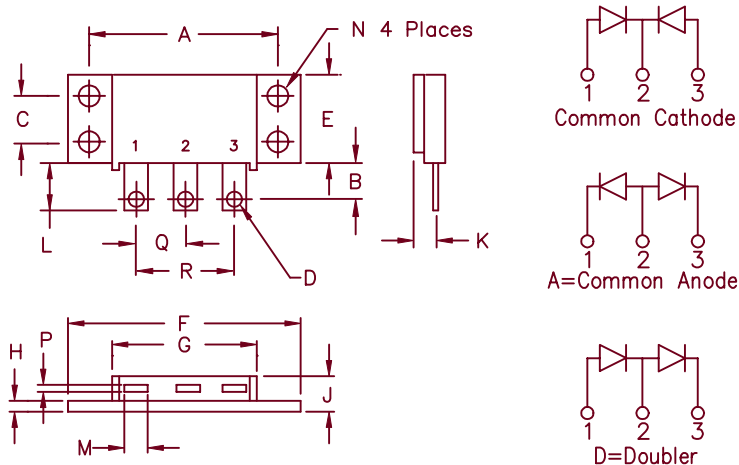


# Ultrafast Recovery Modules UFT210, 211 & 212



Notes:  
Baseplate: Nickel plated copper;  
electrically isolated  
Pins: Nickel plated copper

Dim.	Inches		Millimeters		Notes
	Min.	Max.	Min.	Max.	
A	1.995	2.005	50.67	50.93	
B	0.300	0.325	7.62	8.26	
C	0.495	0.505	12.57	12.83	
D	0.182	0.192	4.62	4.88	Dia.
E	0.990	1.010	25.15	25.65	
F	2.390	2.410	60.71	61.21	
G	1.500	1.525	38.10	38.70	
H	0.120	0.130	3.05	3.30	
J	---	0.400	---	10.16	
K	0.240	0.260	6.10	6.60 to Lead CL	
L	0.490	0.510	12.45	12.95	
M	0.330	0.350	8.38	6.90	
N	0.175	0.195	4.45	4.95	Dia.
P	0.035	0.045	0.89	1.14	
Q	0.445	0.455	11.30	11.56	
R	0.890	0.910	22.61	23.11	

TO-249

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
UFT21010*	100V	100V
UFT21015*	150V	150V
UFT21020*	200V	200V
UFT21130*	300V	300V
UFT21140*	400V	400V
UFT21150*	500V	500V
UFT21260*	600V	600V
UFT21270*	700V	700V
UFT21280*	800V	800V

\*Add Suffix A for Common Anode, D for Doubler

- Ultra Fast Recovery
- 175°C Junction Temperature
- $V_{RRM}$  100 to 800 Volts
- Electrically isolated base
- 2 X 100 Amp current rating

## Electrical Characteristics

	UFT210	UFT211	UFT212	
Average forward current per pkg	$I_{F(AV)}$ 200A	200A	200A	Square Wave
Average forward current per leg	$I_{F(AV)}$ 100A	100A	100A	Square Wave
Case Temperature	$T_C$ 130°C	116°C	110°C	$R_{\theta JC} = 0.64^\circ C/W$
Maximum surge current per leg	$I_{FSM}$ 1000A	800A	700A	8.3ms, half sine, $T_J = 175^\circ C$
Max peak forward voltage per leg	$V_{FM}$ .975V	1.25V	1.35V	$I_{FM} = 100A; T_J = 25^\circ C^*$
Max reverse recovery time per leg	$t_{rr}$ 75ns	90ns	120ns	1A, 30V $T_J = 25^\circ C$
Max peak reverse current per leg	$I_{RM}$ —	4.0mA	—	$V_{RRM}, T_J = 125^\circ C^*$
Max peak reverse current per leg	$I_{RM}$ —	25 $\mu$ A	—	$V_{RRM}, T_J = 25^\circ C$
Typical Junction capacitance	$C_J$ 700pF	250pF	200pF	$V_R = 10V, T_J = 25^\circ C$

\*Pulse test: Pulse width 300 usec, Duty cycle 2%

## Thermal and Mechanical Characteristics

Storage temp range	$T_{STG}$	-55°C to 175°C
Operating junction temp range	$T_J$	-55°C to 175°C
Max thermal resistance per leg	$R_{\theta JC}$	0.64°C/W Junction to case
Max thermal resistance per pkg	$R_{\theta JC}$	0.32°C/W Junction to case
Typical thermal resistance (greased)	$R_{\theta CS}$	0.1°C/W Case to sink
Mounting Torque		15-20 inch pounds
Weight		2.5 ounces (71 grams) typical

# UFT210

Figure 1  
Typical Forward Characteristics – Per Leg

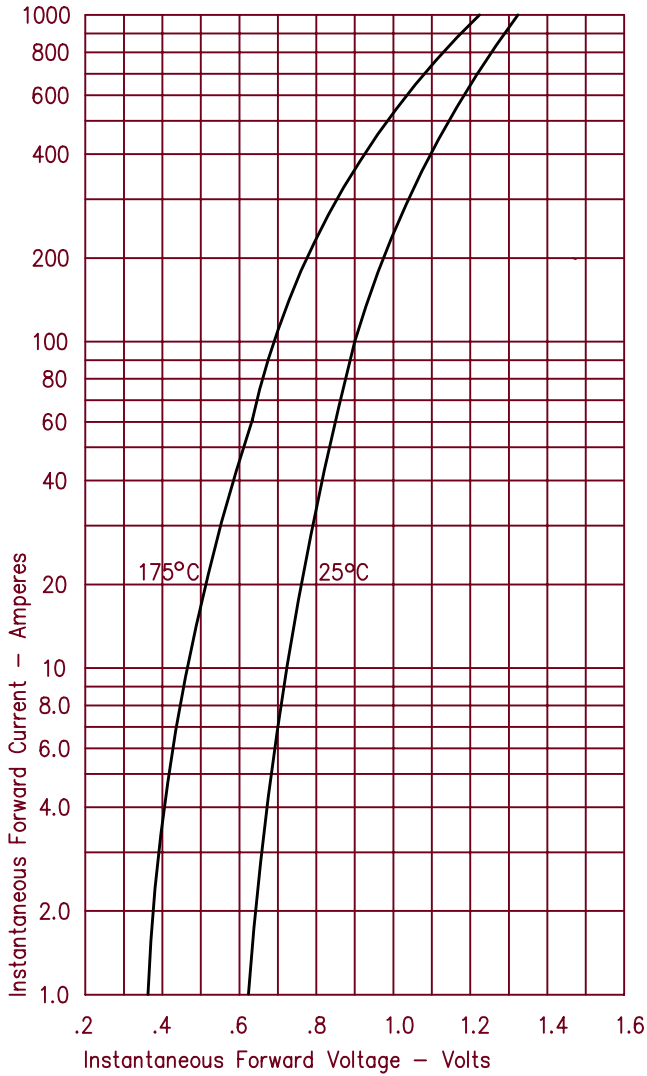


Figure 3  
Typical Junction Capacitance – Per Leg

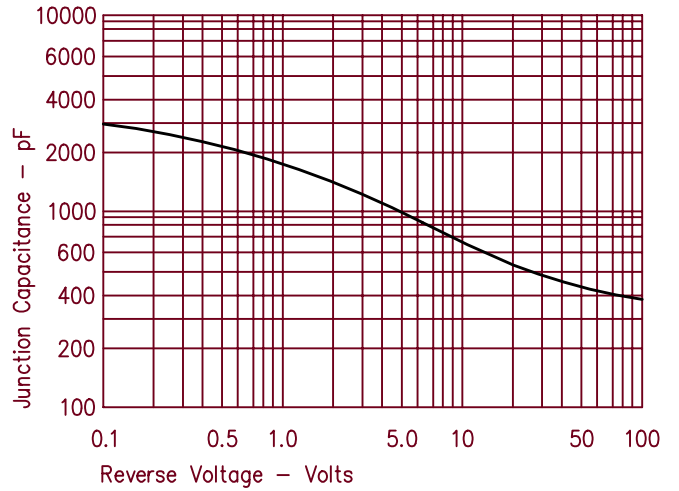


Figure 4  
Forward Current Derating – Per Leg

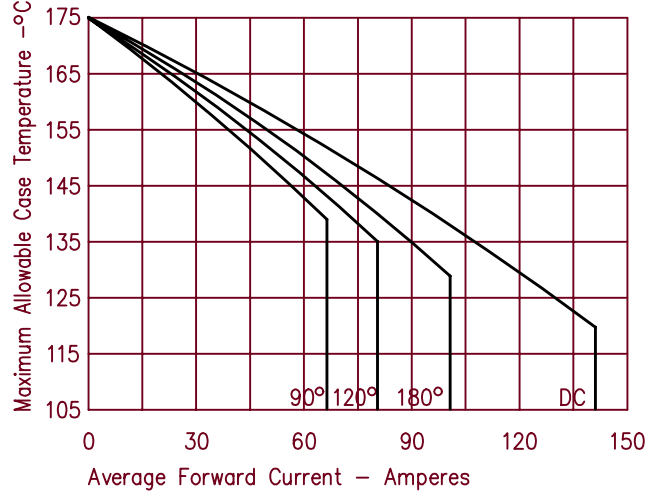


Figure 2  
Typical Reverse Characteristics – Per Leg

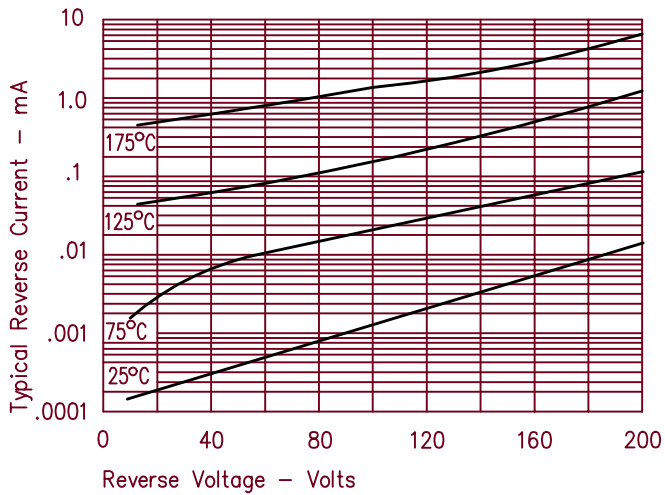
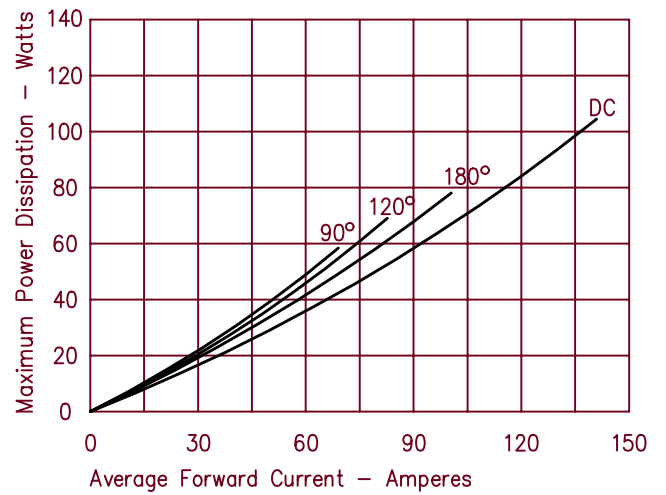


Figure 5  
Maximum Forward Power Dissipation – Per Leg



# UFT211

Figure 1  
Typical Forward Characteristics – Per Leg

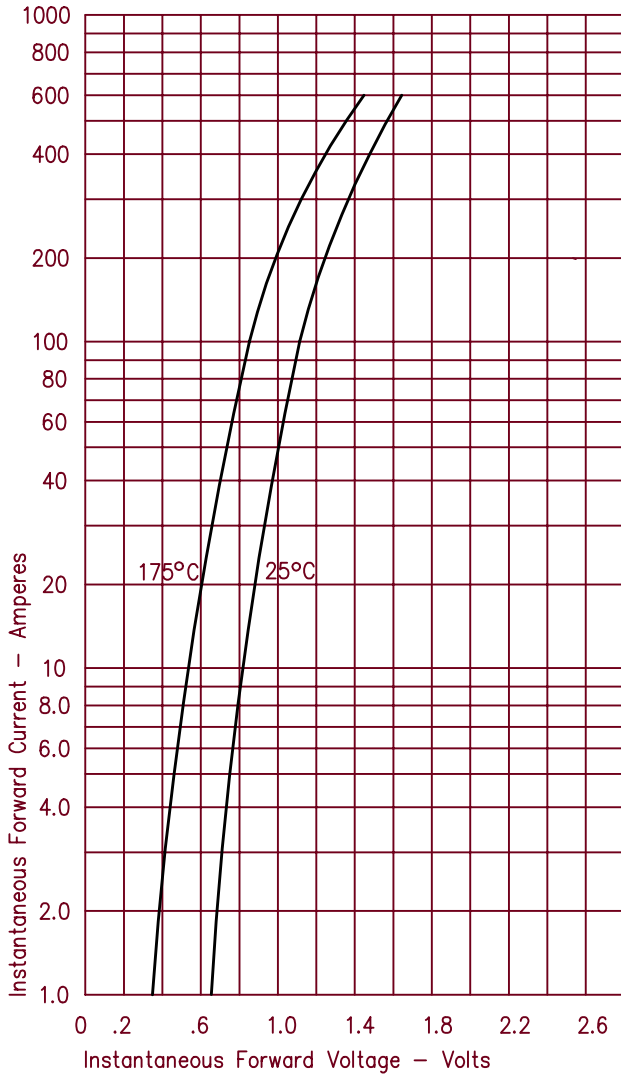


Figure 3  
Typical Junction Capacitance – Per Leg

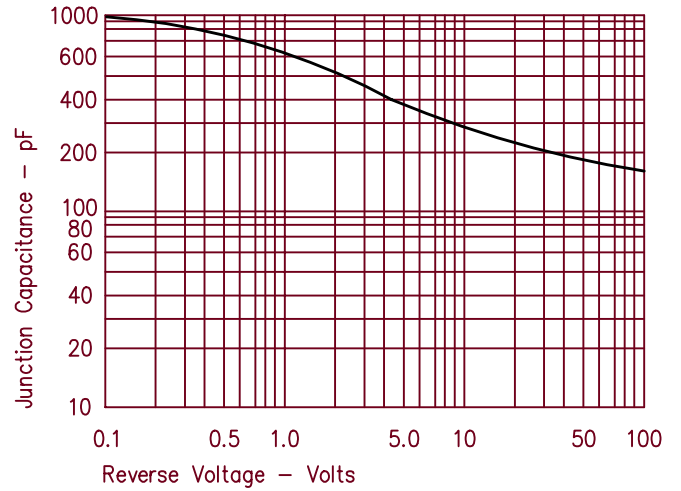


Figure 4  
Forward Current Derating – Per Leg

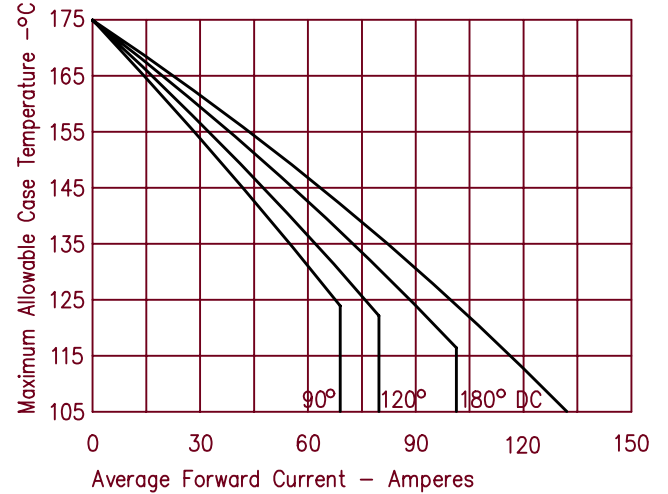


Figure 2  
Typical Reverse Characteristics – Per Leg

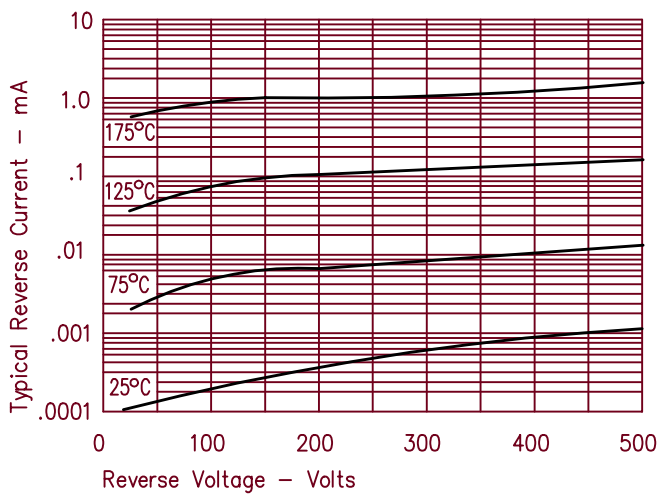
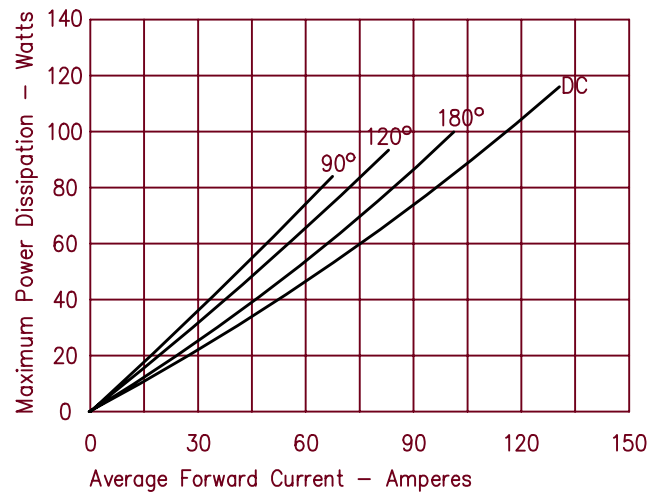


Figure 5  
Maximum Forward Power Dissipation – Per Leg



# UFT212

Figure 1  
Typical Forward Characteristics – Per Leg

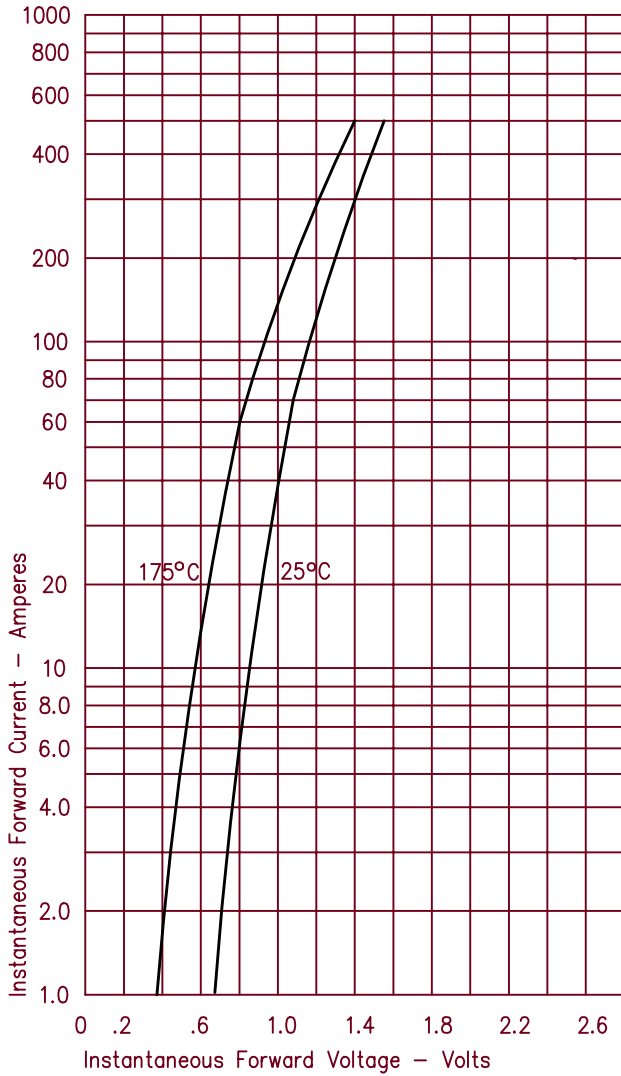


Figure 3  
Typical Junction Capacitance – Per Leg

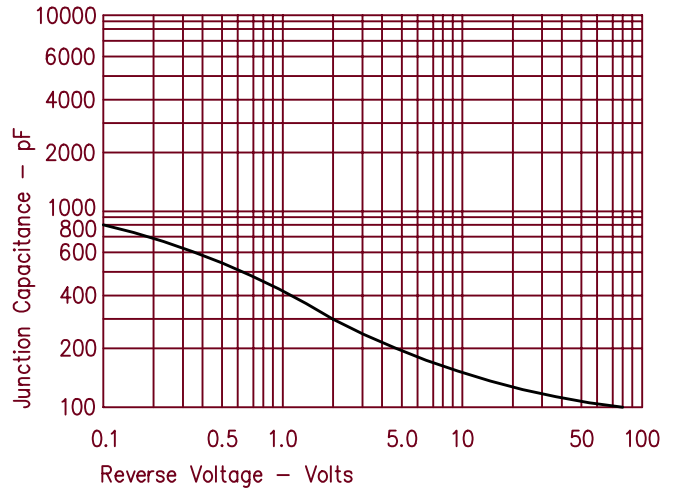


Figure 4  
Forward Current Derating – Per Leg

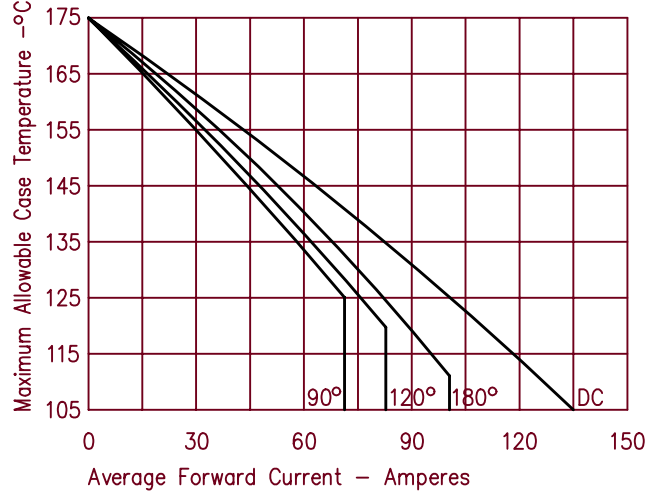


Figure 2  
Typical Reverse Characteristics – Per Leg

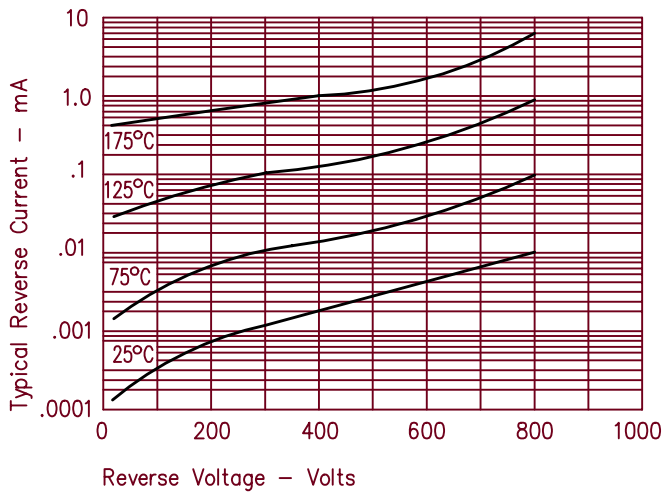


Figure 5  
Maximum Forward Power Dissipation – Per Leg

