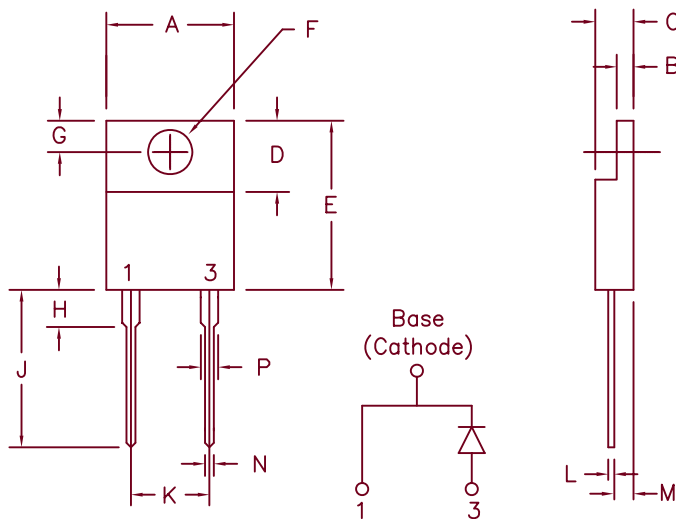


# Ultra Fast Recovery Rectifiers UF1660 — UF1680



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.390	.415	9.91	10.54	
B	.045	.055	1.14	1.40	
C	.180	.190	4.57	4.83	
D	.245	.260	6.22	6.60	
E	.550	.650	13.97	16.51	
F	.139	.155	3.53	3.94	Dia.
G	.100	.120	2.54	3.05	
H	---	.250	---	6.35	
J	.500	.580	12.70	14.73	
K	.190	.210	4.83	5.33	
L	.014	.025	0.35	0.63	
M	.080	.115	2.03	2.92	
N	.028	.038	0.71	0.96	
P	.045	.055	1.14	1.40	

Similar to TO-220AC

Microsemi Catalog Number	Repetitive Peak Reverse Voltage	Transient Peak Reverse Voltage	
UF1660	600V	600V	<ul style="list-style-type: none"> <li>• Ultra Fast Recovery Rectifier</li> <li>• 175°C Junction Temperature</li> <li>• 16 Amp current rating</li> <li>• <math>V_{RRM}</math> 600 to 800 Volts</li> <li>• <math>t_{rr}</math> 70ns maximum</li> </ul>
UF1670	700V	700V	
UF1680	800V	800V	

## Electrical Characteristics

Average Forward Current	$I_F(AV)$ 16 Amps	$T_C = 137^\circ C$ , Square wave, $R_{\theta JC} = 2.0^\circ C/W$
Maximum Surge Current	$I_{FSM}$ 175 Amps	8.3ms, half sine, $T_J = 175^\circ C$
Max. Peak Forward Voltage	$V_{FM}$ 1.3 Volts	$I_{FM} = 16A$ , $T_J = 25^\circ C^*$
Max. Peak Reverse Current	$I_{RM}$ 1 mA	$V_{RRM}$ , $T_J = 125^\circ C$
Max. Peak Reverse Current	$I_{RM}$ 10 $\mu A$	$V_{RRM}$ , $T_J = 25^\circ C$
Max. Reverse Recovery Time	$t_{rr}$ 70 ns	1/2A, 1A, 1/4A, $T_J = 25^\circ C$
Typical Junction Capacitance	$C_J$ 45 pF	$V_R = 10V$ , $T_J = 25^\circ C$ , $f = 1MHz$

\*Pulse test: Pulse width 300  $\mu sec$ . Duty cycle 2%

## Thermal and Mechanical Characteristics

Storage temp range	TSTG	-55°C to + 175°C
Operating junction temp range	$T_J$	-55°C to + 175°C
Max thermal resistance	$R_{\theta JC}$	2.0°C/W junction to case
Mounting torque		10-15 inch pounds
Weight		0.06 ounces (1.8 grams) typical



8700 East Thomas Road, P.O. Box 1390  
Scottsdale, AZ 85252  
PH: (480) 941-6300  
FAX: (480) 947-1503  
www.microsemi.com

05-07-07 Rev. 2

# UF1660 — UF1680

Figure 1  
Typical Forward Characteristics

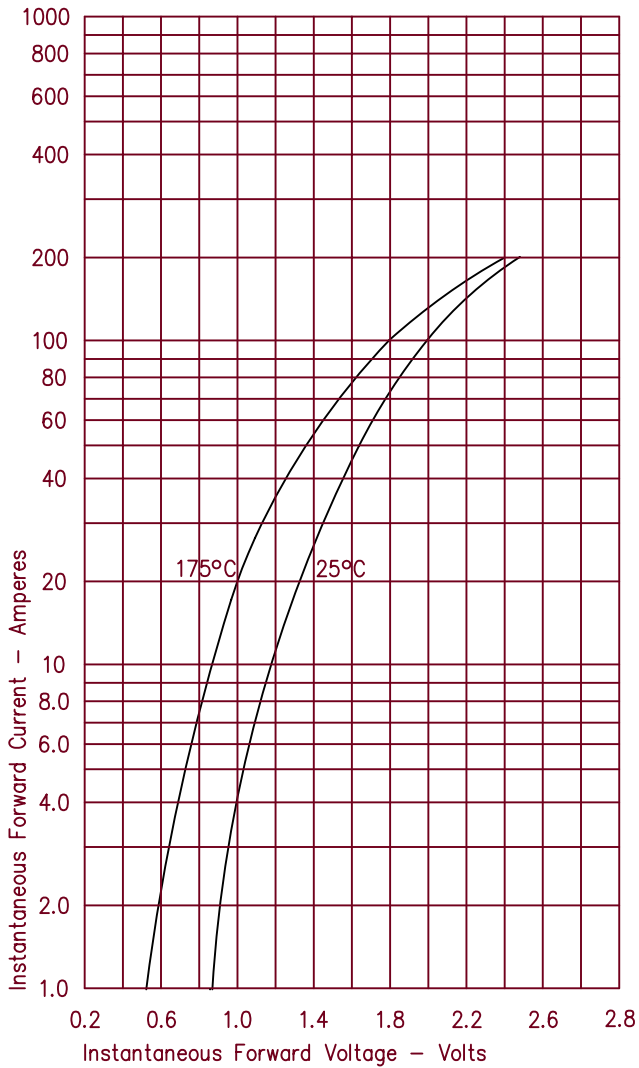


Figure 3  
Typical Junction Capacitance

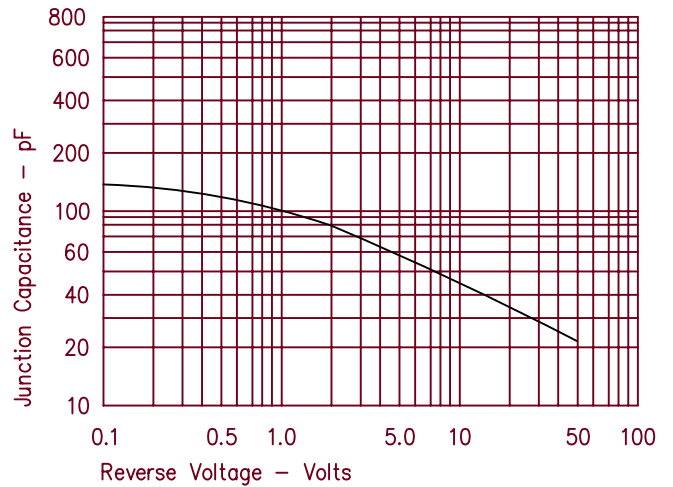


Figure 4  
Forward Current Derating

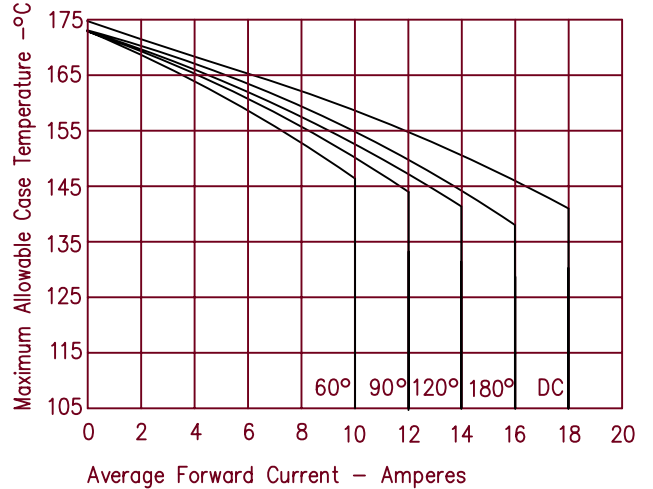


Figure 2  
Typical Reverse Characteristics

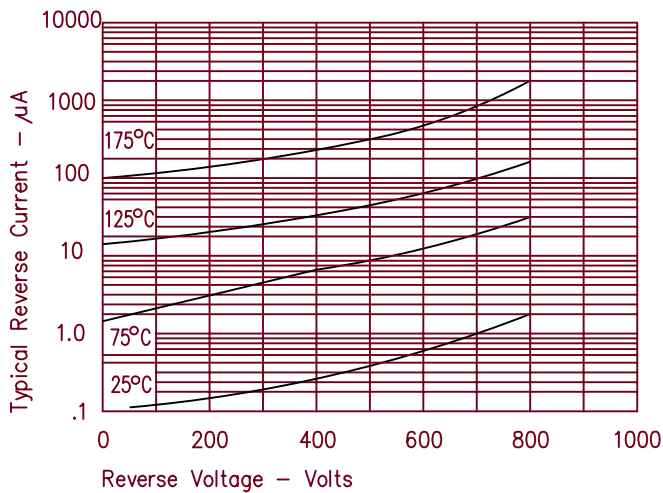


Figure 5  
Maximum Forward Power Dissipation

