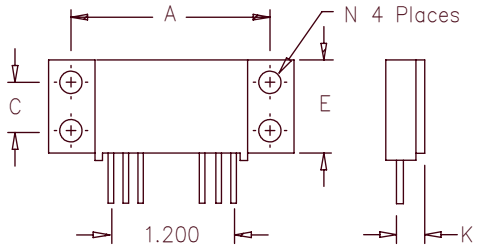
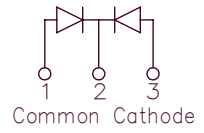
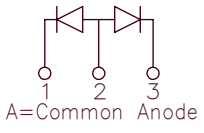
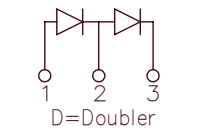
Ultrafast Recovery Modules

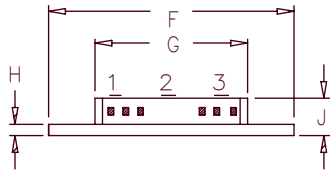
UFT120, 121 & 122











Notes:
Baseplate: Nickel plated copper
Pins: Nickel plated copper

Dim.	Inches		Millimeters		
	Min.	Max.	Min.	Max.	Notes
A	1.995	2.005	50.67	50.93	
B	---	---	---	---	
C	0.495	0.506	12.57	12.83	
D	---	---	---	---	Dia.
E	0.990	1.010	25.15	25.65	
F	2.390	2.410	60.71	61.21	
G	1.490	1.510	37.85	38.35	
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 Ø
L	0.490	0.510	12.45	12.95	
M	0.040	0.050	1.020	1.270	
N	0.175	0.195	4.450	4.950	Dia.
P	0.032	0.052	0.810	1.320	

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
UFT12010*	100V	100V
UFT12015*	150V	150V
UFT12020*	200V	200V
UFT12130*	300V	300V
UFT12140*	400V	400V
UFT12150*	500V	500V
UFT12260*	600V	600V
UFT12270*	700V	700V
UFT12280*	800V	800V

*Add Suffix A for Common Anode, D for Doubler

- Ultra Fast Recovery
- 175°C Junction Temperature
- V_{RRM} 100 to 800 Volts
- High surge capacity
- 2 X 60 Amp current rating
- ROHS Compliant

Electrical Characteristics

		UFT120	UFT121	UFT122	
Average forward current per pkg	$I_{F(AV)}$	120A	120A	120A	Square Wave
Average forward current per leg	$I_{F(AV)}$	60A	60A	60A	Square Wave
Case Temperature	T_C	135°C	120°C	115°C	$R_{\theta JC}$ = 0.85°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} = 70A: T_J = 25°C*
Max reverse recovery time per leg	t_{rr}	50ns	60ns	75ns	1/2A, 1A, 1/4A, T_J = 25°C
Max reverse recovery time per leg	t_{rr}	60ns	70ns	95ns	70A, 130A/μs, T_J = 25°C
Max peak reverse current per leg	I_{RM}		3.0mA		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	300pF	150pF	150pF	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	$R_{\theta JC}$	0.85°C/W Junction to case
Max thermal resistance per pkg	$R_{\theta JC}$	0.425°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

UFT120

Figure 1
Typical Forward Characteristics – Per Leg

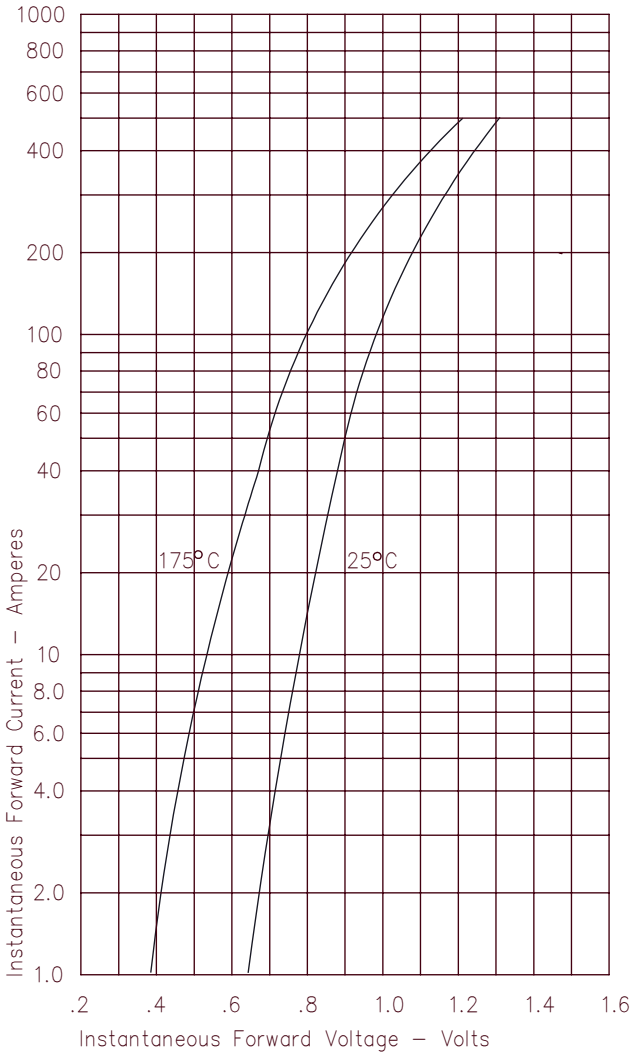


Figure 2
Typical Reverse Characteristics – Per Leg

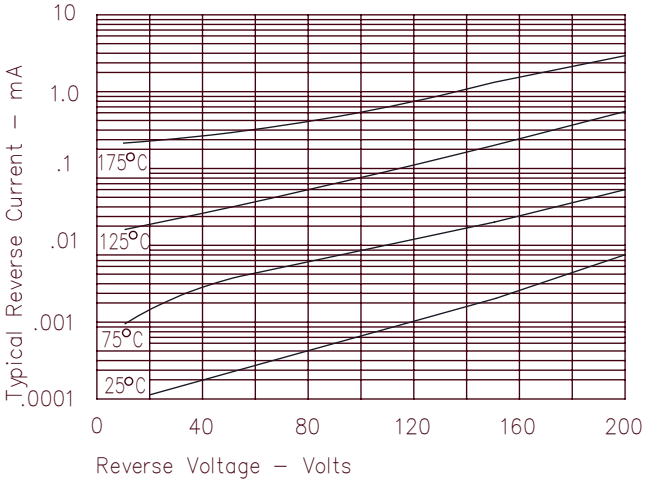


Figure 3
Typical Junction Capacitance – Per Leg

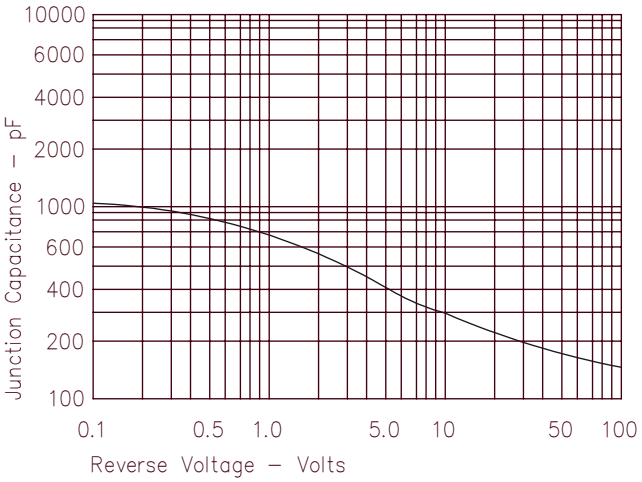


Figure 4
Forward Current Derating – Per Leg

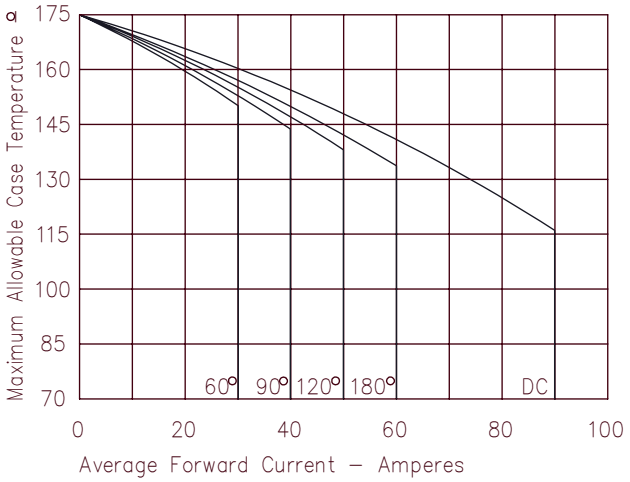
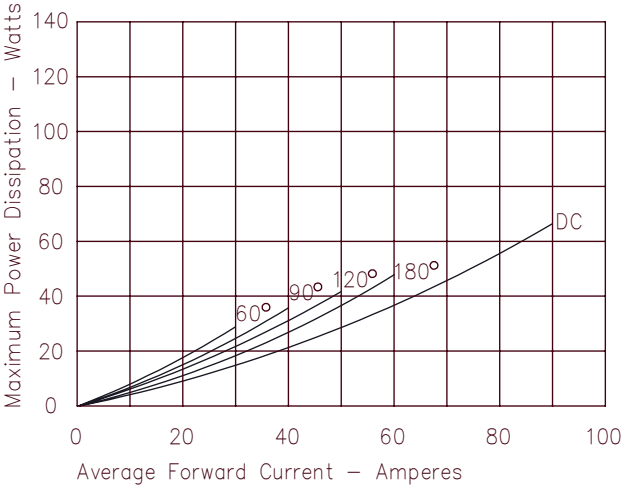


Figure 5
Maximum Forward Power Dissipation – Per Leg



UFT121

Figure 1
Typical Forward Characteristics – Per Leg

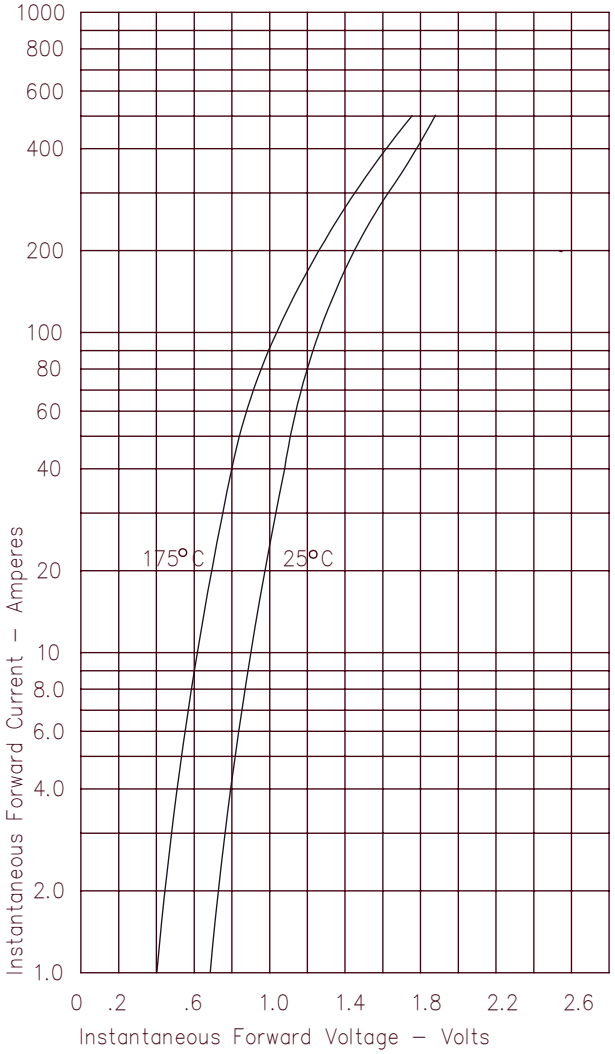


Figure 2
Typical Reverse Characteristics – Per Leg

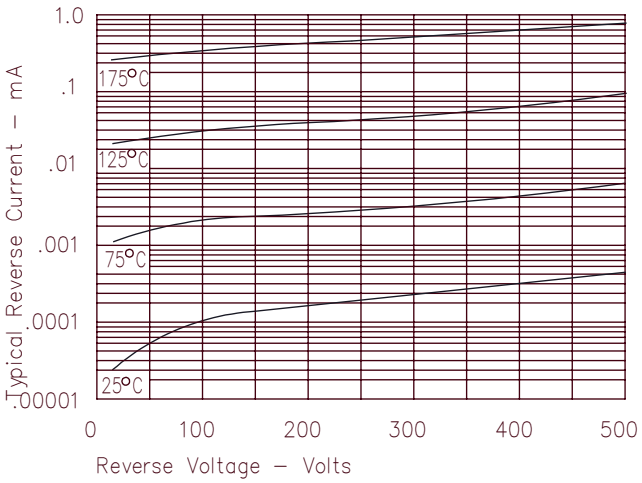


Figure 3
Typical Junction Capacitance – Per Leg

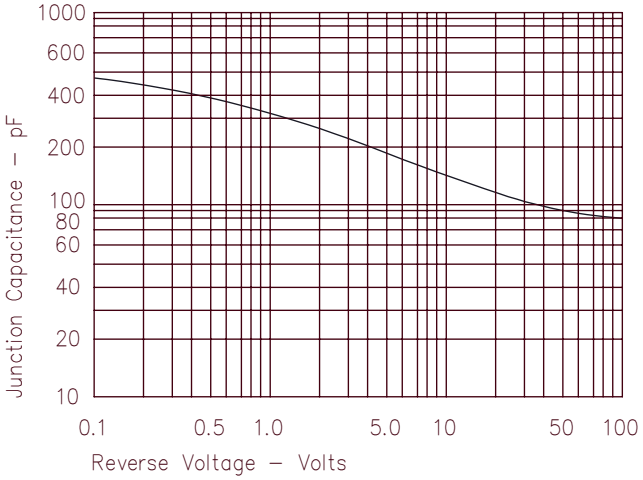


Figure 4
Forward Current Derating – Per Leg

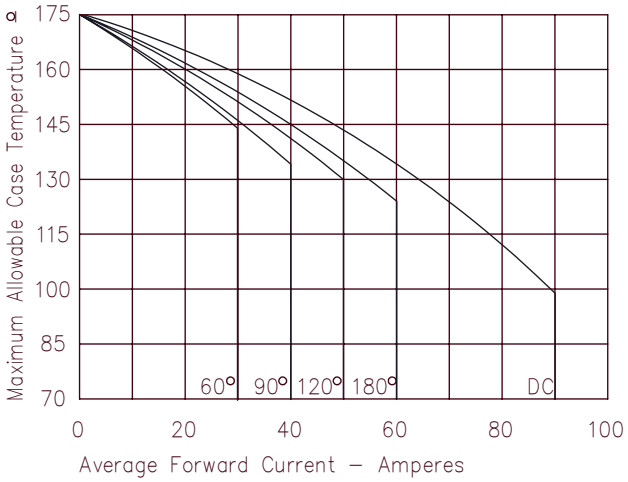
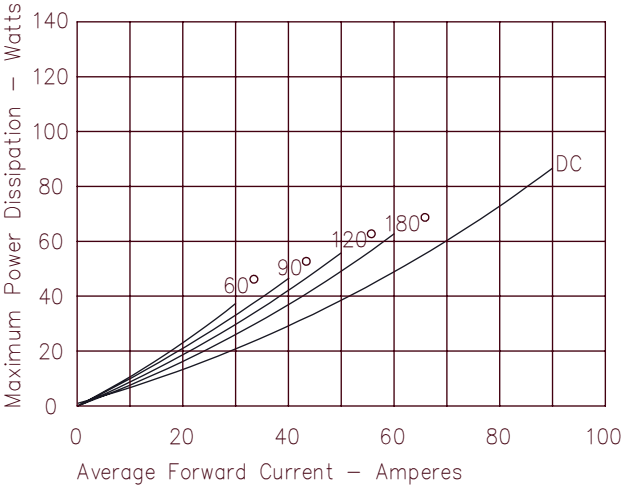


Figure 5
Maximum Forward Power Dissipation – Per Leg



UFT122

Figure 1
Typical Forward Characteristics – Per Leg

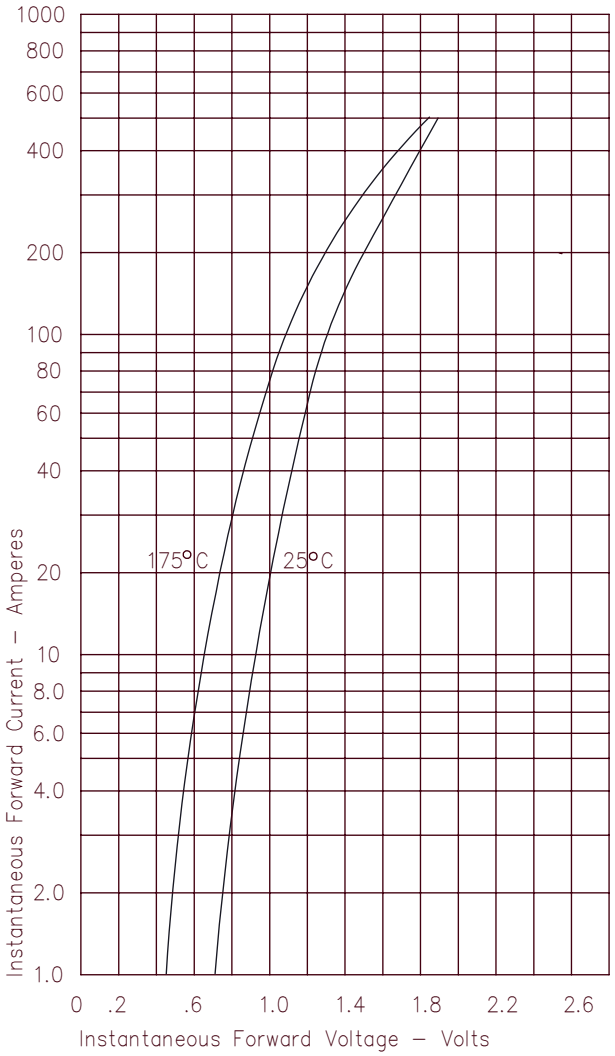


Figure 2
Typical Reverse Characteristics – Per Leg

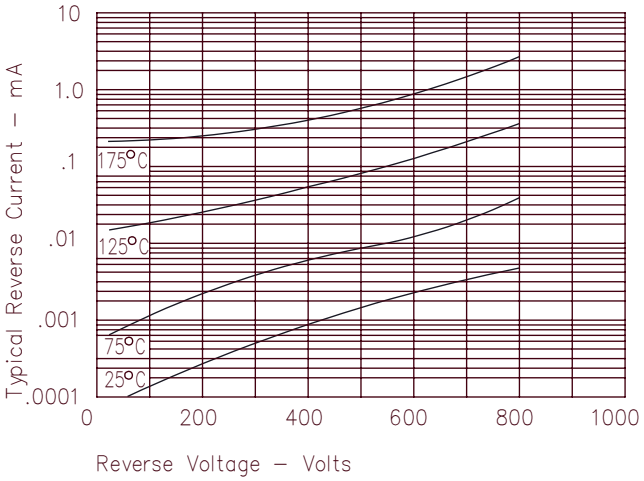


Figure 3
Typical Junction Capacitance – Per Leg

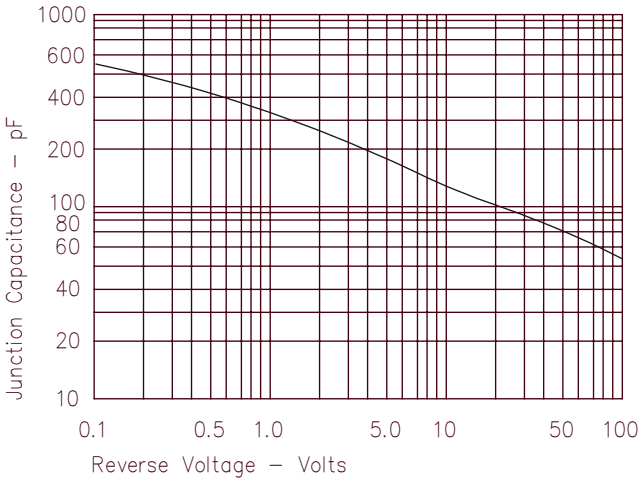


Figure 4
Forward Current Derating – Per Leg

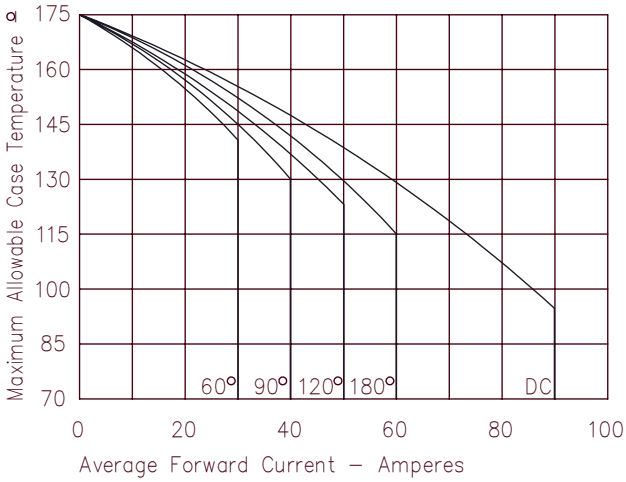


Figure 5
Maximum Forward Power Dissipation – Per Leg