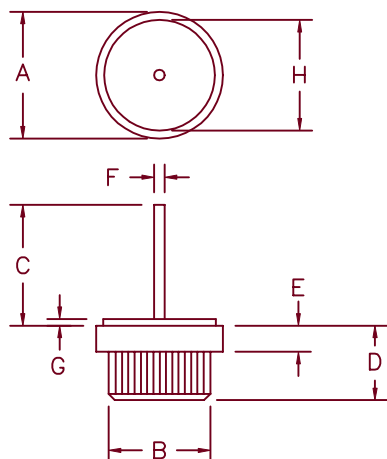


Ultra Fast Recovery Rectifier UFR30PF & UFR31PF



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.590	.630	15.0	16.0	Dia.
B	.499	.510	12.6	13.0	Dia.
C	.600	—	15.2	—	
D	.350	.370	8.90	9.40	
E	.090	.130	2.28	3.30	
F	.045	.053	1.14	1.35	Dia.
G	.030	.035	.762	.900	
H	.500	.510	12.7	13.0	Dia.

Microsemi Catalog
Number

Repetitive Peak
Reverse Voltage

Transient Peak
Reverse Voltage

UFR3010PF*
UFR3015PF*
UFR3020PF*
UFR3130PF*
UFR3140PF*
UFR3150PF*

100V
150V
200V
300V
400V
500V

100V
150V
200V
300V
400V
500V

*Add Suffix R for Reverse Polarity

- Ultra Fast Recovery
- 175°C Junction Temperature
- t_{RR} 35 to 50 nsec Maximum
- High Reliability
- 30 Amps Current Rating
- V_{RRM} 100 to 500V

Electrical Characteristics

UFR30PF UFR31PF

Average forward current
Case Temperature (standard polarity)
Case Temperature (reverse polarity)
Maximum surge current
Max peak forward voltage
Max reverse recovery time
Max peak reverse current
Max peak reverse current
Typical Junction Capacitance

$I_F(AV)$ 30A 30A
 T_C 148°C 139°C
 T_C 127°C 110°C
 I_{FSM} 500A 400A
 V_{FM} .975V 1.25V
 t_{RR} 35 ns 50 ns
 I_{RM} —1.0 mA—
 I_{RM} —15 μ A—
 C_J 140 pF 115 pF

Square wave
 $R_{\theta JC} = 1.0^\circ C/W$
 $R_{\theta JC} = 1.8^\circ C/W$
8.3 ms, half sine, $T_J = 175^\circ C$
 $I_{FM} = 30A$: $T_J = 25^\circ C^*$
1/2A, 1A, 1/4A, $T_J = 25^\circ C$
 V_{RRM} , $T_J = 125^\circ C$
 V_{RRM} , $T_J = 25^\circ C$
 $V_R = 10V$, $f = 1Mhz$, $T_J = 25^\circ C$

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

Thermal and Mechanical Characteristics

Storage temp range
Operating junction temp range
Max thermal resistance (standard polarity)
Max thermal resistance (reverse polarity)
Typical thermal resistance
Weight

T_{STG}
 T_J
 $R_{\theta JC}$
 $R_{\theta JC}$
 $R_{\theta CS}$

–55°C to 175°C
–55°C to 175°C
1.0°C/W
1.8°C/W
0.4°C/W
0.3 ounce (9.0 grams) typical

UFR30PF

Figure 1
Typical Forward Characteristics

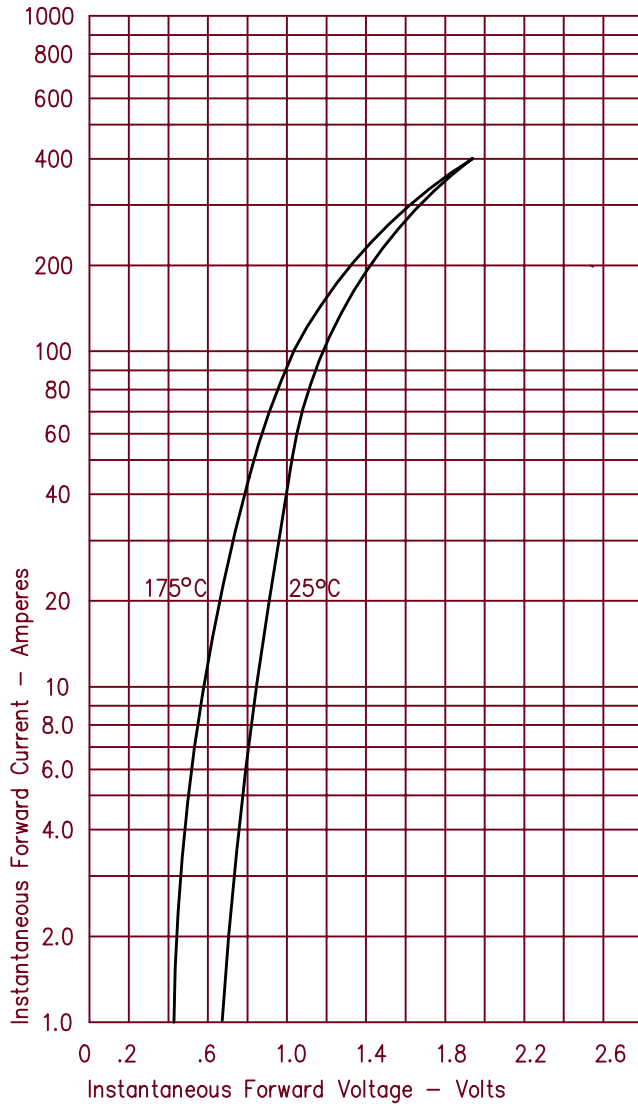


Figure 3
Typical Junction Capacitance

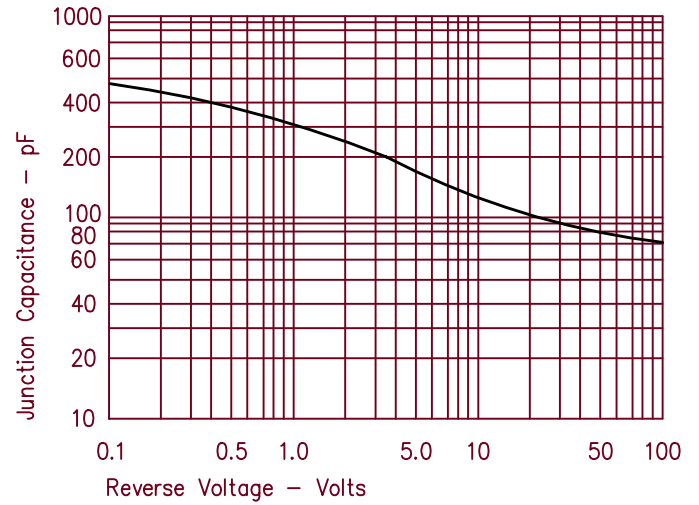


Figure 4
Forward Current Derating - Standard Polarity

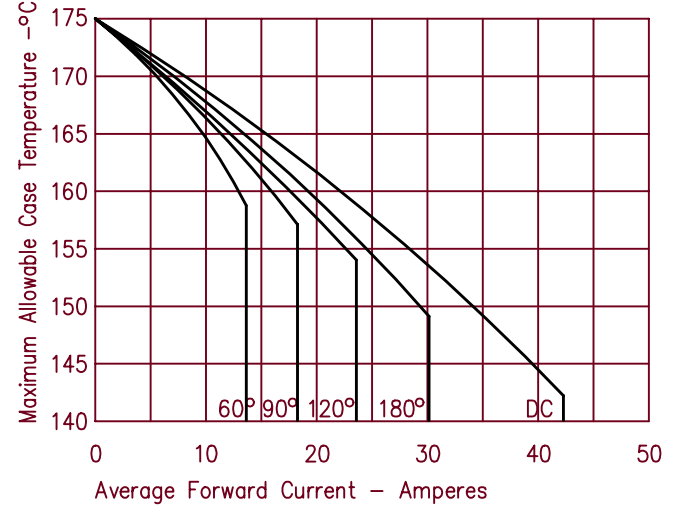


Figure 2
Typical Reverse Characteristics

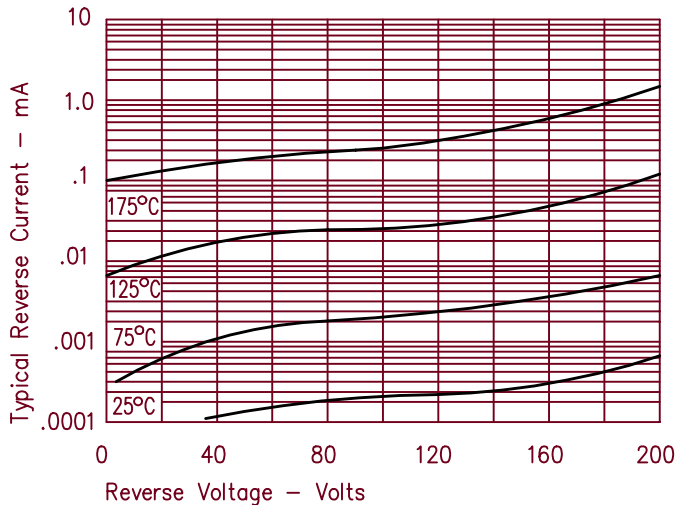
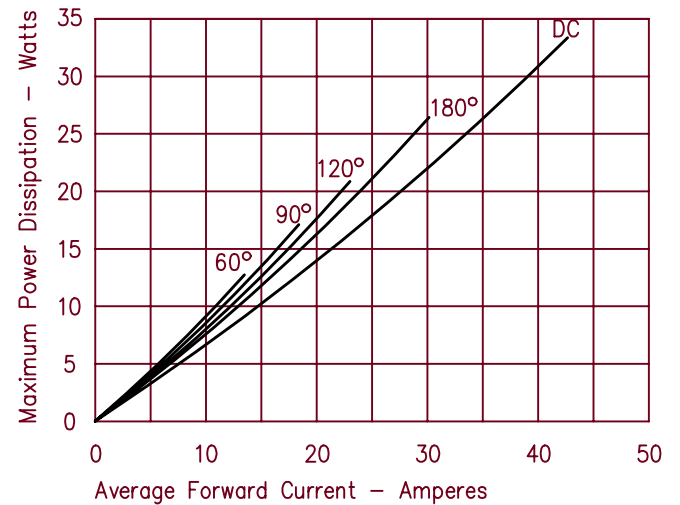


Figure 5
Maximum Forward Power Dissipation - Standard Polarity



UFR30PF

Figure 6
Forward Current Derating – Reverse Polarity

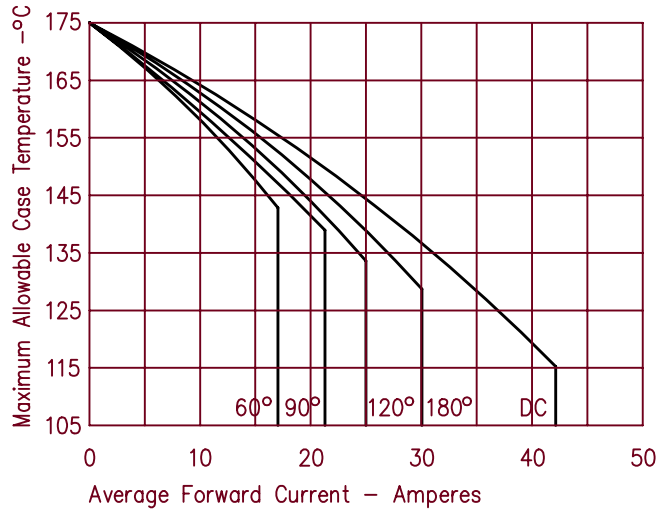
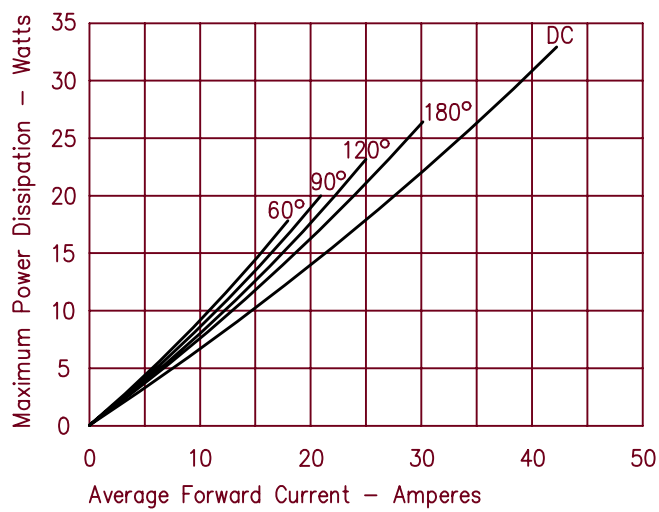


Figure 7
Maximum Forward Power Dissipation – Reverse Polarity



UFR31PF

Figure 1
Typical Forward Characteristics

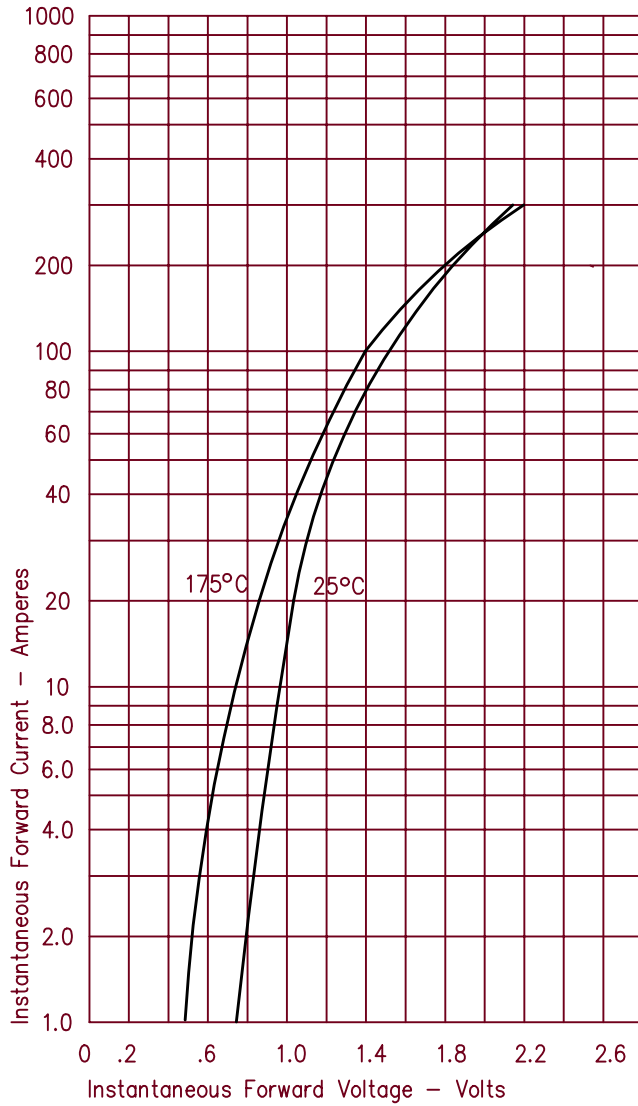


Figure 3
Typical Junction Capacitance

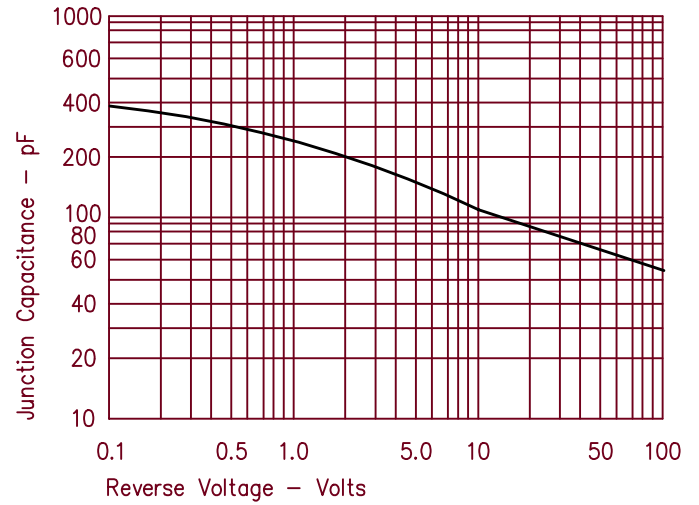


Figure 4
Forward Current Derating - Standard Polarity

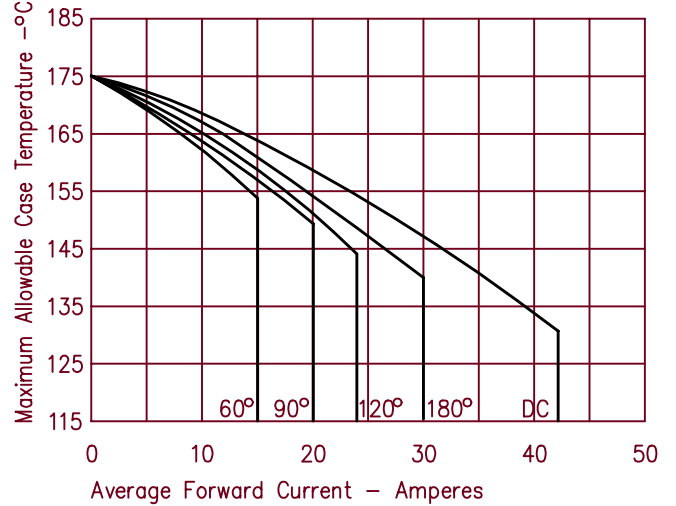


Figure 2
Typical Reverse Characteristics

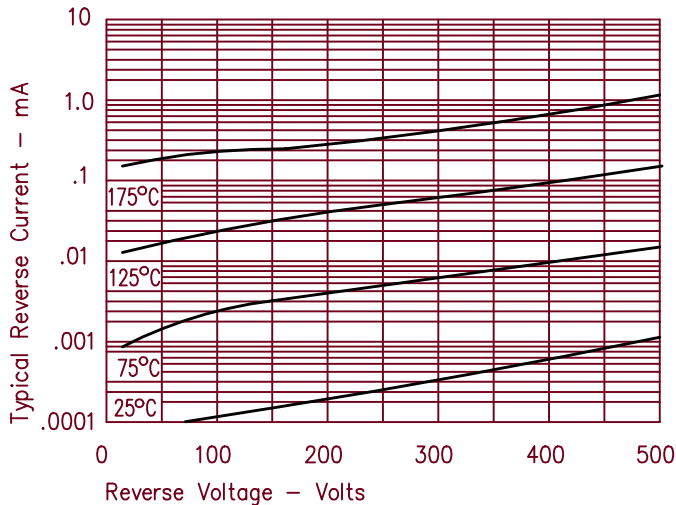
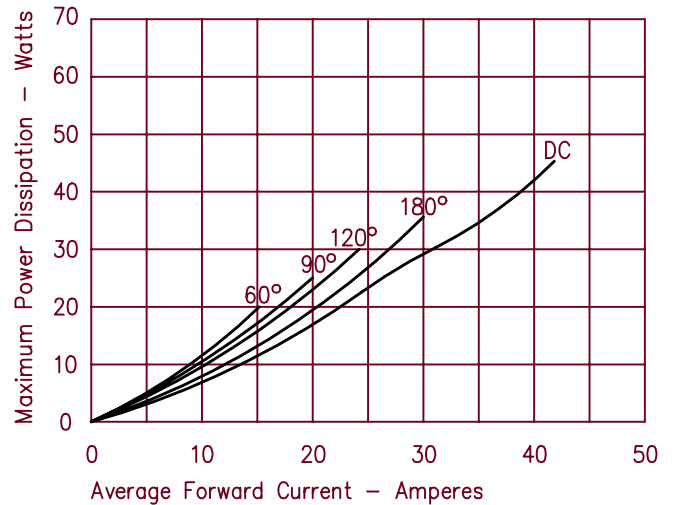


Figure 5
Maximum Forward Power Dissipation - Reverse Polarity



UFR31PF

Figure 6
Forward Current Derating – Reverse Polarity

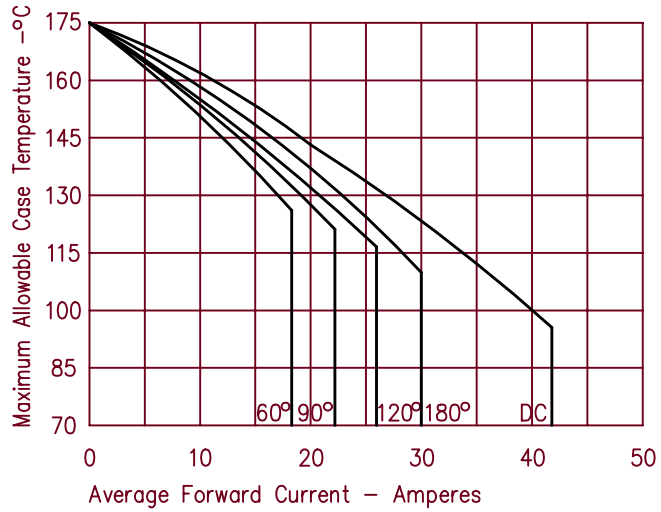


Figure 7
Maximum Forward Power Dissipation – Standard Polarity

