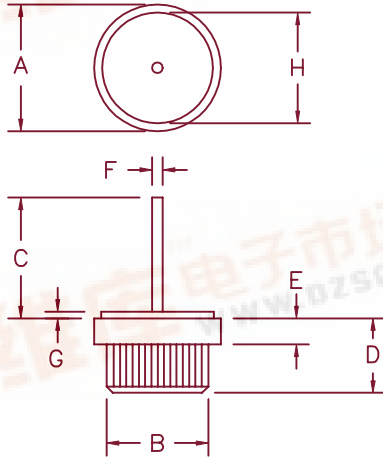


Ultra Fast Recovery Rectifier UFR30PF & UFR31PF



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

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

Repetitive Peak Reverse Voltage

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

Transient Peak Reverse Voltage

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 μA —	—
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 μsec , 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

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

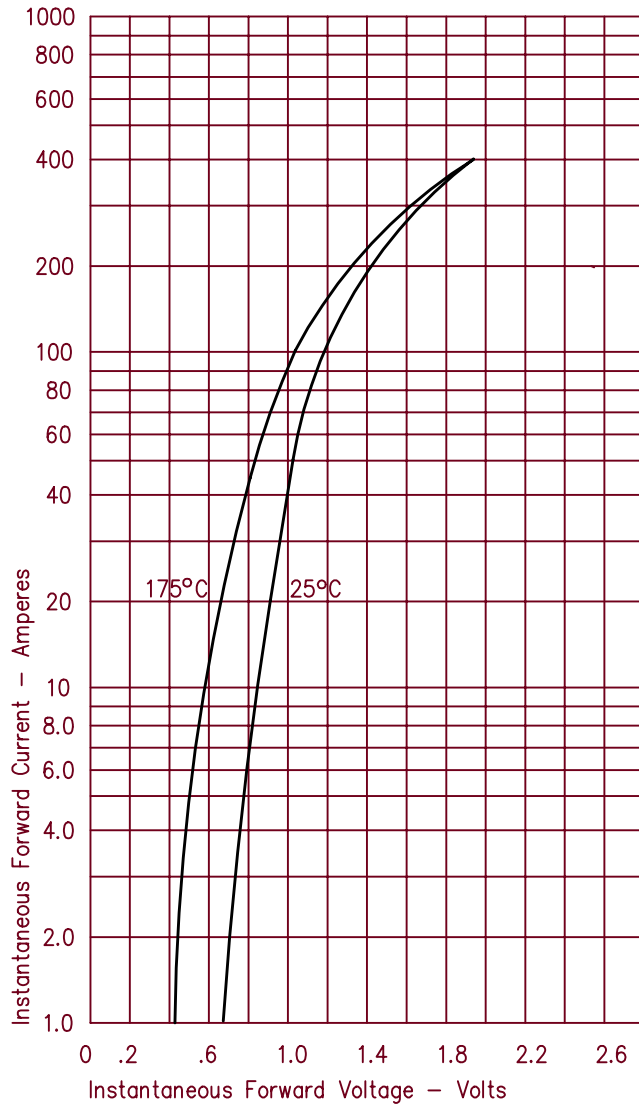


Figure 3
Typical Junction Capacitance

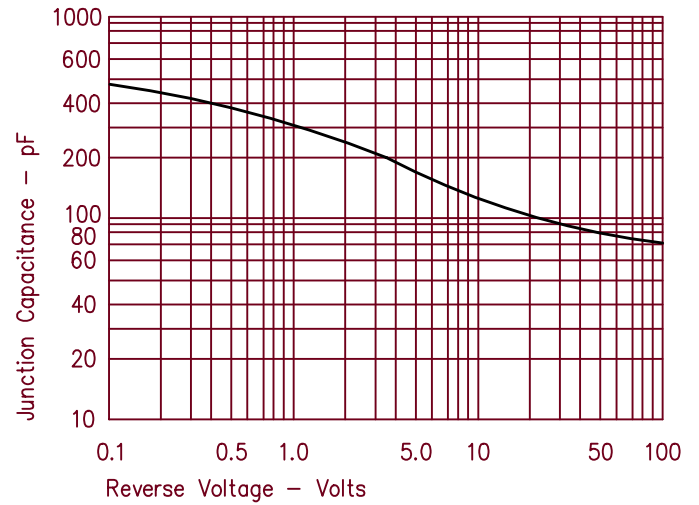


Figure 4
Forward Current Derating - Standard Polarity

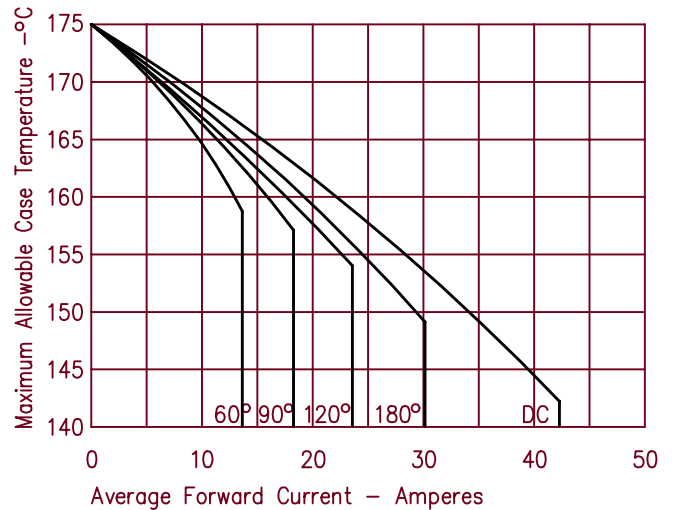


Figure 2
Typical Reverse Characteristics

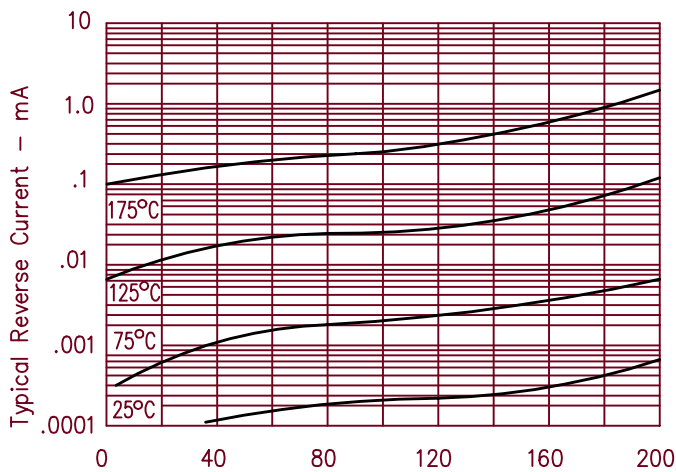
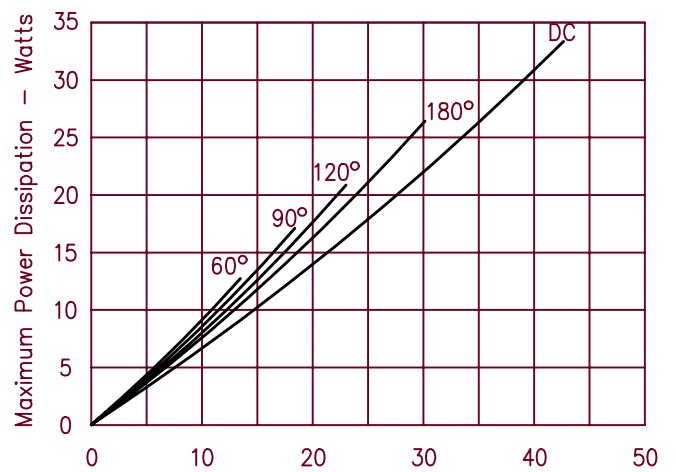


Figure 5
Maximum Forward Power Dissipation - Standard Polarity



UFR30PF

Figure 6
Forward Current Derating – Reverse Polarity

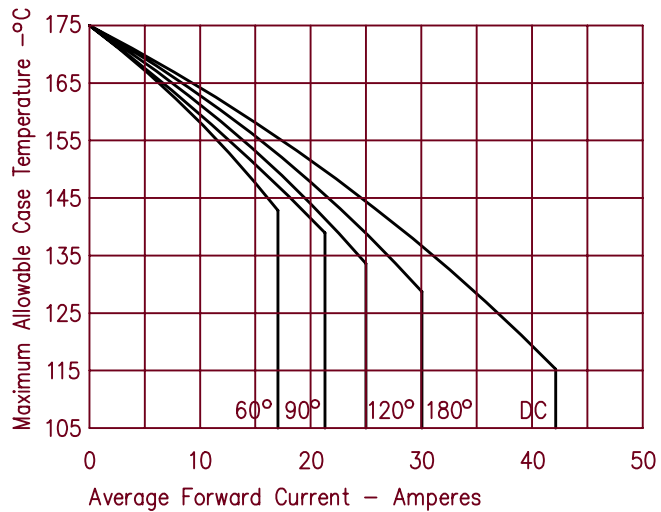
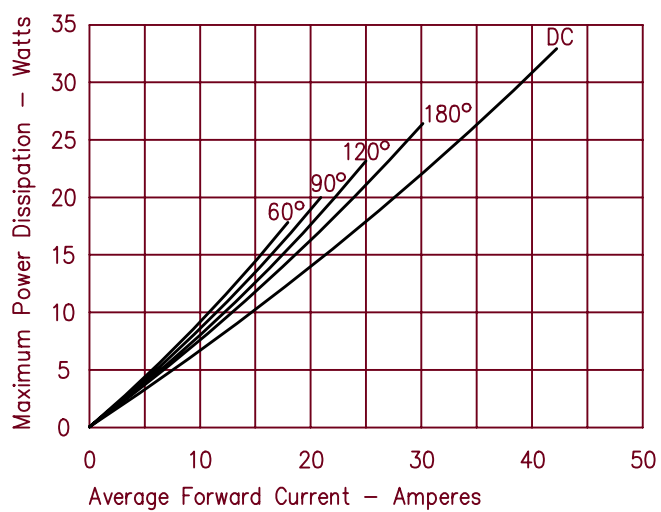


Figure 7
Maximum Forward Power Dissipation – Reverse Polarity



UFR31PF

Figure 1
Typical Forward Characteristics

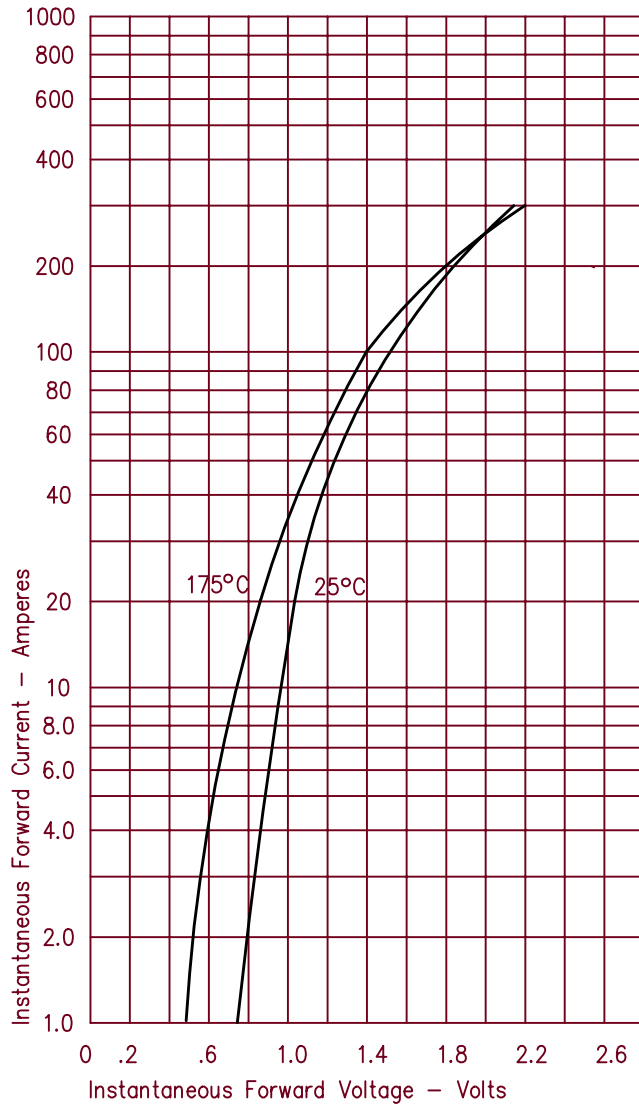


Figure 3
Typical Junction Capacitance

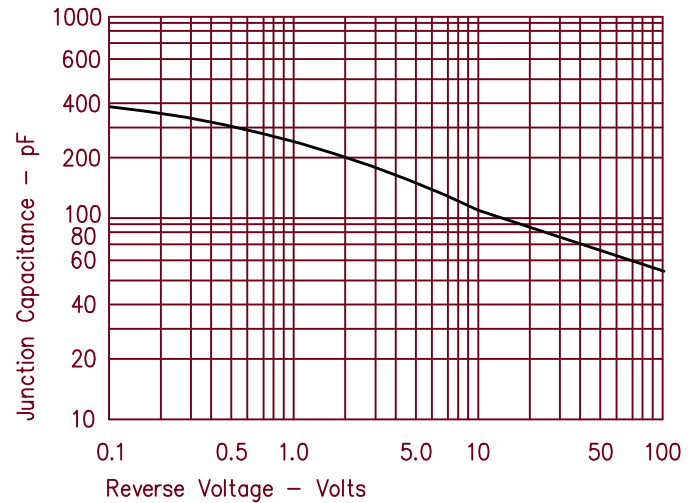


Figure 4
Forward Current Derating - Standard Polarity

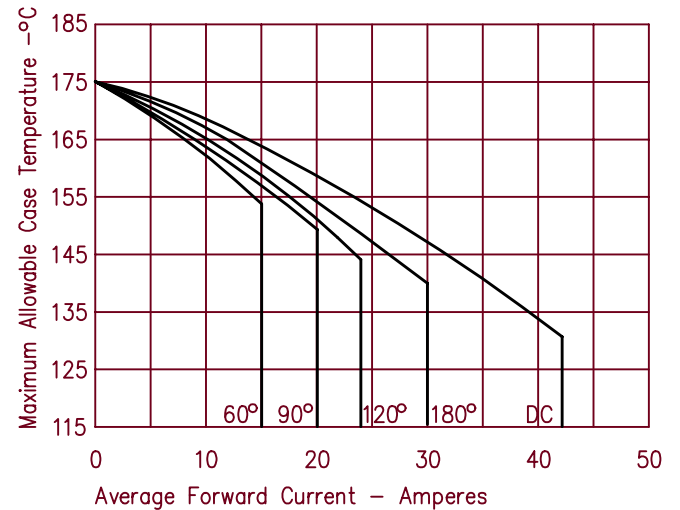


Figure 2
Typical Reverse Characteristics

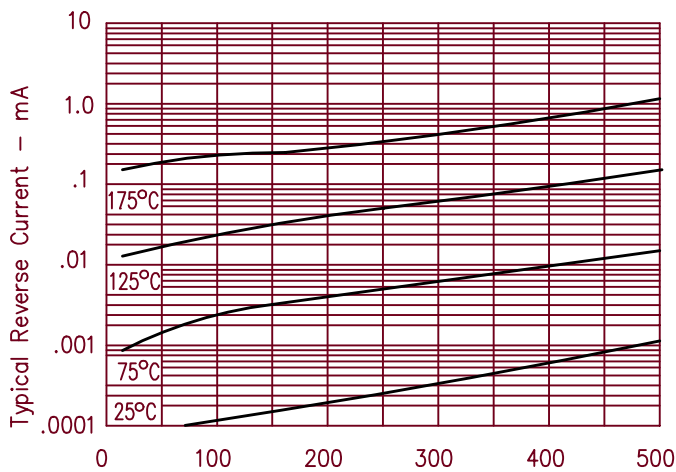
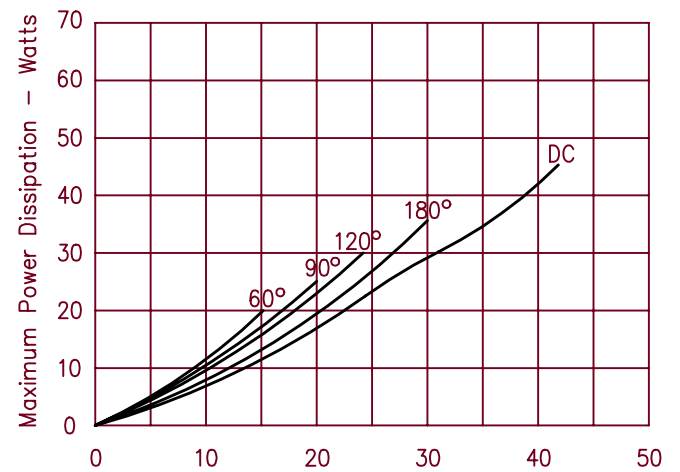


Figure 5
Maximum Forward Power Dissipation - Reverse Polarity



UFR31PF

Figure 6
Forward Current Derating – Reverse Polarity

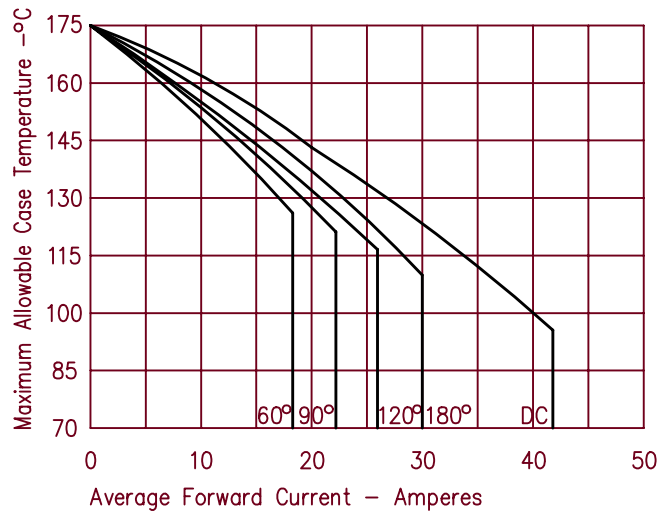


Figure 7
Maximum Forward Power Dissipation – Standard Polarity

