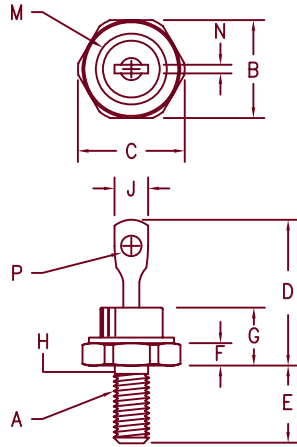


# Ultra Fast Recovery Rectifiers UFR30, 31 & 32



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

Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
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 Peak Reverse Voltage	Peak Reverse Voltage
UFR3010*	100V	100V
UFR3015*	150V	150V
UFR3020*	200V	200V
UFR3120*	200V	200V
UFR3130*	300V	300V
UFR3140*	400V	400V
UFR3150*	500V	500V
UFR3260*	600V	600V
UFR3270*	700V	700V
UFR3280*	800V	800V

\*Add Suffix R For Reverse Polarity

- 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

	UFR30	UFR31	UFR32	
Average forward current	$I_{F(AV)}$ 30A	30A	30A	Square wave, $R_{\theta JC} = 1.8^{\circ}C/W$
Case Temperature	$T_C$ 127°C	110°C	107°C	
Maximum surge current	$I_{FSM}$ 500A	400A	300A	8.3 ms, half sine, $T_J = 175^{\circ}C$
Max peak forward voltage	$V_{FM}$ .975V	1.25V	1.35V	$I_{FM} = 30A; T_J = 25^{\circ}C^*$
Max reverse recovery time	$t_{RR}$ 35 ns	50 ns	60 ns	1/2A, 1A, 1/4A, $T_J = 25^{\circ}C$
Max peak reverse current	$I_{RM}$ —	1.0 mA	—	$V_{RRM}, T_J = 125^{\circ}C$
Max peak reverse current	$I_{RM}$ —	15 $\mu A$	—	$V_{RRM}, T_J = 25^{\circ}C$
Typical Junction Capacitance	$C_J$ 140 pF	115 pF	100 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	TSTG	-65°C to 175°C
Operating junction temp range	$T_J$	-65°C to 175°C
Max thermal resistance	$R_{\theta JC}$	1.8°C/W Junction to Case
Typical thermal resistance	$R_{\theta JC}$	1.3°C/W Junction to Case
Typical thermal resistance (greased)	$R_{\theta CS}$	0.4°C/W Case to sink
Mounting torque		12-15 inch pounds
Weight		0.2 ounces (6.0 grams) typical



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05-07-07 Rev. 2

# UFR30

Figure 1  
Typical Forward Characteristics

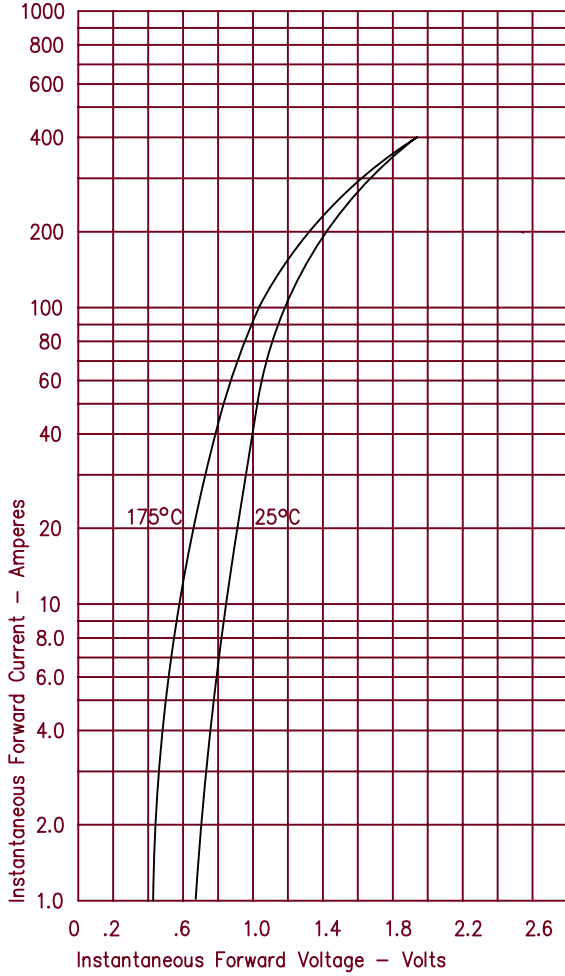


Figure 3  
Typical Junction Capacitance

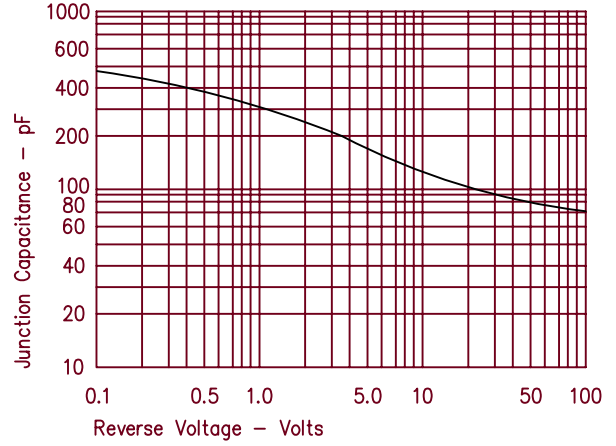


Figure 4  
Forward Current Derating

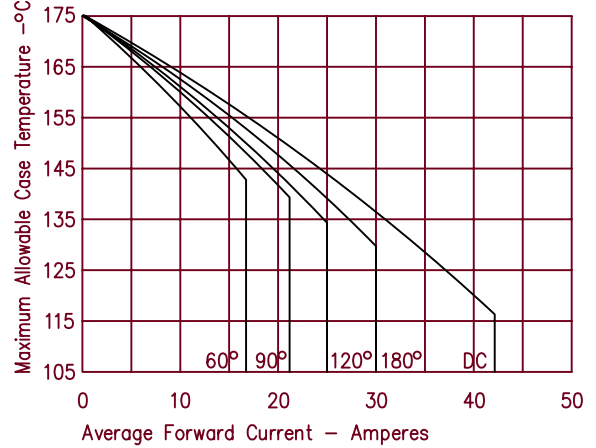


Figure 2  
Typical Reverse Characteristics

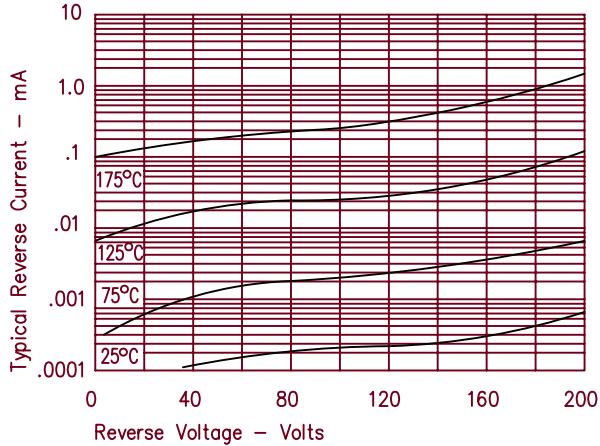
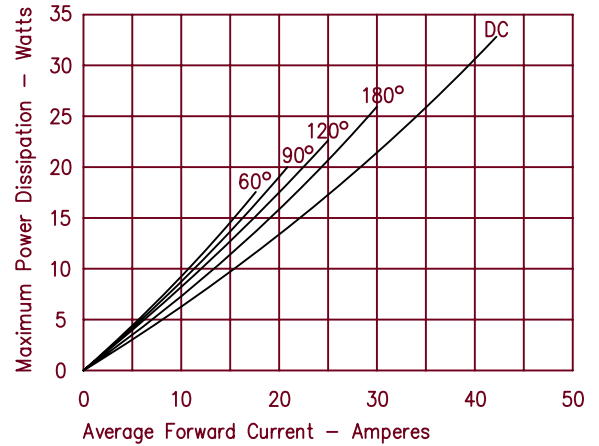


Figure 5  
Maximum Forward Power Dissipation



# UFR31

Figure 1  
Typical Forward Characteristics

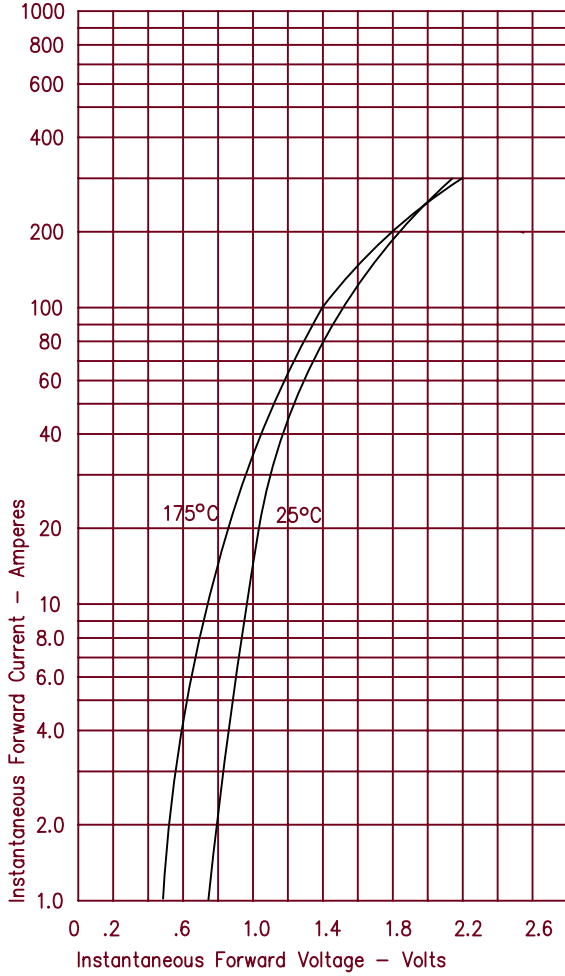


Figure 3  
Typical Junction Capacitance

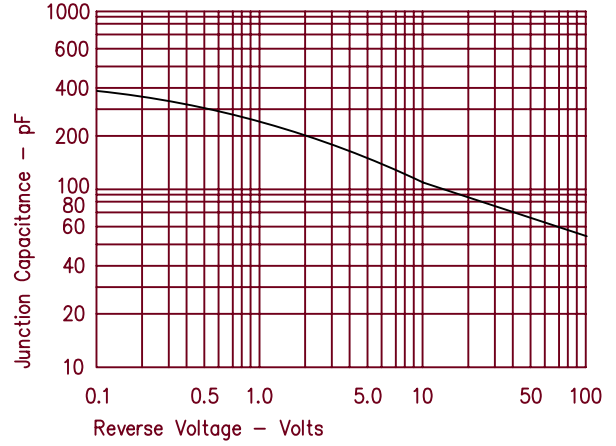


Figure 4  
Forward Current Derating

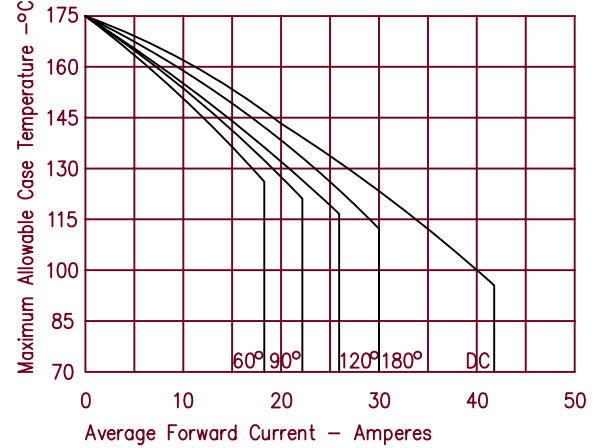


Figure 2  
Typical Reverse Characteristics

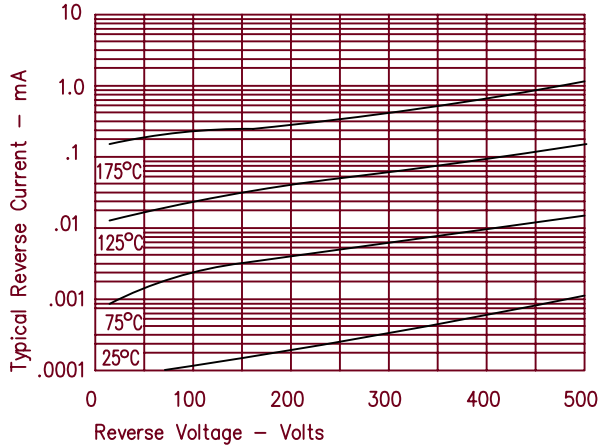
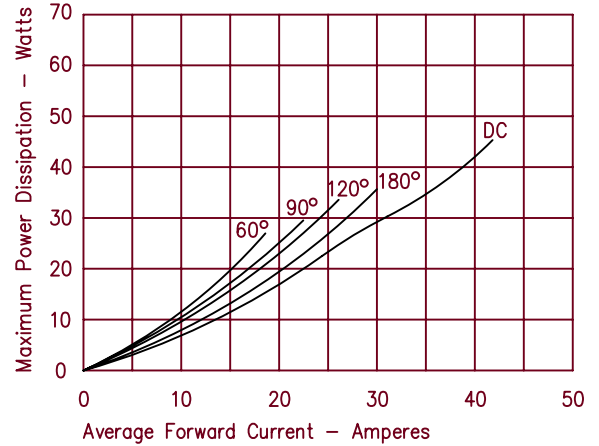


Figure 5  
Maximum Forward Power Dissipation



# UFR32

Figure 1  
Typical Forward Characteristics



Figure 3  
Typical Junction Capacitance

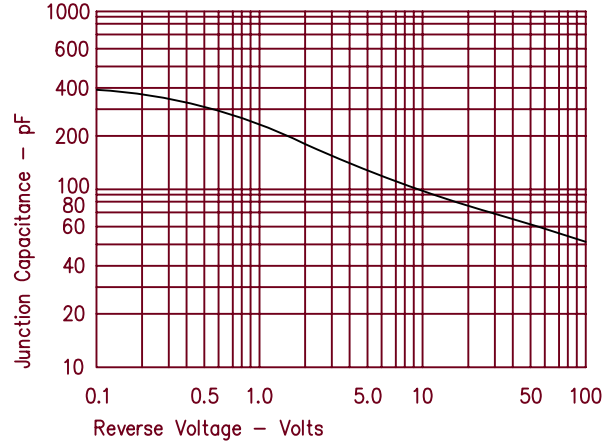


Figure 4  
Forward Current Derating

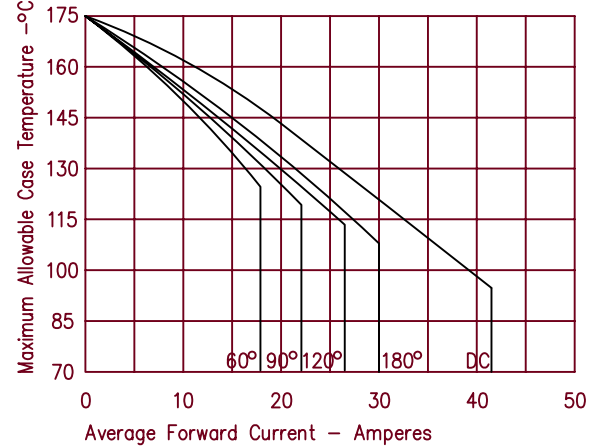


Figure 2  
Typical Reverse Characteristics

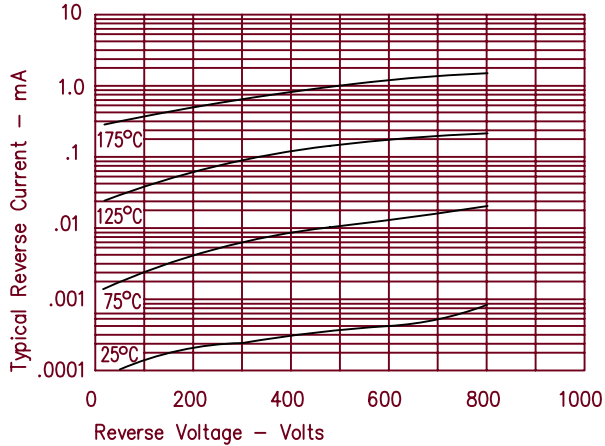


Figure 5  
Maximum Forward Power Dissipation

