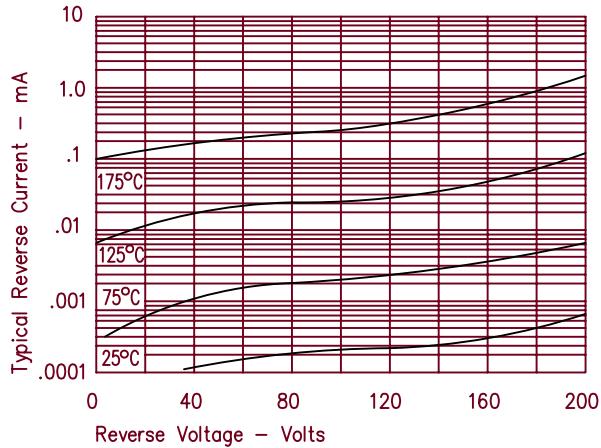


Figure 3
Typical Junction Capacitance

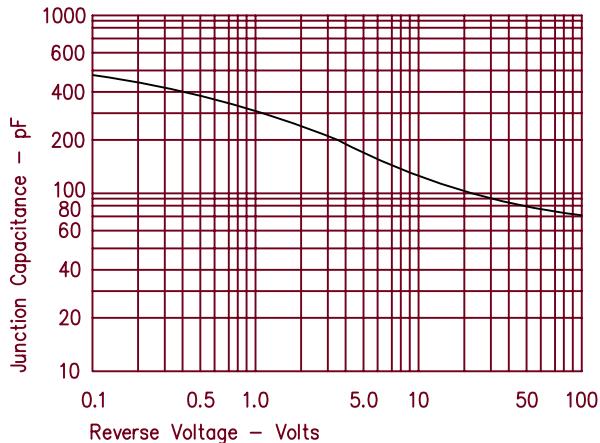


Figure 4
Forward Current Derating

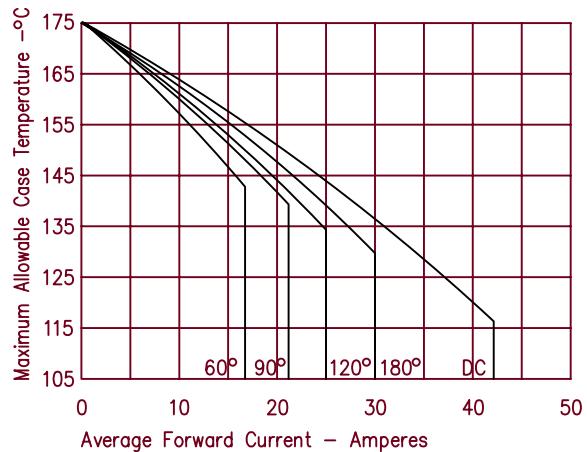
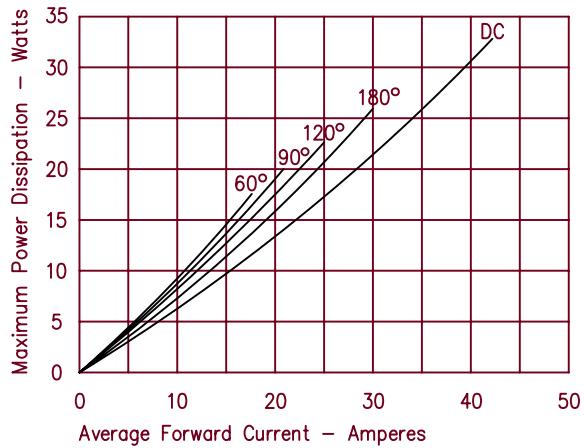


Figure 5
Maximum Forward Power Dissipation



UFR31

Figure 1
Typical Forward Characteristics

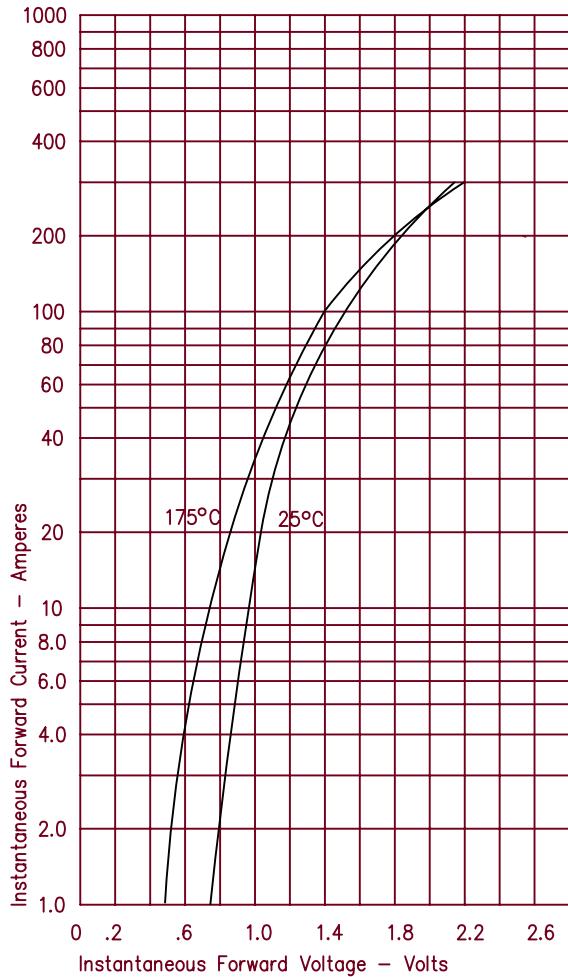


Figure 2
Typical Reverse Characteristics

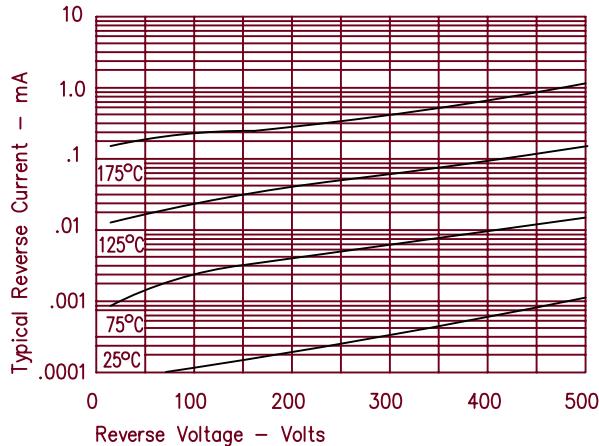


Figure 3
Typical Junction Capacitance

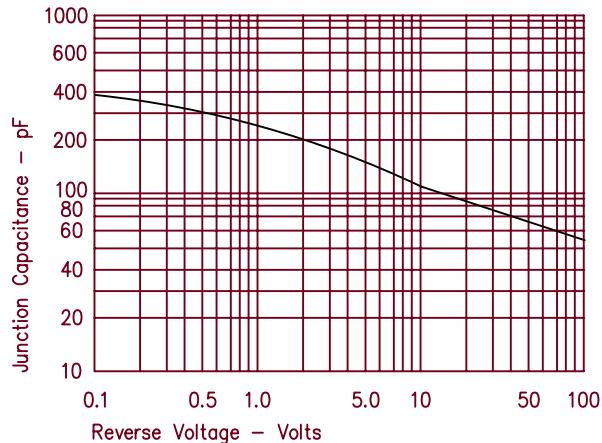


Figure 4
Forward Current Derating

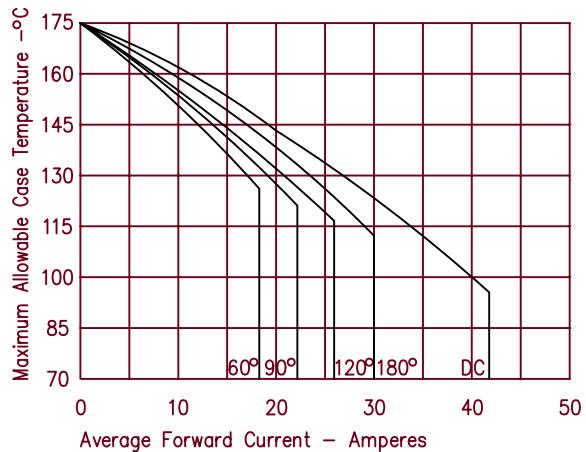
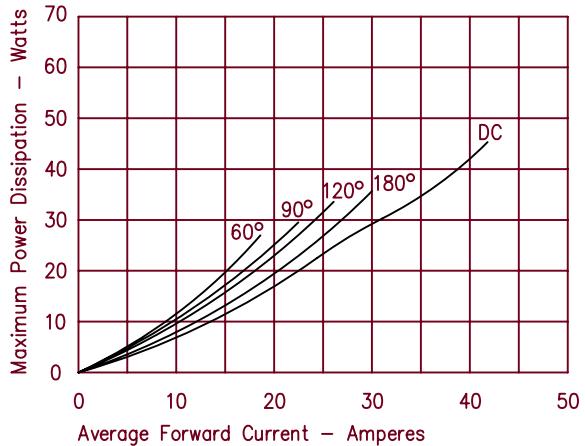


Figure 5
Maximum Forward Power Dissipation



UFR32

Figure 1
Typical Forward Characteristics

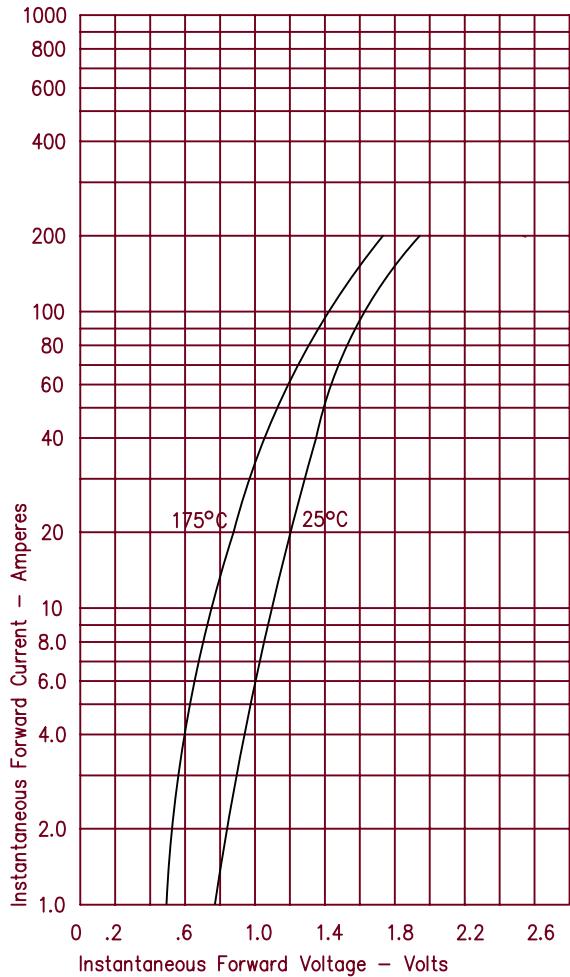


Figure 2
Typical Reverse Characteristics

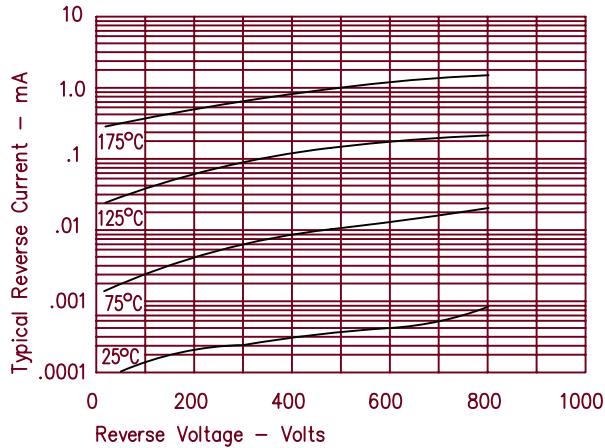


Figure 3
Typical Junction Capacitance

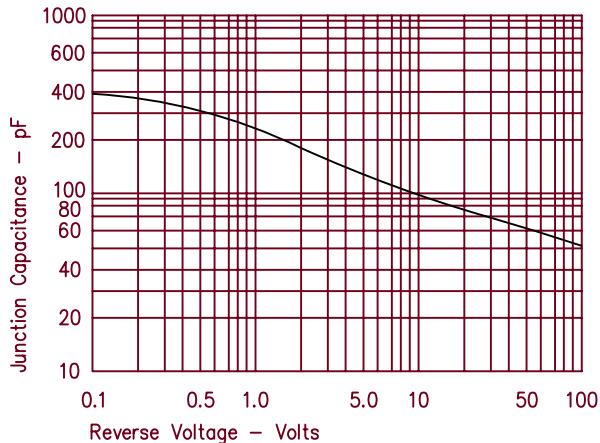
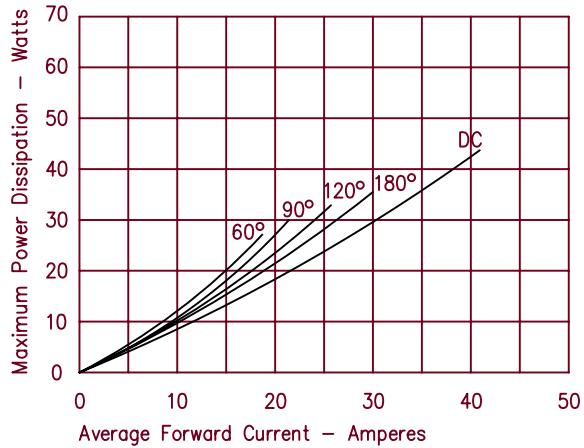


Figure 4
Forward Current Derating



Figure 5
Maximum Forward Power Dissipation



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