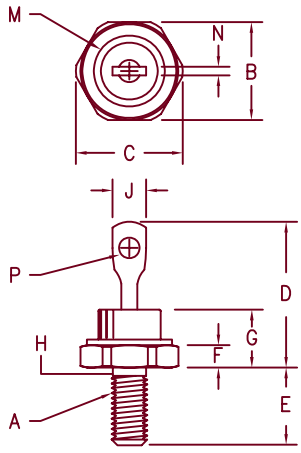
Ultra Fast Recovery Rectifiers
UFR30, 31 & 32



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

*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°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°C
Max peak forward voltage	V_{FM}	.975V	1.25V	1.35V	I_{FM} = 30A: T_J = 25°C*
Max reverse recovery time	t_{RR}	35 ns	50 ns	60 ns	1/2A, 1A, 1/4A, T_J = 25°C
Max peak reverse current	I_{RM}	———	1.0 mA	———	V_{RRM}, T_J = 125°C
Max peak reverse current	I_{RM}	———	15 µA	———	V_{RRM}, T_J = 25°C
Typical Junction Capacitance	C_J	140 pF	115 pF	100 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	$R_{\theta JC}$	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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UFR30

Figure 1
Typical Forward Characteristics

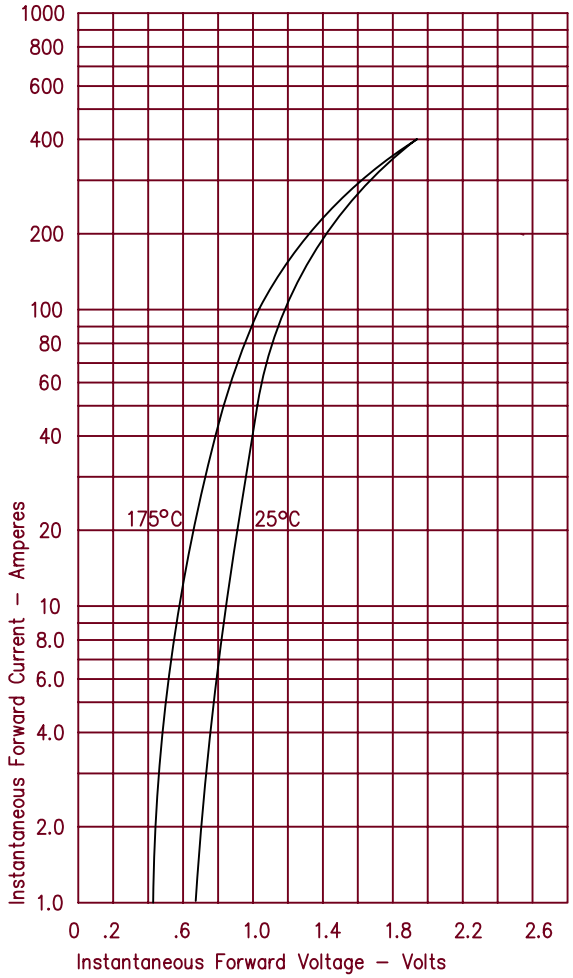

Figure 2
Typical Reverse Characteristics

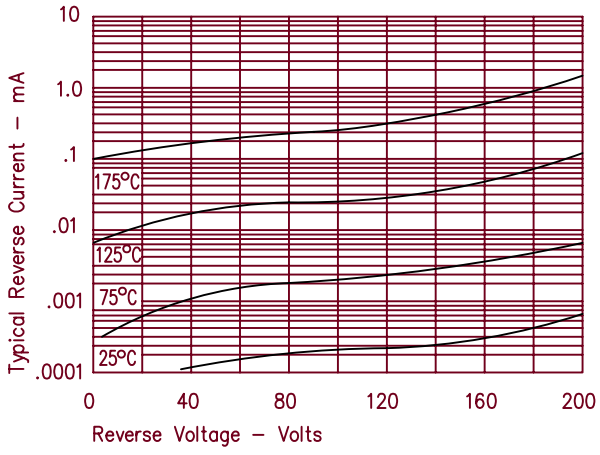

Figure 3
Typical Junction Capacitance

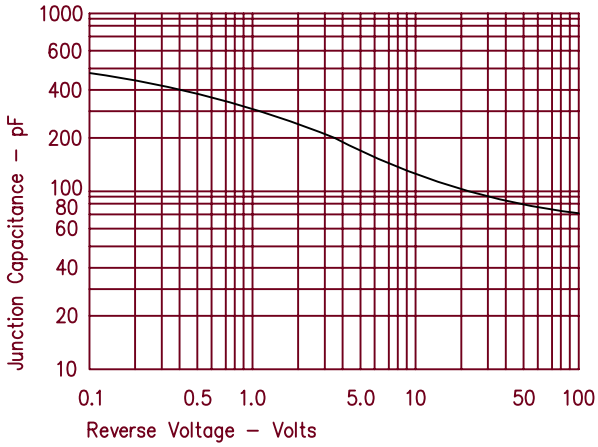

Figure 4
Forward Current Derating

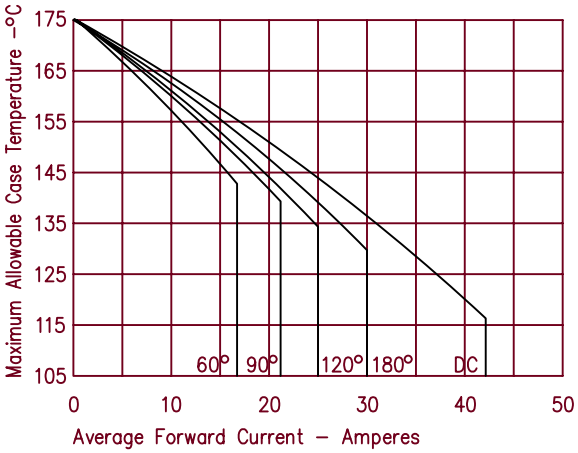

Figure 5
Maximum Forward Power Dissipation

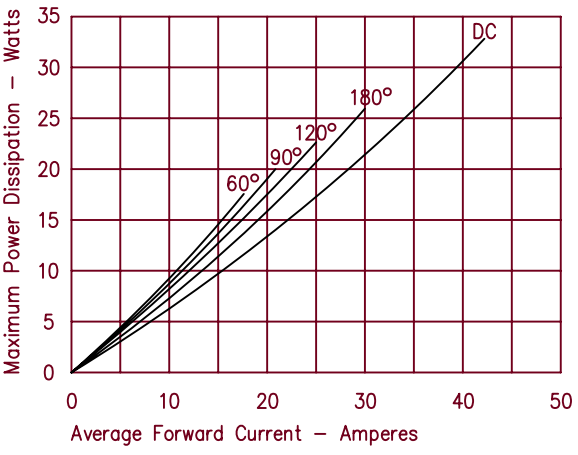

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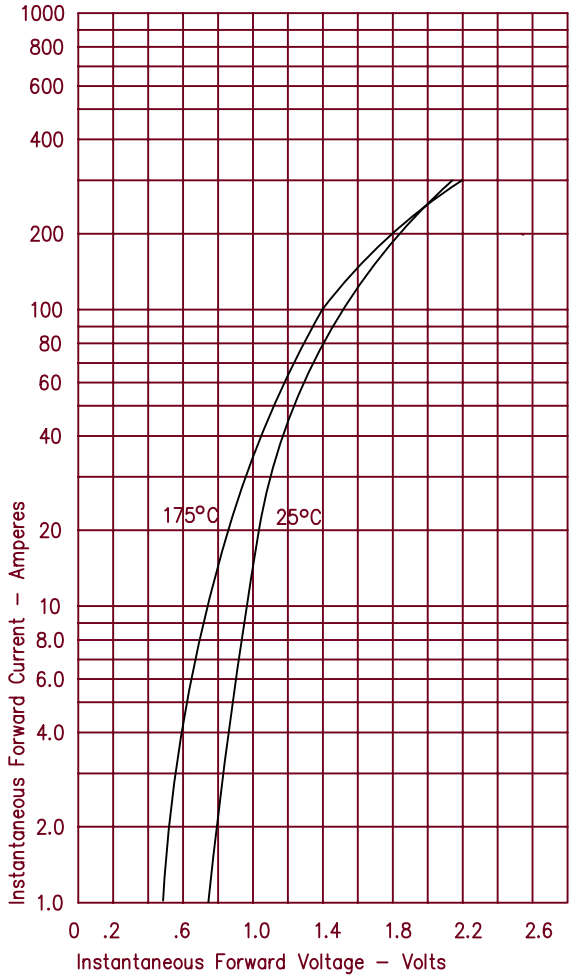
Figure 1
Typical Forward Characteristics



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Typical Reverse Characteristics

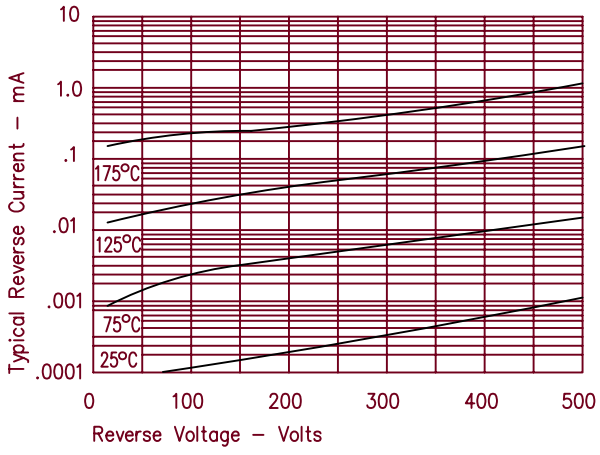


Figure 3
Typical Junction Capacitance

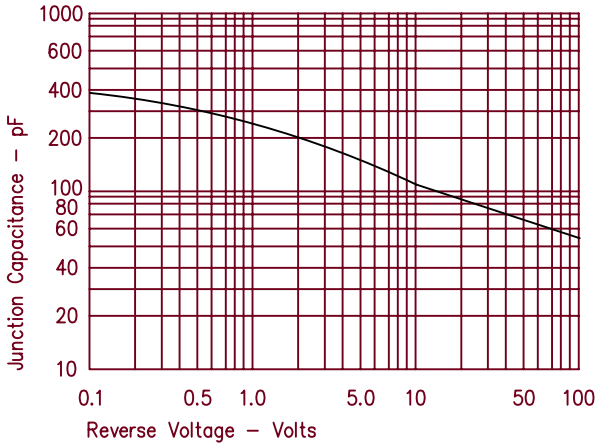
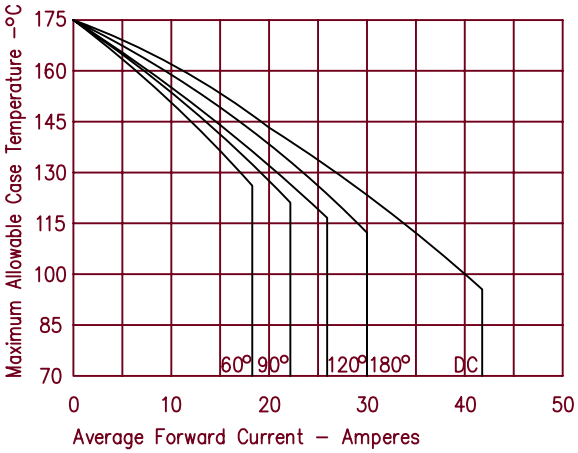


Figure 4
Forward Current Derating



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Maximum Forward Power Dissipation

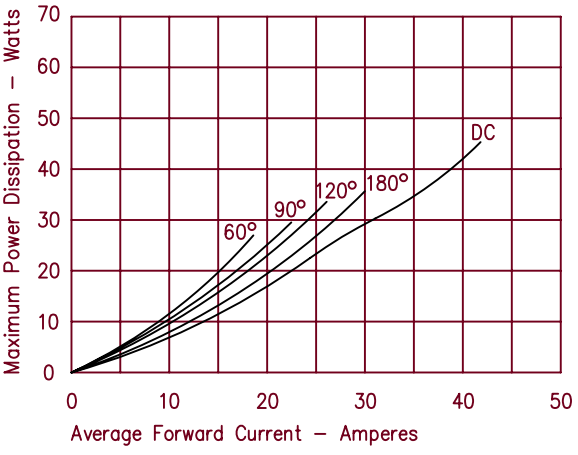

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Figure 1
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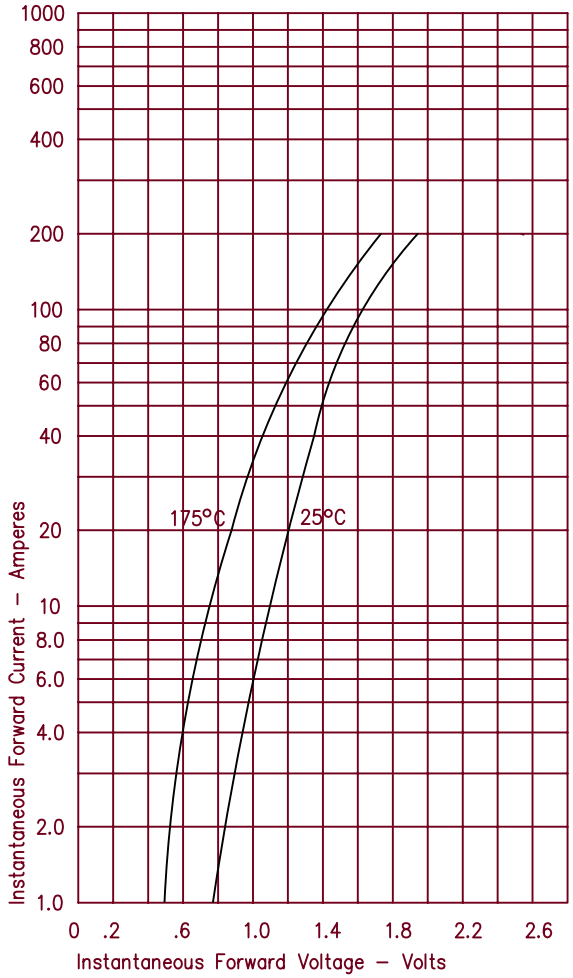

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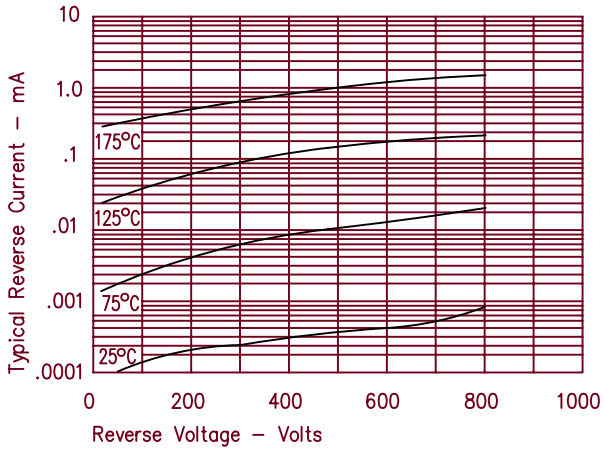
Typical Reverse Characteristics



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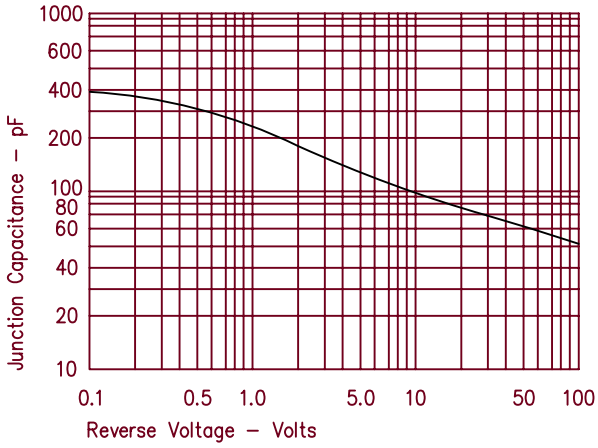
Typical Junction Capacitance



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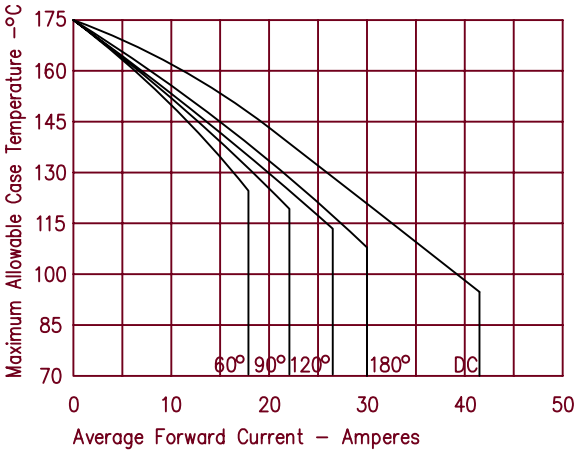

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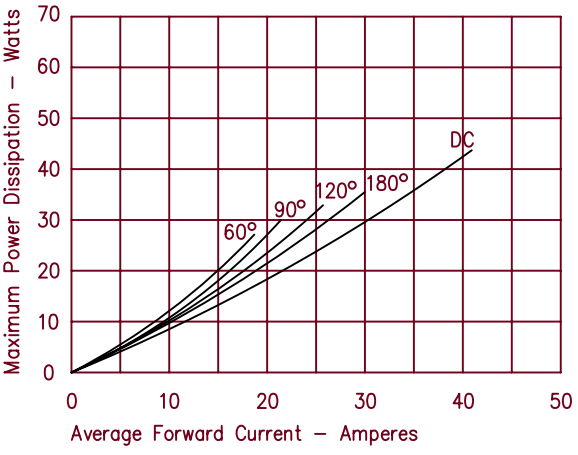

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