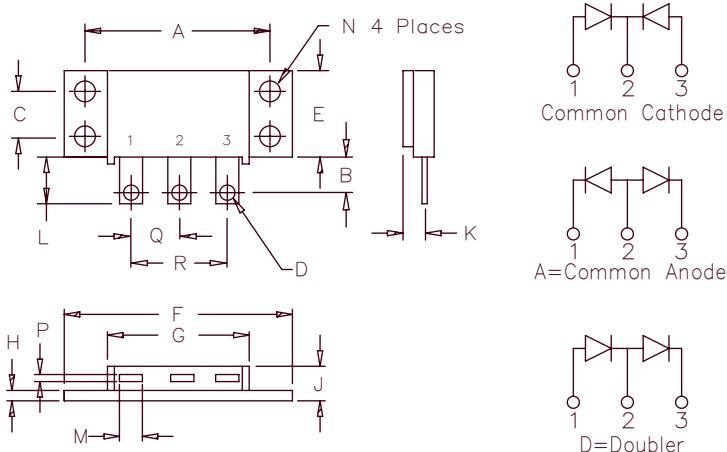


Ultrafast Recovery Modules

UFT140, 141 & 142



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

Dim.		Inches	Millimeters		
			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 Q	
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 Reverse Voltage	Peak Reverse Voltage	Repetitive Peak Reverse Voltage
UFT14010*	100V	100V	100V
UFT14015*	150V	150V	150V
UFT14020*	200V	200V	200V
UFT14130*	300V	300V	300V
UFT14140*	400V	400V	400V
UFT14250*UFT14150*	500V	500V	500V
UFT14260*	600V	600V	600V
UFT14270*	700V	700V	700V
UFT14280*	800V	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 70 Amp current rating
- ROHS Compliant

Electrical Characteristics

	UFT140	UFT141	UFT142	
Average forward current per pkg	IF(AV)	140A	140A	Square Wave
Average forward current per leg	IF(AV)	70A	70A	Square Wave
Case Temperature	TC	115°C	97°C	$R_{\theta JC} = 1.0^{\circ}\text{C}/\text{W}$
Maximum surge current per leg	IFSM	1000A	800A	8.3ms, half sine, $T_J = 175^{\circ}\text{C}$
Max peak forward voltage per leg	V_{FM}	.975V	1.25V	$I_{FM} = 70\text{A}$; $T_J = 25^{\circ}\text{C}^*$
Max reverse recovery time per leg	trr	50ns	60ns	$1/2\text{A}, 1\text{A}, 1/4\text{A}, T_J = 25^{\circ}\text{C}$
Max peak reverse current per leg	IRM	3.0mA	75ns	$V_{RRM}, T_J = 125^{\circ}\text{C}^*$
Max peak reverse current per leg	IRM	25μA	—	$V_{RRM}, T_J = 25^{\circ}\text{C}$
Typical Junction capacitance	CJ	300pF	150pF	$V_R = 10\text{V}, T_J = 25^{\circ}\text{C}$

*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 _{θJC}	1.0°C/W Junction to case
Max thermal resistance per pkg	R _{θJC}	0.5°C/W Junction to case
Typical thermal resistance (greased)	R _{θCS}	0.1°C/W Case to sink
Mounting Torque		15–20 inch pounds
Weight		2.5 ounces (71 grams) typical

UFT140

Figure 1
Typical Forward Characteristics – Per Leg

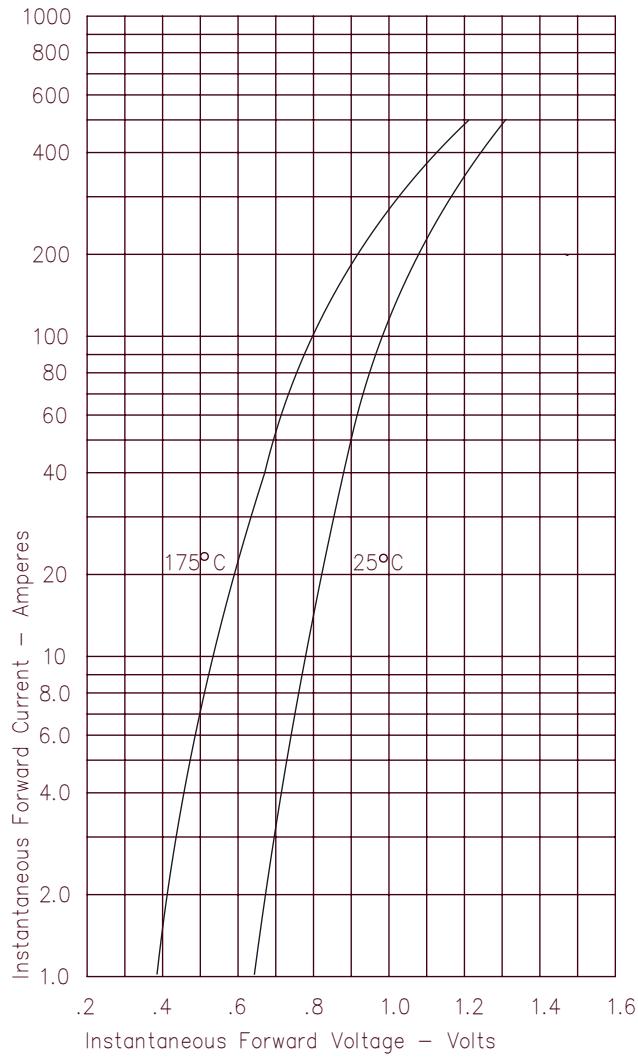


Figure 2
Typical Reverse Characteristics – Per Leg

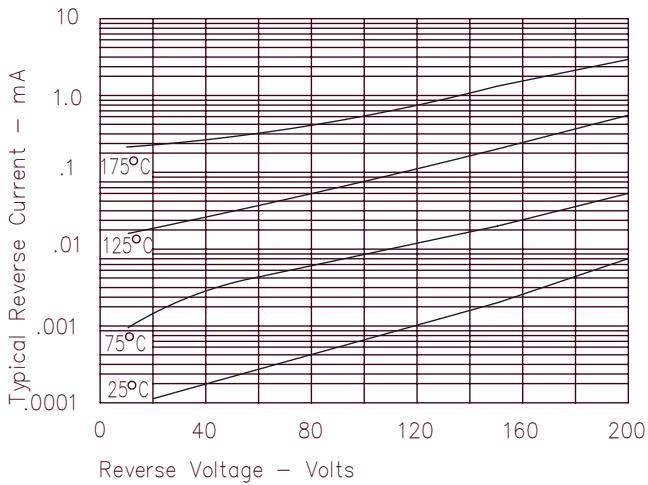


Figure 3
Typical Junction Capacitance – Per Leg

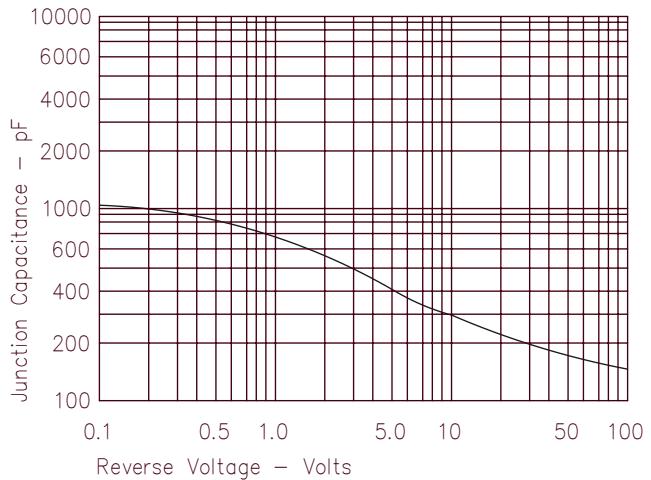


Figure 4
Forward Current Derating – Per Leg

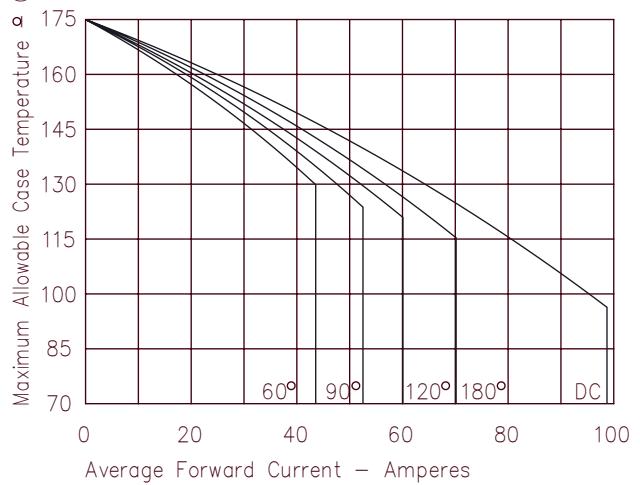
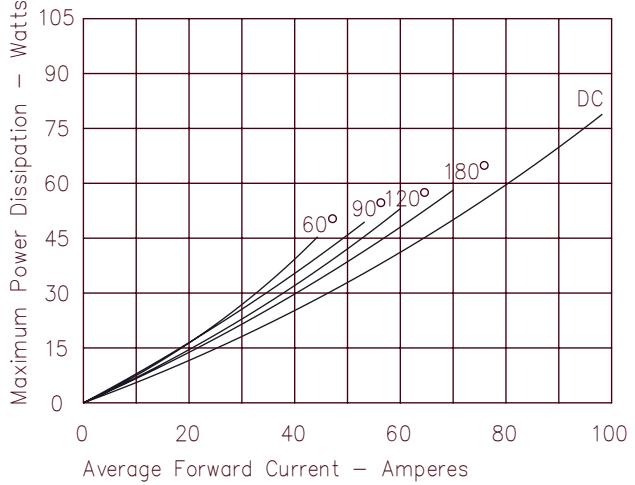


Figure 5
Maximum Forward Power Dissipation – Per Leg



UFT141

Figure 1
Typical Forward Characteristics – Per Leg

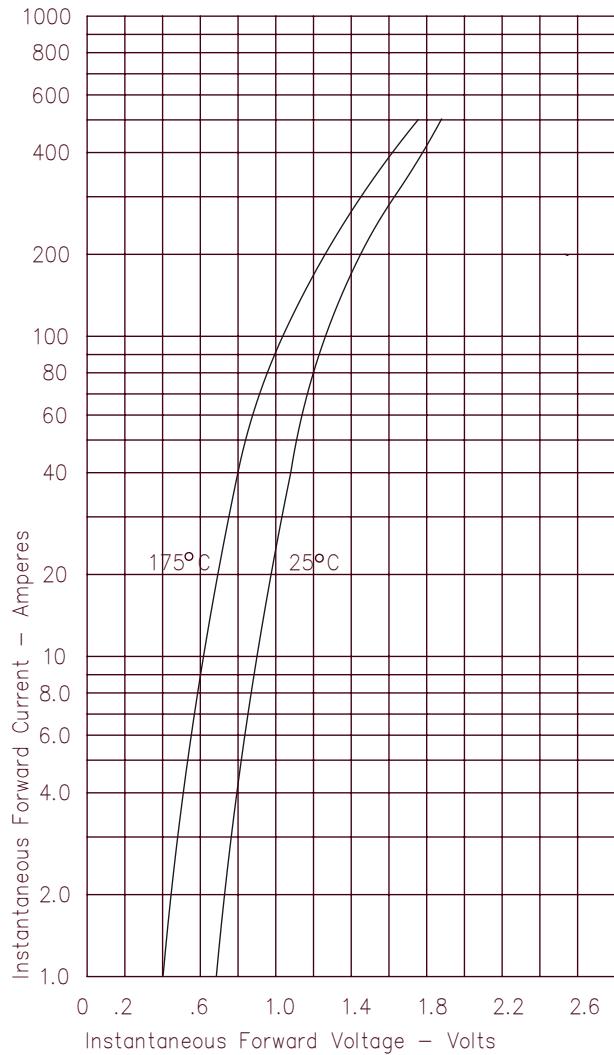


Figure 2
Typical Reverse Characteristics – Per Leg

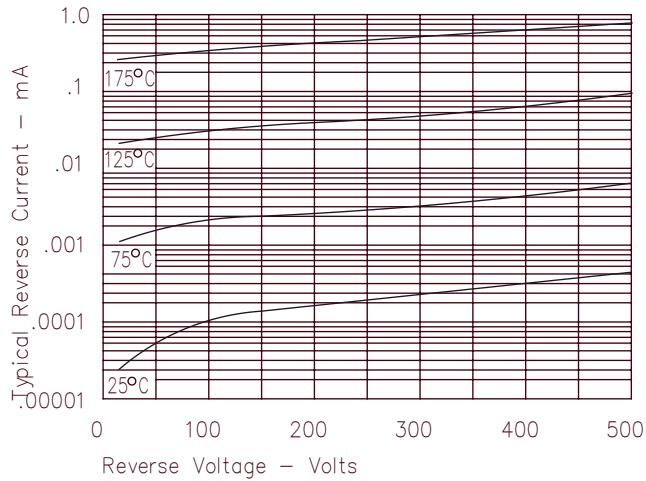


Figure 3
Typical Junction Capacitance – Per Leg

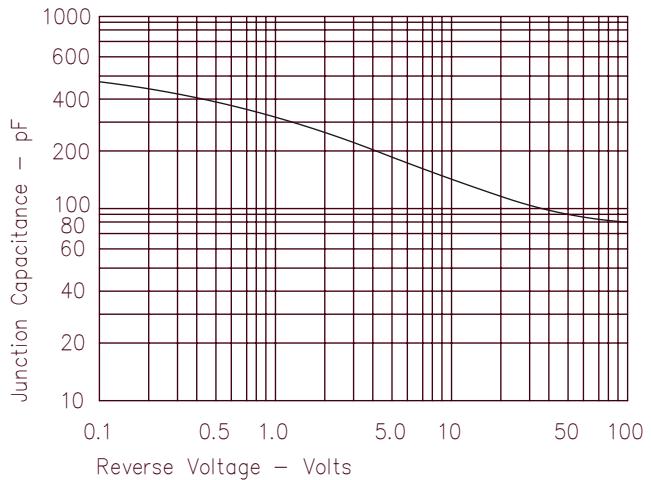


Figure 4
Forward Current Derating – Per Leg

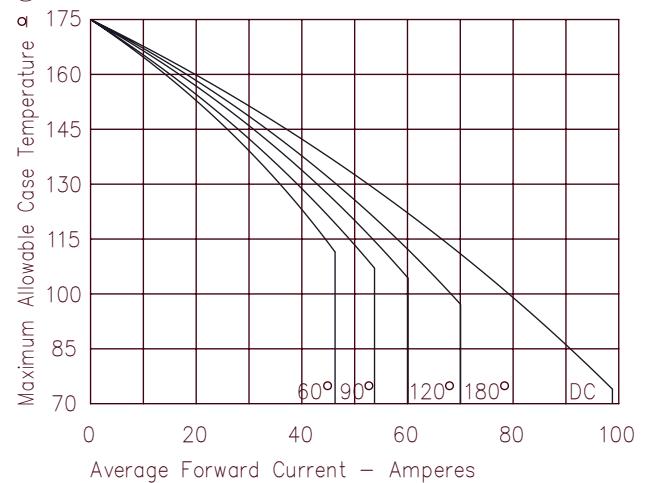
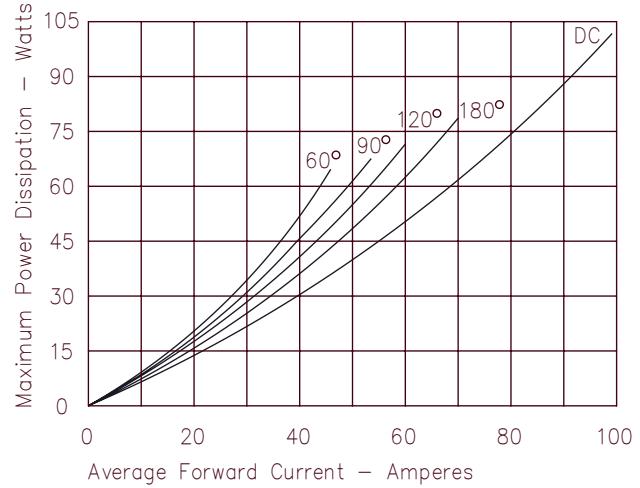


Figure 5
Maximum Forward Power Dissipation – Per Leg



UFT142

Figure 1
Typical Forward Characteristics – Per Leg

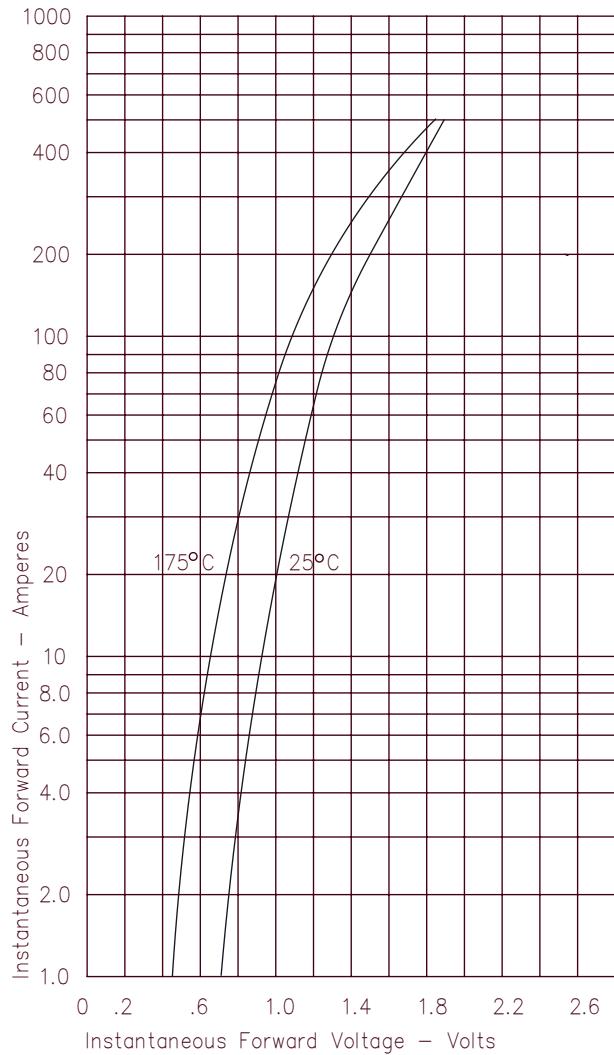


Figure 2
Typical Reverse Characteristics – Per Leg

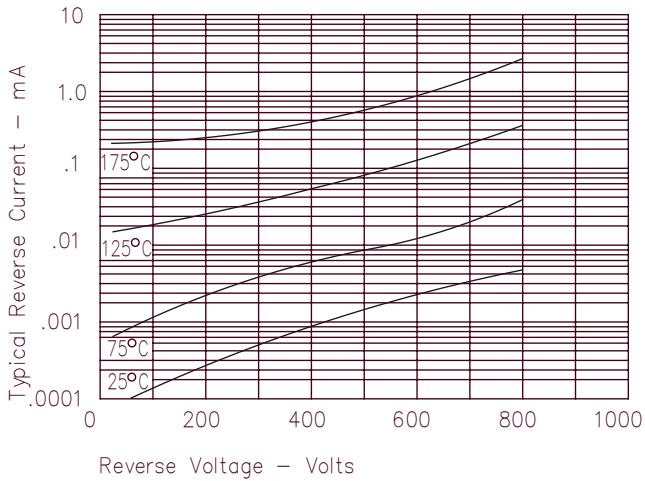


Figure 3
Typical Junction Capacitance – Per Leg

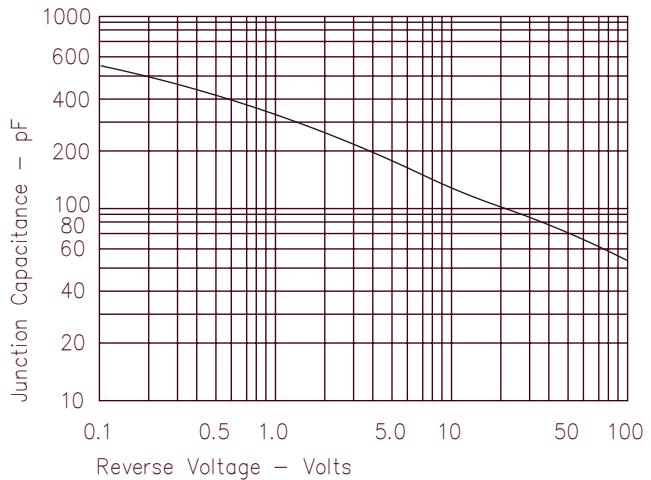


Figure 4
Forward Current Derating – Per Leg

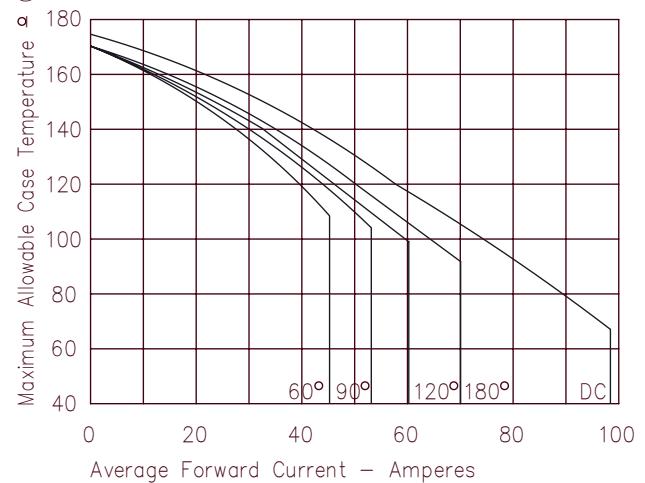
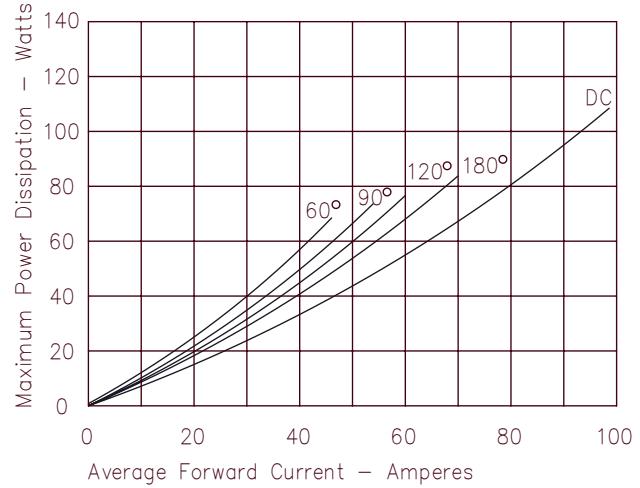


Figure 5
Maximum Forward Power Dissipation – Per Leg



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