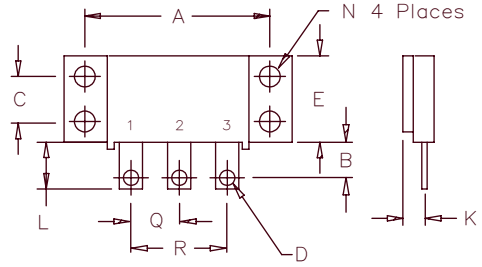
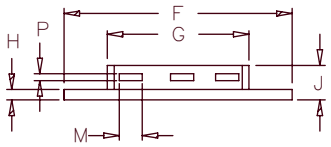
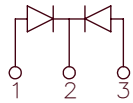
Ultrafast Recovery Modules

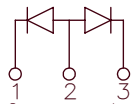
UFT210, 211 & 212



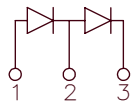




Common Cathode



A=Common Anode



D=Doubler

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

Dim.	Inches		Millimeters		
	Min.	Max.	Min.	Max.	Notes
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 ℄
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
- ROHS Compliant

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°C/W
Maximum surge current per leg	I_{FSM}	1000A	800A	700A	8.3ms, half sine, T_J = 175°C
Max peak forward voltage per leg	V_{FM}	.975V	1.25V	1.35V	I_{FM} = 100A: T_J = 25°C*
Max reverse recovery time per leg	trr	75ns	90ns	120ns	1A, 30V T_J = 25°C
Max peak reverse current per leg	I_{RM}	———	4.0mA	———	V_{RRM}, T_J = 125°C*
Max peak reverse current per leg	I_{RM}	———	25µA	———	V_{RRM}, T_J = 25°C
Typical Junction capacitance	C_J	700pF	250pF	200pF	V_R = 10V, T_J = 25°C

*Pulse test: Pulse width 300µsec, 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

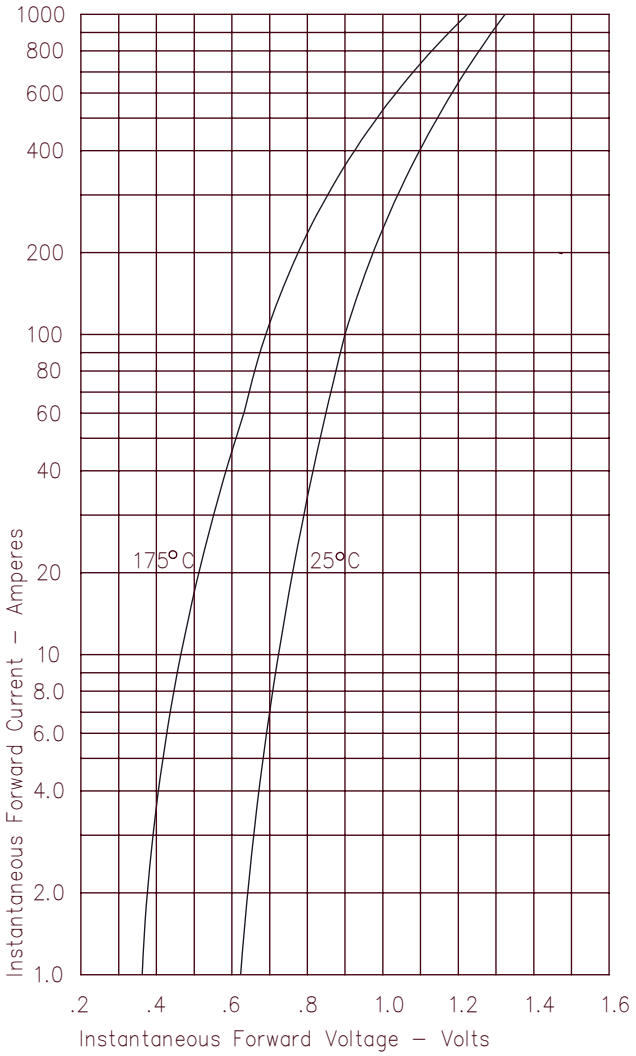


Figure 3
Typical Junction Capacitance – Per Leg

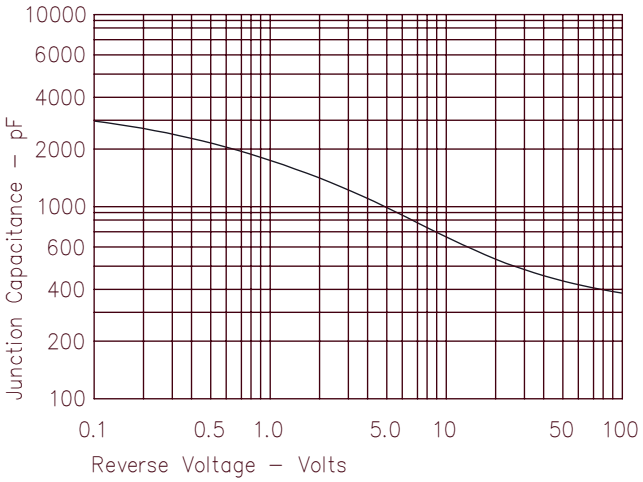


Figure 4
Forward Current Derating – Per Leg

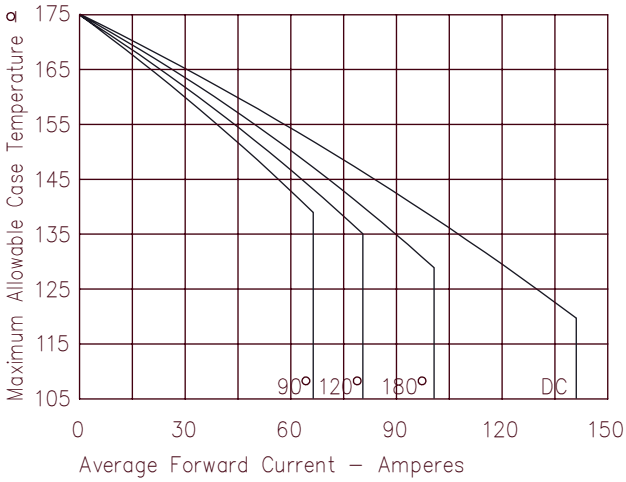


Figure 2
Typical Reverse Characteristics – Per Leg

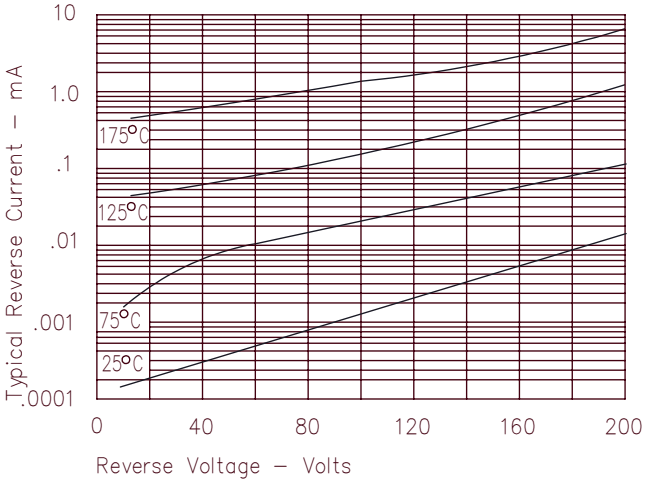
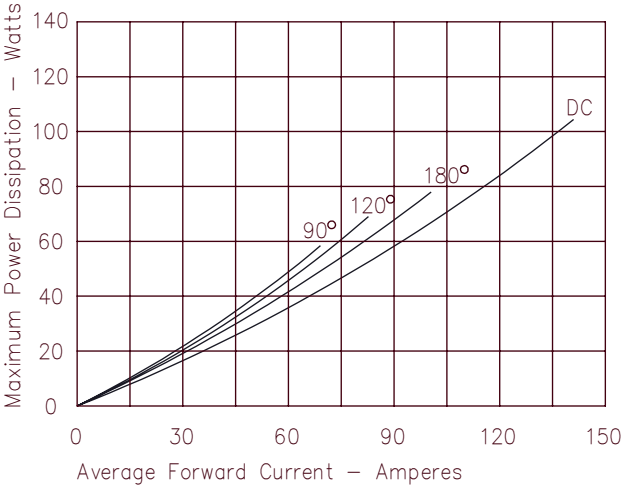


Figure 5
Maximum Forward Power Dissipation – Per Leg



UFT211

Figure 1
Typical Forward Characteristics – Per Leg

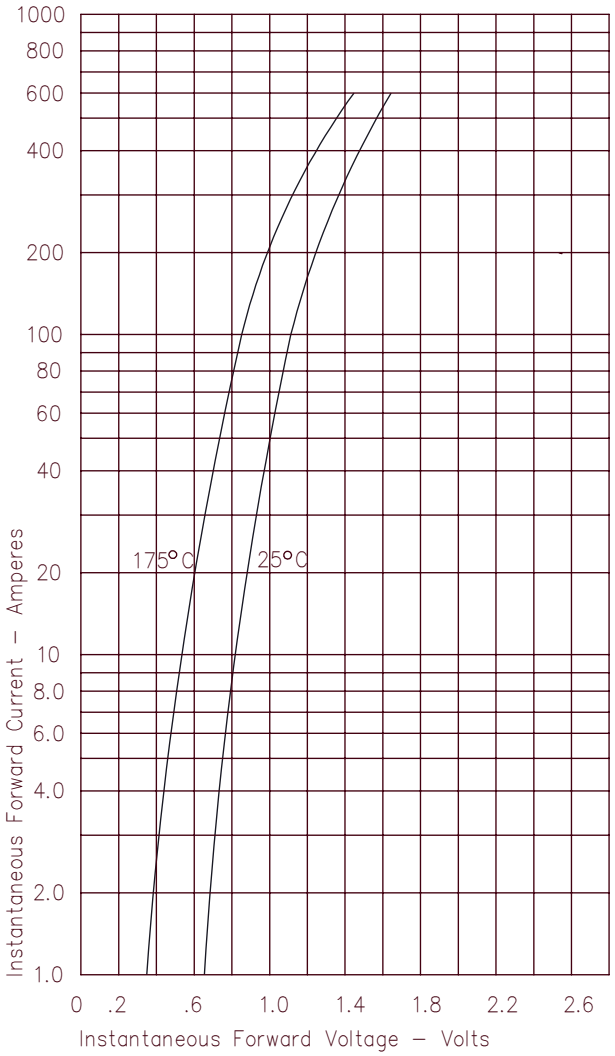


Figure 2
Typical Reverse Characteristics – Per Leg

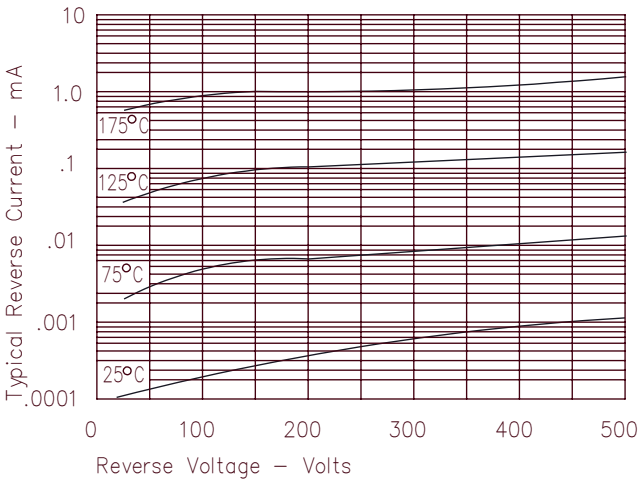


Figure 3
Typical Junction Capacitance – Per Leg

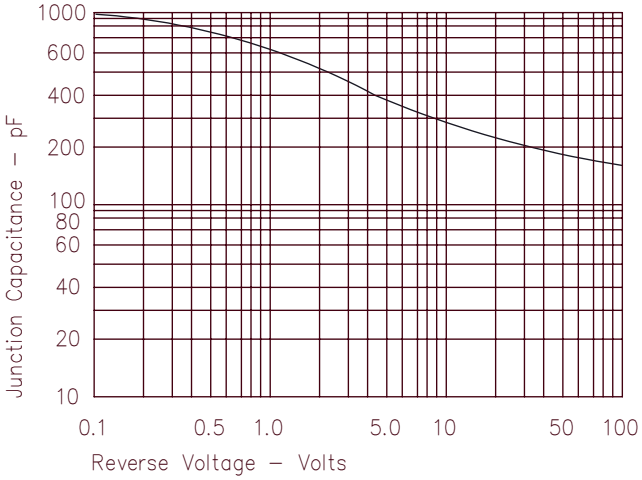


Figure 4
Forward Current Derating – Per Leg

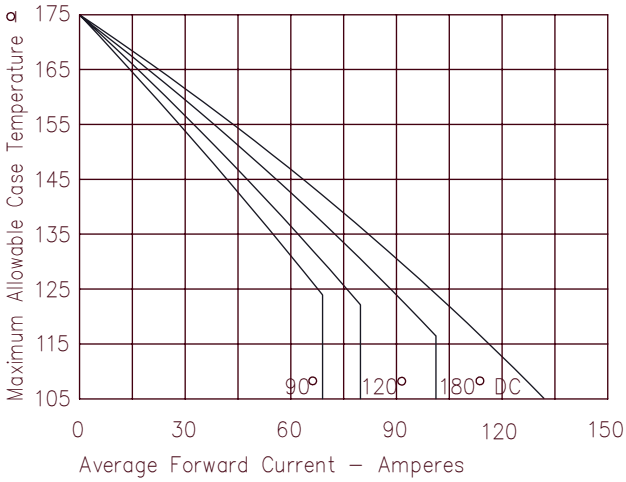
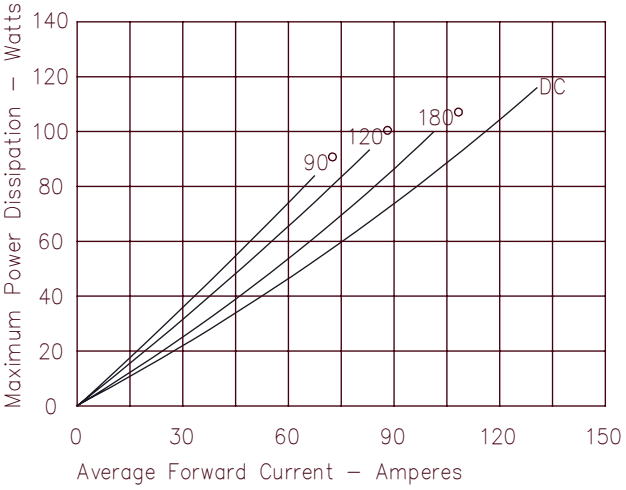


Figure 5
Maximum Forward Power Dissipation – Per Leg



UFT212

Figure 1
Typical Forward Characteristics – Per Leg

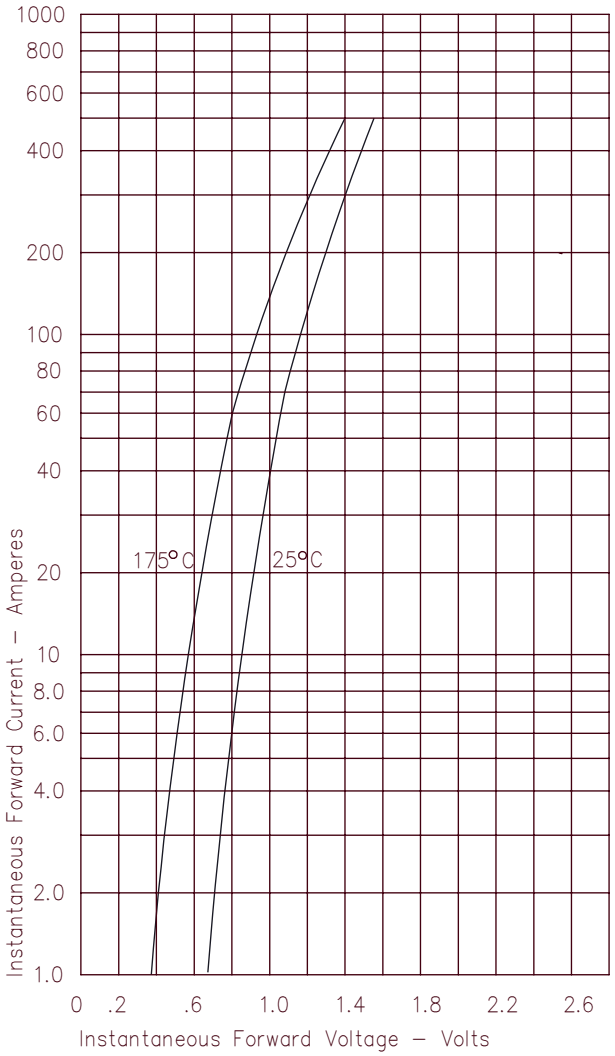


Figure 2
Typical Reverse Characteristics – Per Leg

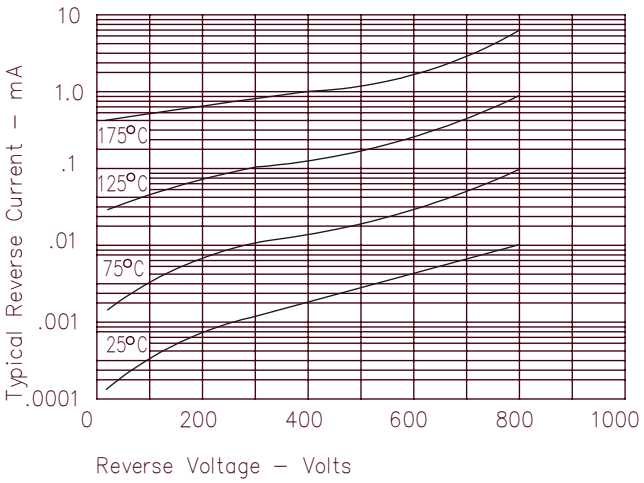


Figure 3
Typical Junction Capacitance – Per Leg

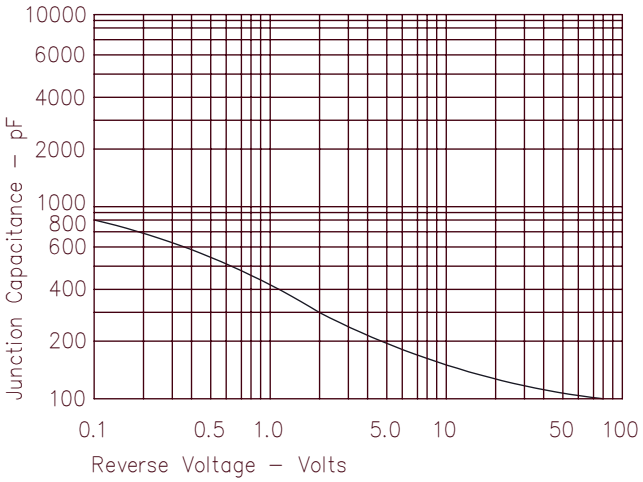


Figure 4
Forward Current Derating – Per Leg

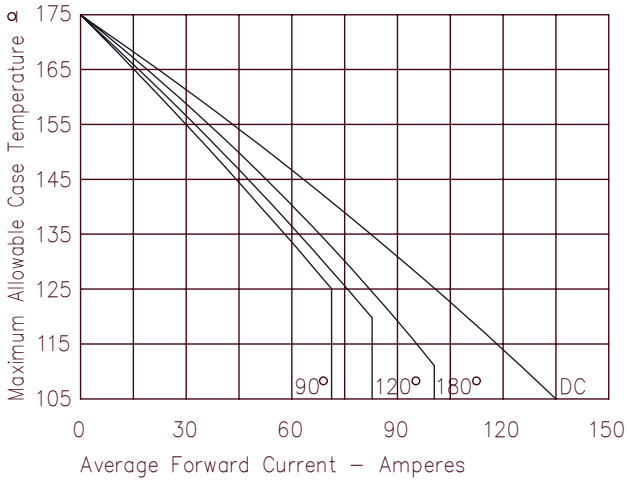


Figure 5
Maximum Forward Power Dissipation – Per Leg