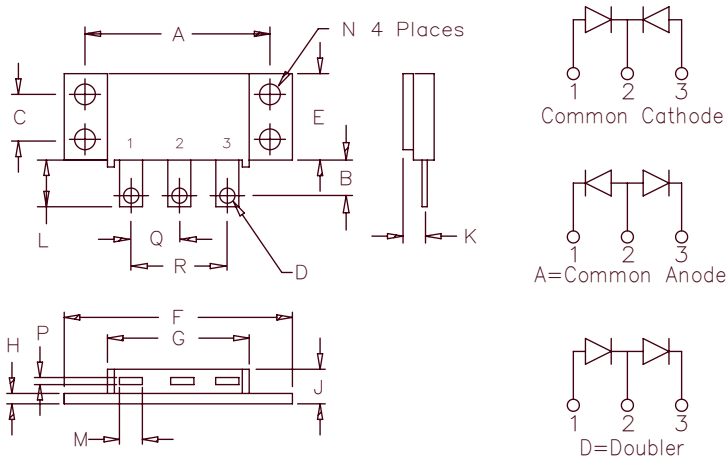


# Ultrafast Recovery Modules UFT140, 141 & 142



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 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 Peak Reverse Voltage	Repetitive Peak Reverse Voltage
UFT14010*	100V	100V
UFT14015*	150V	150V
UFT14020*	200V	200V
UFT14130*	300V	300V
UFT14140*	400V	400V
UFT14250*UFT14150*	500V	500V
UFT14260*	600V	600V
UFT14270*	700V	700V
UFT14280*	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	$I_F(AV)$ 140A	140A	140A	Square Wave
Average forward current per leg	$I_F(AV)$ 70A	70A	70A	Square Wave
Case Temperature	$T_C$ 115°C	97°C	92°C	$R_{\theta JC} = 1.0^\circ C/W$
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	$I_{FM} = 70A: T_J = 25^\circ C^*$
Max reverse recovery time per leg	$t_{rr}$ 50ns	60ns	75ns	1/2A, 1A, 1/4A, $T_J = 25^\circ C$
Max peak reverse current per leg	$I_{RM}$ _____	3.0mA	_____	$V_{RRM}, T_J = 125^\circ C^*$
Max peak reverse current per leg	$I_{RM}$ _____	25 $\mu A$	_____	$V_{RRM}, T_J = 25^\circ C$
Typical Junction capacitance	$C_J$ 300pF	150pF	150pF	$V_R = 10V, T_J = 25^\circ C$

\*Pulse test: Pulse width 300 $\mu$ sec, 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	$R_{\theta JC}$	1.0°C/W Junction to case
Max thermal resistance per pkg	$R_{\theta JC}$	0.5°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

# UFT140

Figure 1  
Typical Forward Characteristics – Per Leg

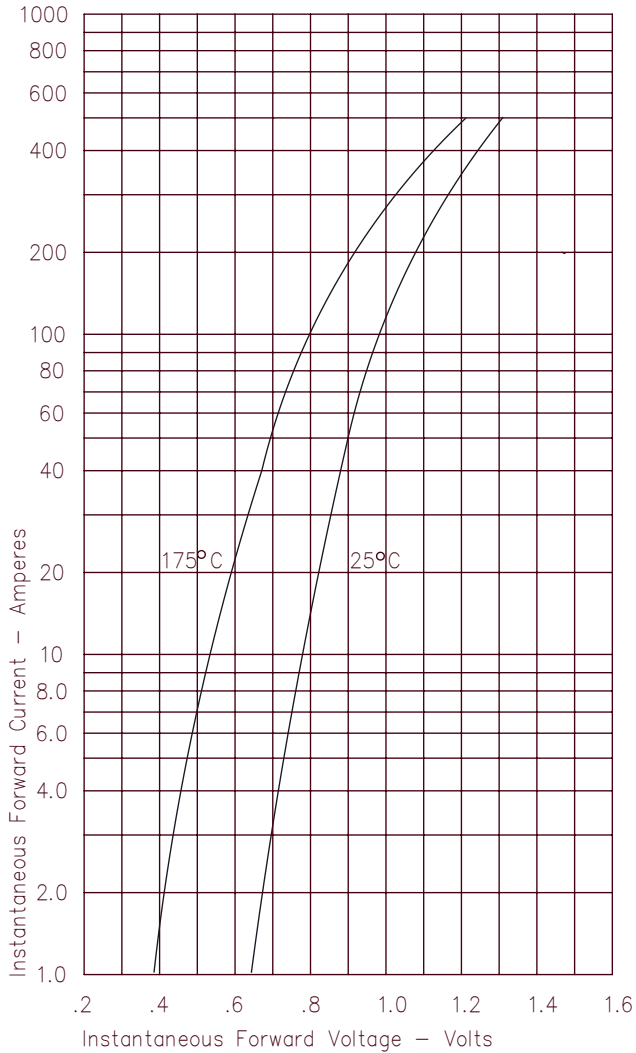


Figure 3  
Typical Junction Capacitance – Per Leg

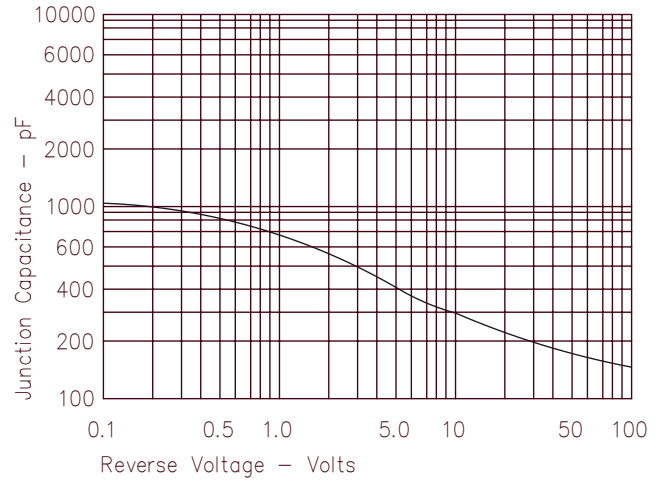


Figure 4  
Forward Current Derating – Per Leg

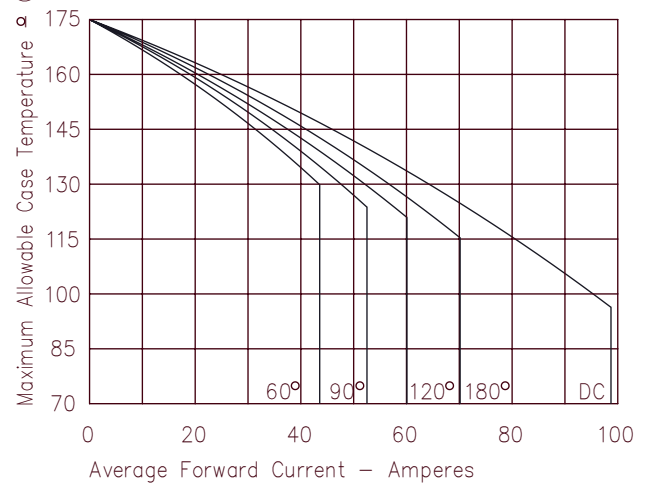


Figure 2  
Typical Reverse Characteristics – Per Leg

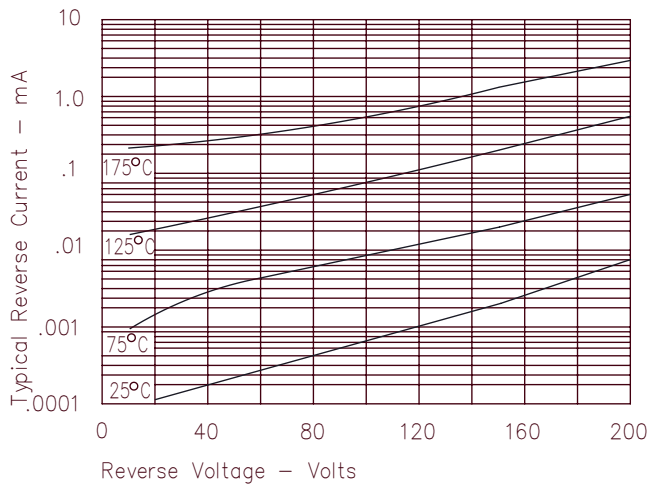
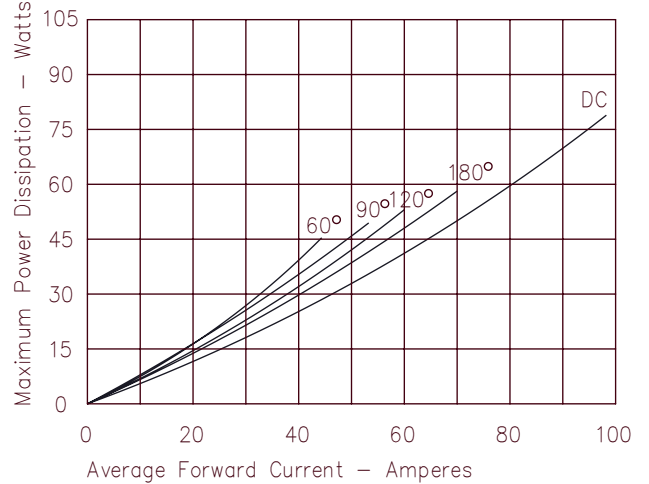


Figure 5  
Maximum Forward Power Dissipation – Per Leg



# UFT141

Figure 1  
Typical Forward Characteristics – Per Leg

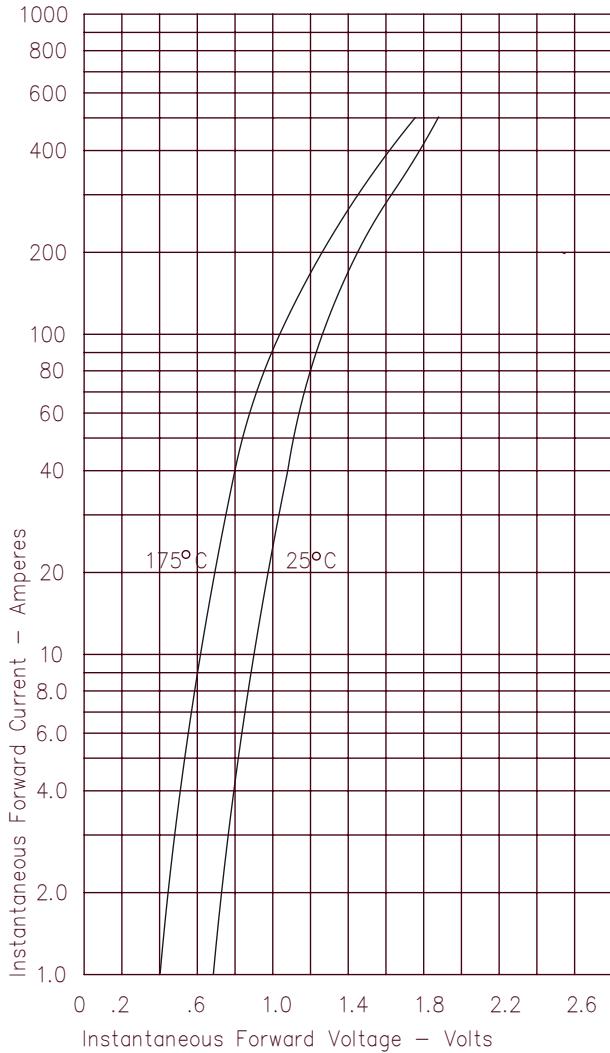


Figure 3  
Typical Junction Capacitance – Per Leg

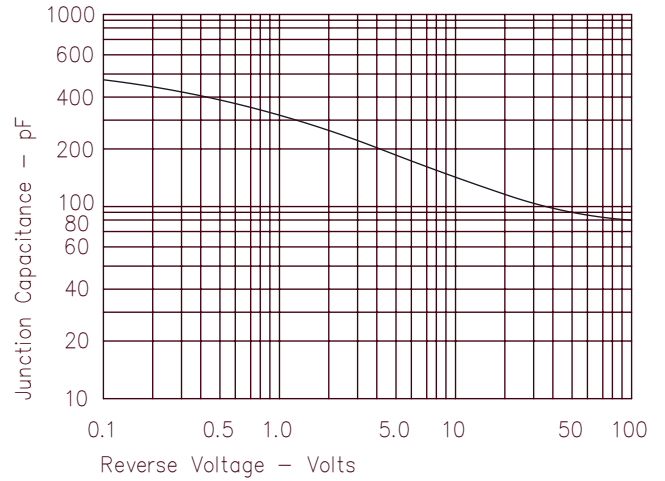


Figure 4  
Forward Current Derating – Per Leg

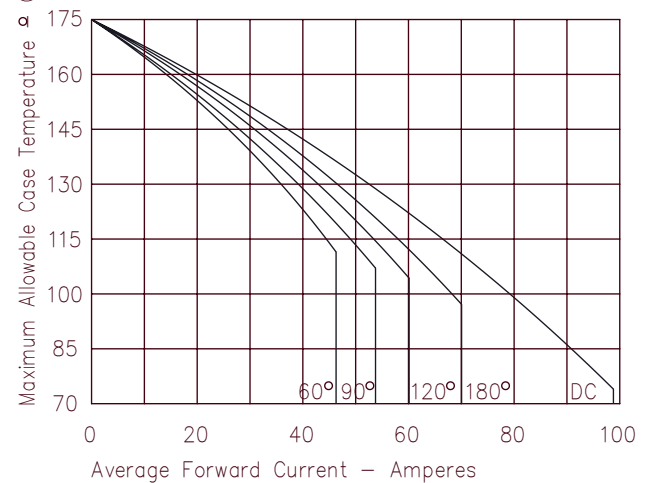


Figure 2  
Typical Reverse Characteristics – Per Leg

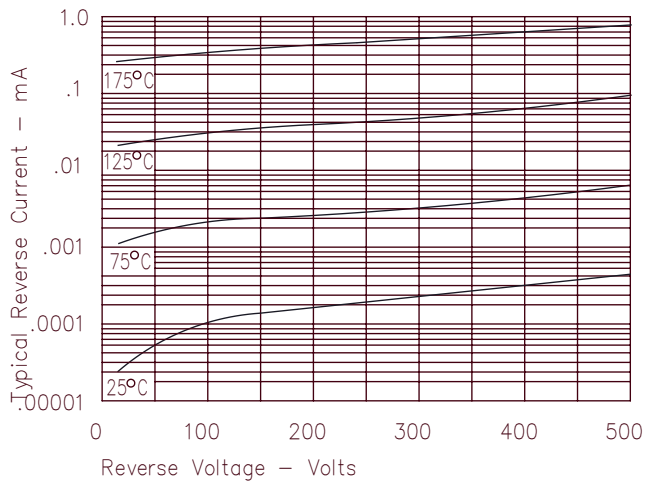
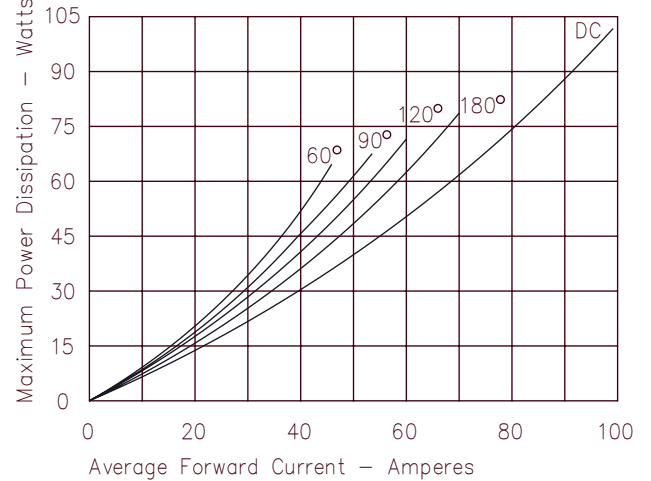


Figure 5  
Maximum Forward Power Dissipation – Per Leg



# UFT142

Figure 1  
Typical Forward Characteristics – Per Leg

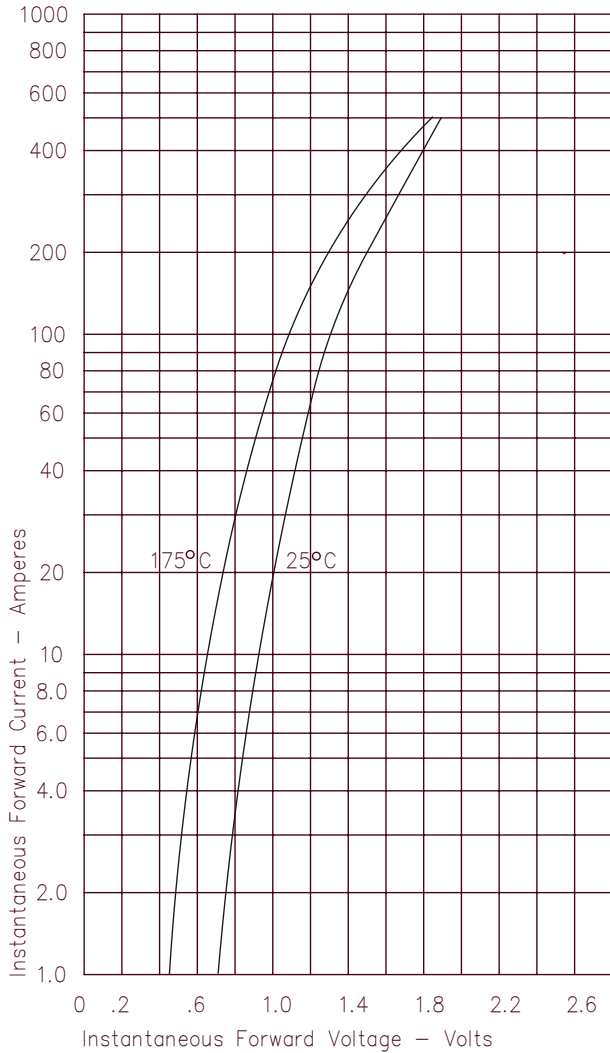


Figure 3  
Typical Junction Capacitance – Per Leg

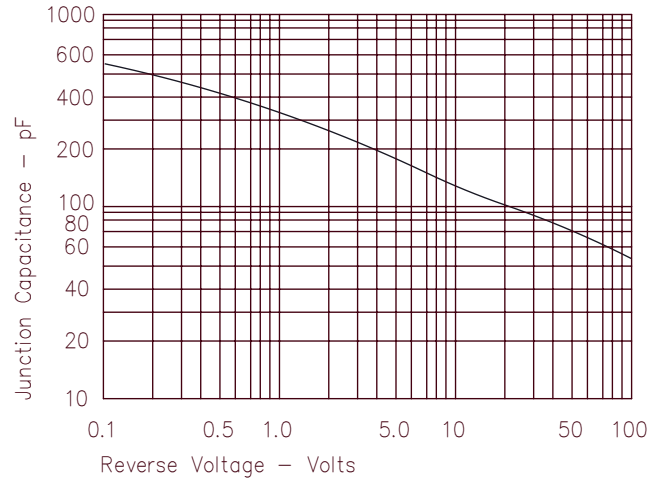


Figure 4  
Forward Current Derating – Per Leg

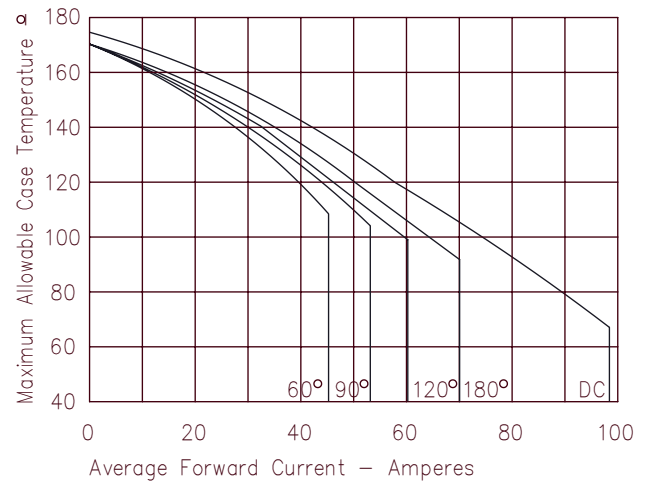


Figure 2  
Typical Reverse Characteristics – Per Leg

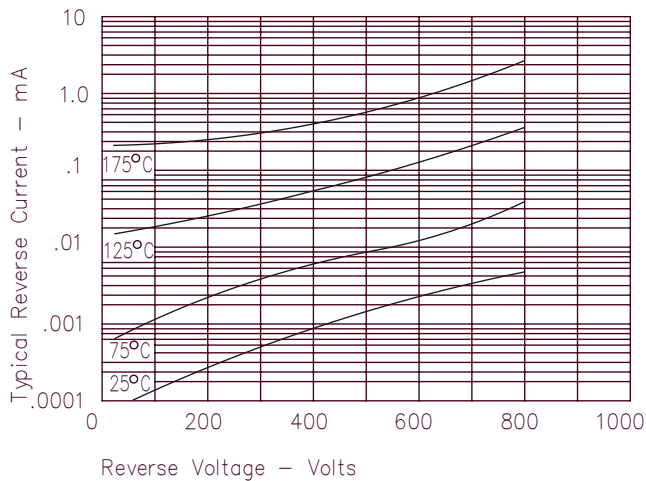
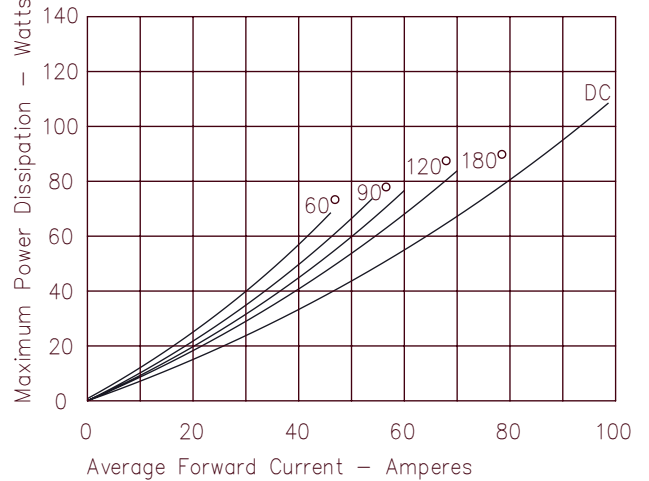


Figure 5  
Maximum Forward Power Dissipation – Per Leg



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