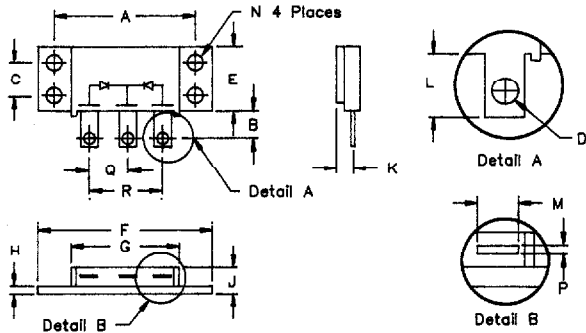


# Ultrafast Recovery Modules

## UFT 140, 141 & 142



T0-249

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	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	



Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
UFT14005*	50V	50V
UFT14010*	100V	100V
UFT14015	150V	150V
UFT14020*	200V	200V
UFT14130*	300V	300V
UFT14140*	400V	400V
UFT14250*	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<sub>RRM</sub> 50 to 800 Volts
- Electrically isolated base
- 2 X 70 Amp current rating

### Electrical Characteristics

	UFT140	UFT141	UFT142	
Average forward current per pkg	I <sub>F(AV)</sub> 140A	140A	140A	Square Wave
Average forward current per leg	I <sub>F(AV)</sub> 70A	70A	70A	Square Wave
Case Temperature	T <sub>C</sub> 115°C	97°C	92°C	R <sub>θJC</sub> = 1.0°C/W
Maximum surge current per leg	I <sub>FSM</sub> 1000A	800A	700A	8.3ms, half sine, T <sub>J</sub> = 175°C
Max peak forward voltage per leg	V <sub>FM</sub> .975V	1.25V	1.35V	I <sub>FM</sub> = 70A; T <sub>J</sub> = 25°C*
Max reverse recovery time per leg	t <sub>rr</sub> 50ns	60ns	75ns	1/2A, 1A, 1/4A, T <sub>J</sub> = 25°C
Max reverse recovery time per leg	t <sub>rr</sub> 30ns	45ns	50ns	1/2A, 1A, 1/4A, T <sub>J</sub> = 25°C
Typical reverse recovery time per leg	t <sub>rr</sub> 60ns	70ns	95ns	70A, 130A/us, T <sub>J</sub> = 25°C
Max peak reverse current per leg	I <sub>RM</sub> ---	3.0mA	---	V <sub>RRM</sub> , T <sub>J</sub> = 125°C*
Max peak reverse current per leg	I <sub>RM</sub> ---	25μA	---	V <sub>RRM</sub> , T <sub>J</sub> = 25°C
Typical junction capacitance	C <sub>J</sub> 300pF	150pF	150pF	V <sub>R</sub> = 10V, T <sub>J</sub> = 25°C

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

### Thermal and Mechanical Characteristics

Storage temp range	T <sub>STG</sub>	-40°C to 175°C
Operating junction temp range	T <sub>J</sub>	-40°C to 175°C
Max thermal resistance per leg	R <sub>θJC</sub>	1.0°C/W Junction to case
per package	R <sub>θJC</sub>	0.5°C/W Junction to case
Typical thermal resistance per leg	R <sub>θJC</sub>	0.9°C/W Junction to case
Typical thermal resistance	R <sub>θCS</sub>	0.1°C/W Case to sink
Mounting Torque		15 inch pounds maximum
Weight		2.5 ounces (71 grams) typical

**Microsemi Corp.**  
**Colorado**

PH: 303-469-2161  
FAX: 303-466-3775

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# UFT 141

Figure 1  
Typical Forward Characteristics - Per Leg

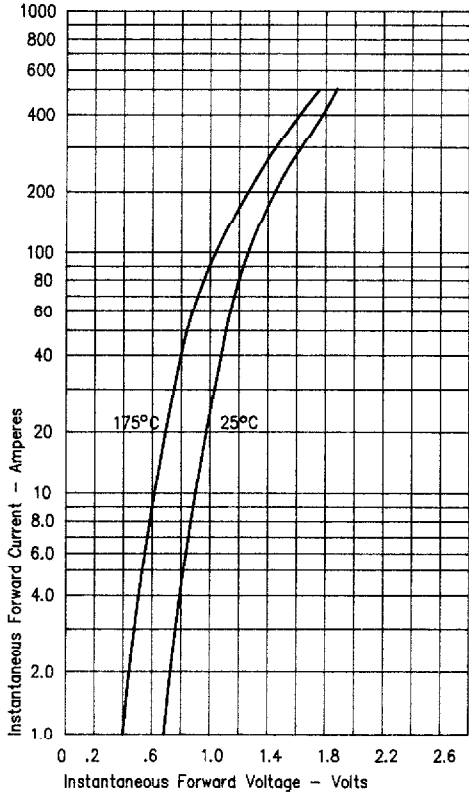


Figure 3  
Typical Junction Capacitance - Per Leg

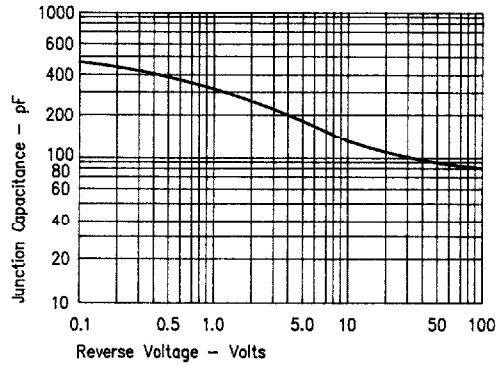


Figure 4  
Forward Current Derating - Per Leg

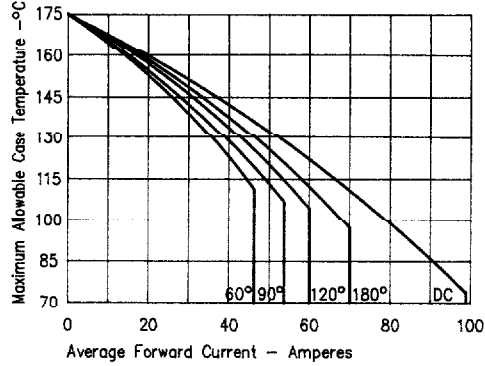


Figure 2  
Typical Reverse Characteristics - Per Leg

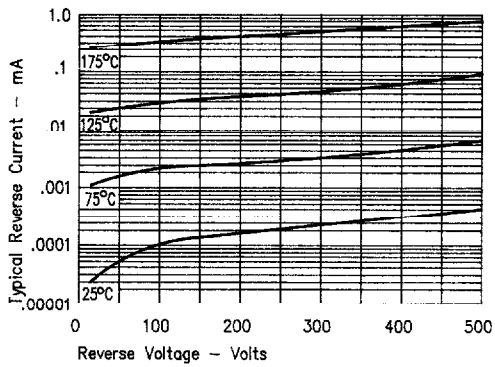
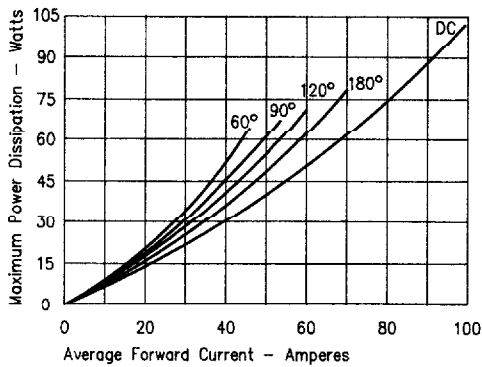


Figure 5  
Maximum Forward Power Dissipation - Per Leg



# UFT 142

Figure 1  
Typical Forward Characteristics - Per Leg

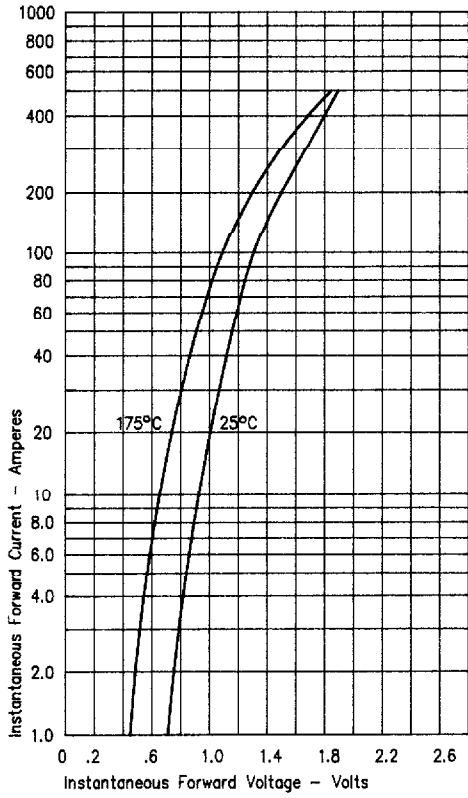


Figure 3  
Typical Junction Capacitance - Per Leg

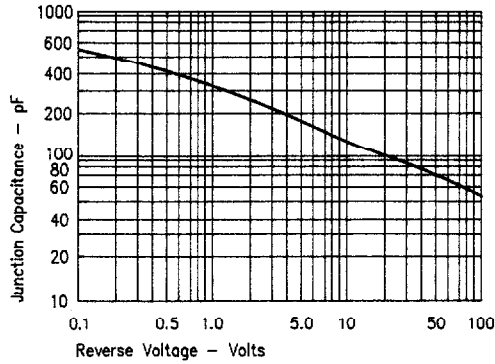


Figure 4  
Forward Current Derating - Per Leg

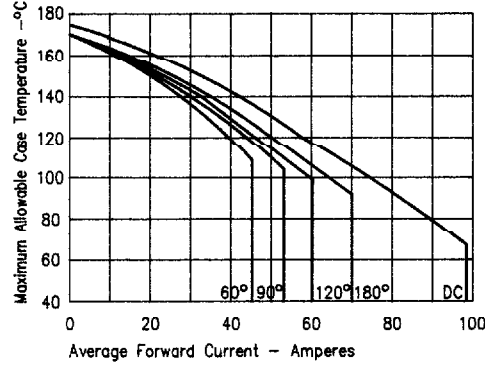


Figure 2  
Typical Reverse Characteristics - Per Leg

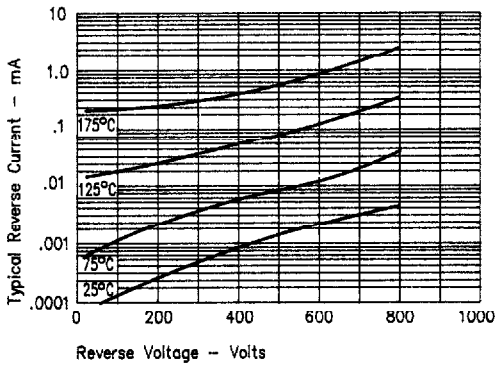


Figure 5  
Maximum Forward Power Dissipation - Per Leg

