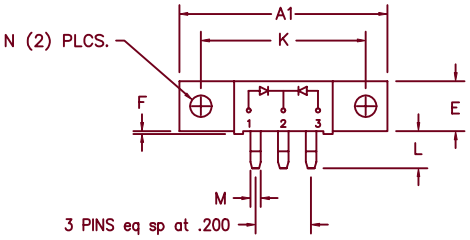
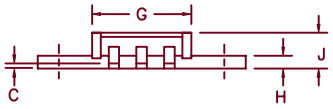
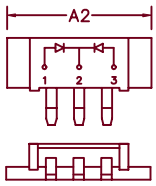
Ultrafast Recovery Modules

UFT70SM, 71SM & 72SM

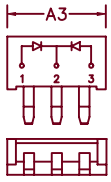




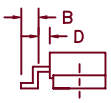
SM1 & SM2



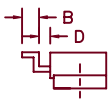
SM3 & SM4



SM5 & SM6



TYP. PIN CONFIGURATION FOR SM1, SM3, & SM5



TYP. PIN CONFIGURATION FOR SM2, SM4, & SM6

Dim.	Inches		Millimeter		
	Minimum	Maximum	Minimum	Maximum	Notes
A1	1.490	1.510	37.85	38.35	
A2	1.020	1.040	26.12	26.42	
A3	.695	.715	17.65	18.16	
B	.110	.120	2.79	3.04	
C	.027	.037	0.69	0.94	
D	.100	.110	2.54	2.79	
E	.350	.370	8.89	9.40	
F	.015	.025	0.38	0.64	
G	.695	.715	17.65	18.16	
H	.088	.098	2.24	2.49	
J	.240	.260	6.10	6.60	
K	1.180	1.195	29.97	30.35	
L	.230	.250	5.84	6.35	
M	.065	.085	1.65	2.16	
N	.151	.161	3.84	4.09	Dia.

Microsemi Catalog Number		Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
UFT7010SM ①②		100V	100V
UFT7015SM _ _		150V	150V
UFT7020SM _ _	UFT7120SM ①②	200V	200V
	UFT7130SM _ _	300V	300V
	UFT7140SM _ _	400V	400V
UFT7250SM ①②	UFT7150SM _ _	500V	500V
UFT7260SM _ _		600V	600V
UFT7270SM _ _		700V	700V
UFT7280SM _ _		800V	800V

Note: ① Specify (1–6) to identify package desired
② Specify C–Common Cathode, A–Common Anode, D–Doubler

- Ultra Fast Recovery
- 175°C Junction Temperature
- V_{RRM} 100 to 800 Volts
- Unique surface mount package
- 2 X 35 Amp current rating

Electrical Characteristics

		UFT70SM	UFT71SM	UFT72SM	
Average forward current per pkg	$I_{F(AV)}$	70A	70A	70A	Square Wave
Average forward current per leg	$I_{F(AV)}$	35A	35A	35A	Square Wave
Case Temperature	T_C	148°C	142°C	138°C	$R_{\theta JC}$ = 1.0°C/W
Maximum surge current per leg	I_{FSM}	700A	600A	500A	8.3ms, half sine, T_J = 175°C
Max peak forward voltage per leg	V_{FM}	.95V	1.20V	1.35V	I_{FM} = 35A: 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 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	120pF	115pF	V_R = 10V, T_J = 25°C

*Pulse test: Pulse width 300 usec, 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)	$R_{\theta CS}$	0.3°C/W Case to sink
Mounting Base Torque		10 inch pounds maximum
Weight	SM1–2	0.3 ounce (8.4 grams) typical
	SM3–4	0.24 ounce (6.7 grams) typical
	SM5–6	0.18 ounce (5.2 grams) typical

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www.microsemi.com

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UFT70SM1 – SM6

Figure 1
Typical Forward Characteristics – Per Leg

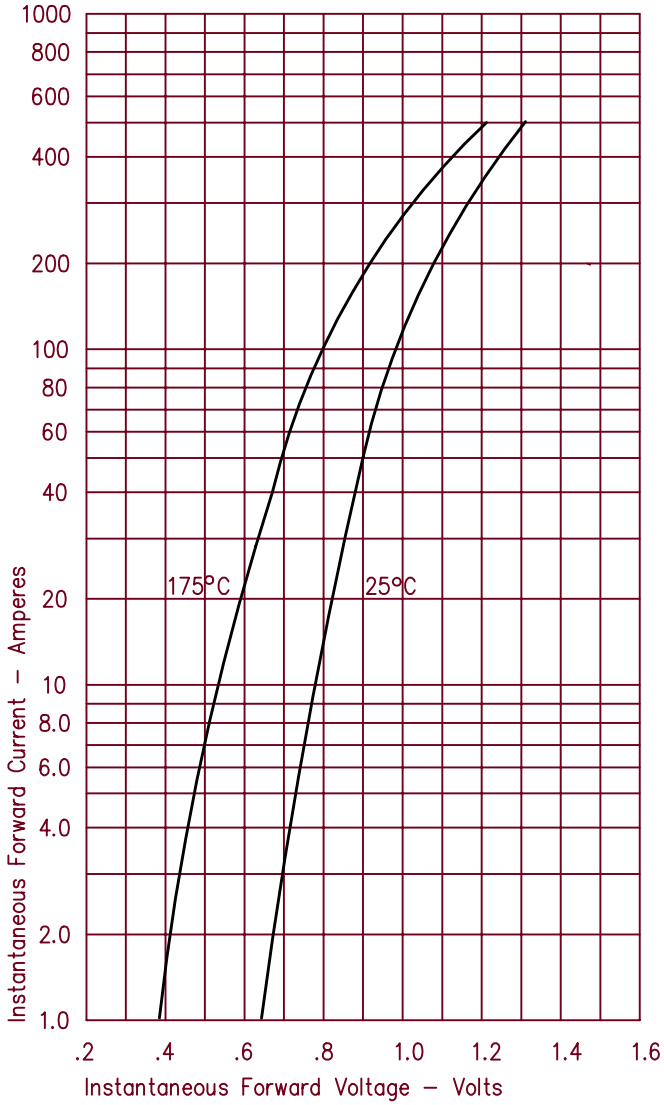


Figure 2
Typical Reverse Characteristics – Per Leg

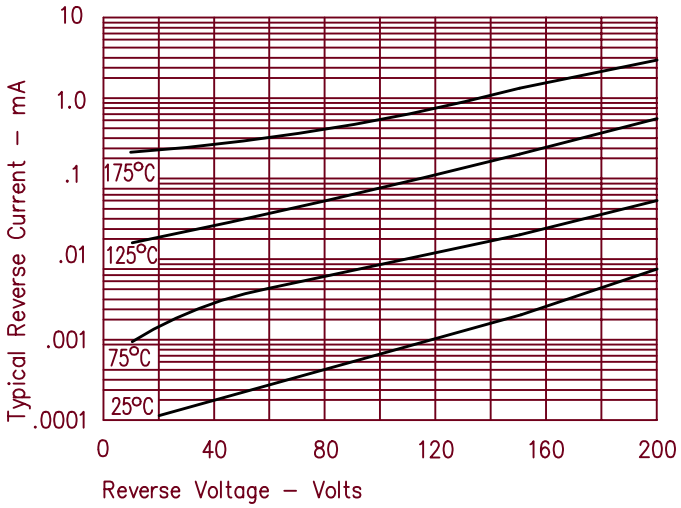


Figure 3
Typical Junction Capacitance – Per Leg

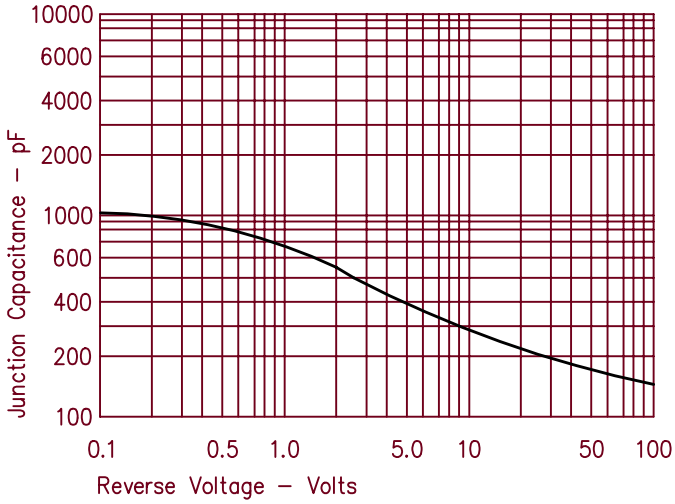


Figure 4
Forward Current Derating – Per Leg

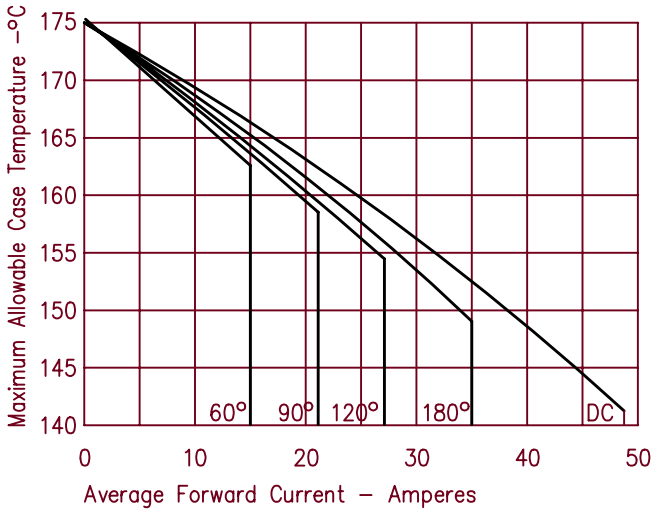
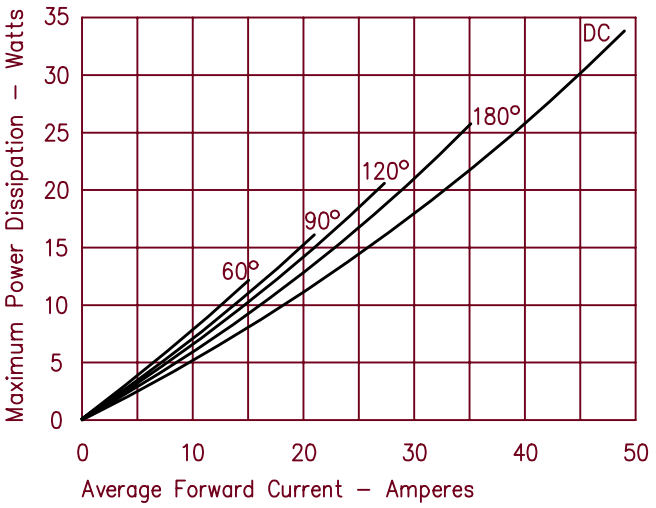


Figure 5
Maximum Forward Power Dissipation – Per Leg



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UFT71SM1 – SM6

Figure 1
Typical Forward Characteristics – Per Leg

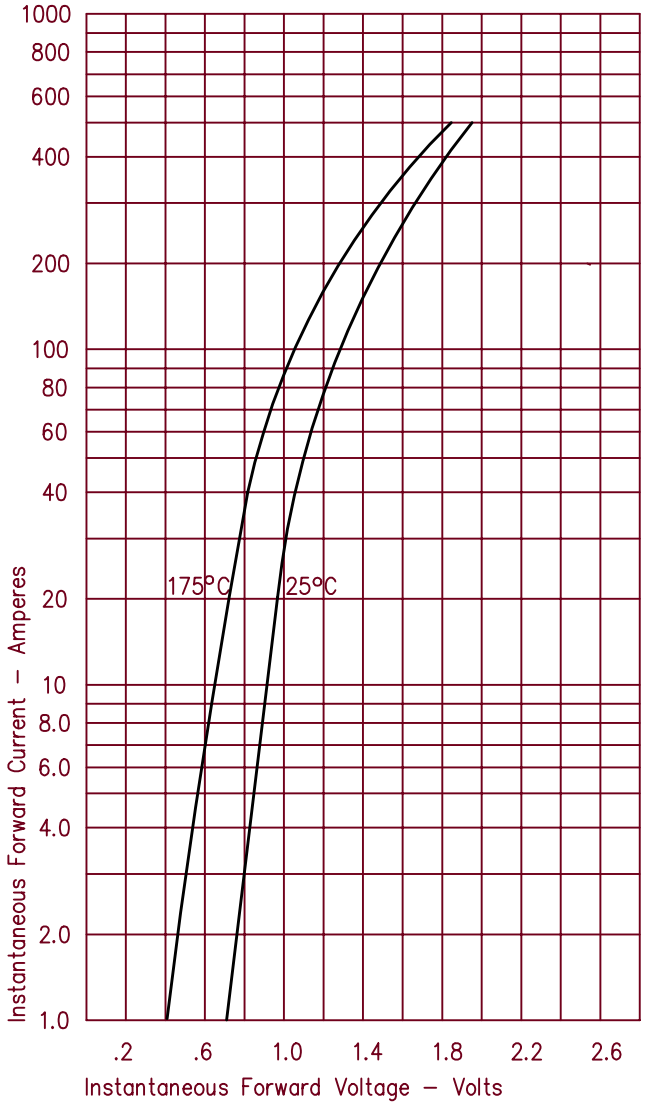


Figure 2
Typical Reverse Characteristics – Per Leg

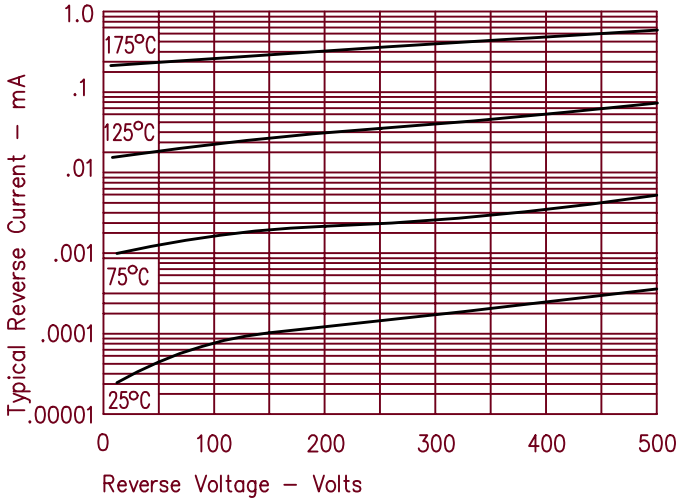


Figure 3
Typical Junction Capacitance – Per Leg

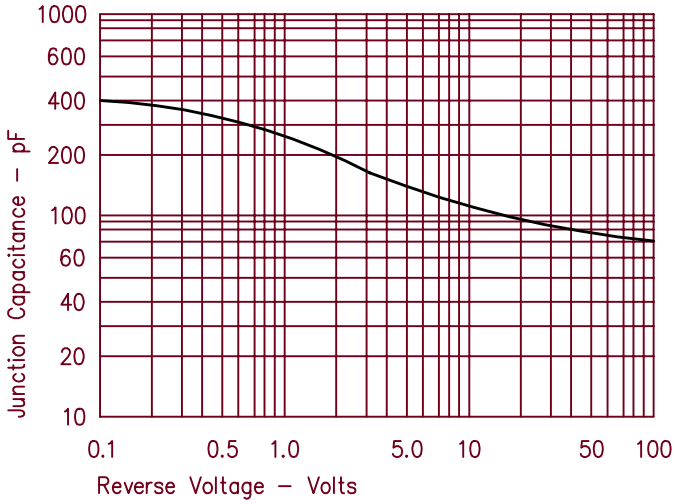


Figure 4
Forward Current Derating – Per Leg

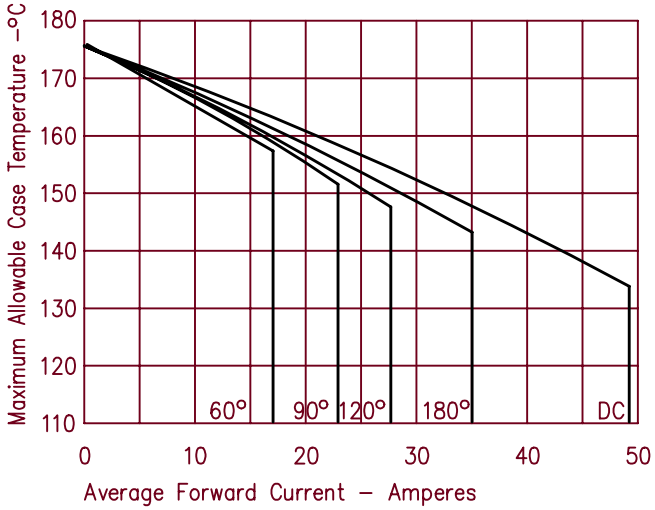
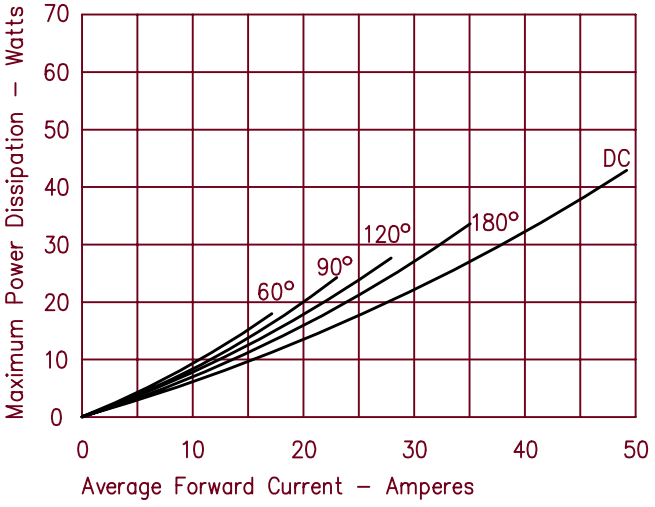


Figure 5
Maximum Forward Power Dissipation – Per Leg



UFT72SM1 – SM6

Figure 1
Typical Forward Characteristics – Per Leg

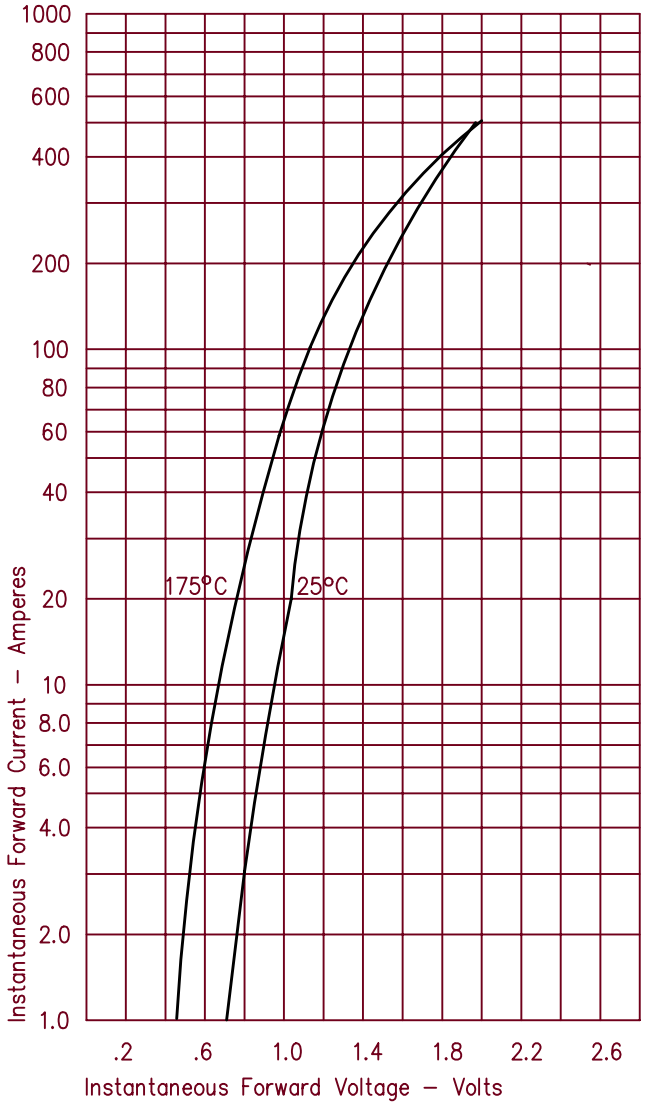


Figure 2
Typical Reverse Characteristics – Per Leg

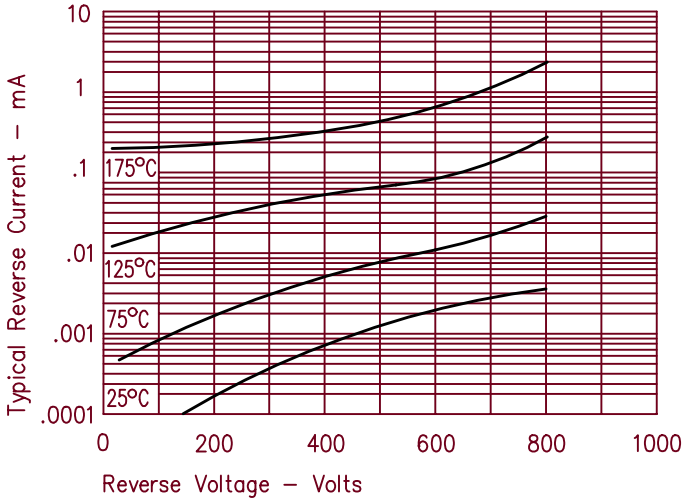


Figure 3
Typical Junction Capacitance – Per Leg

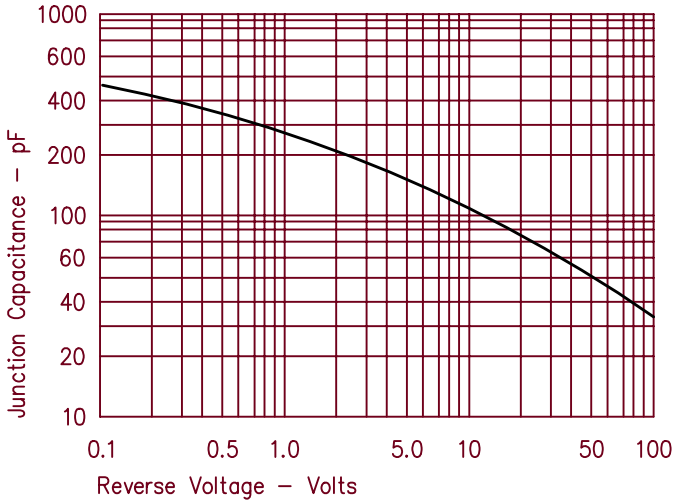


Figure 4
Forward Current Derating – Per Leg

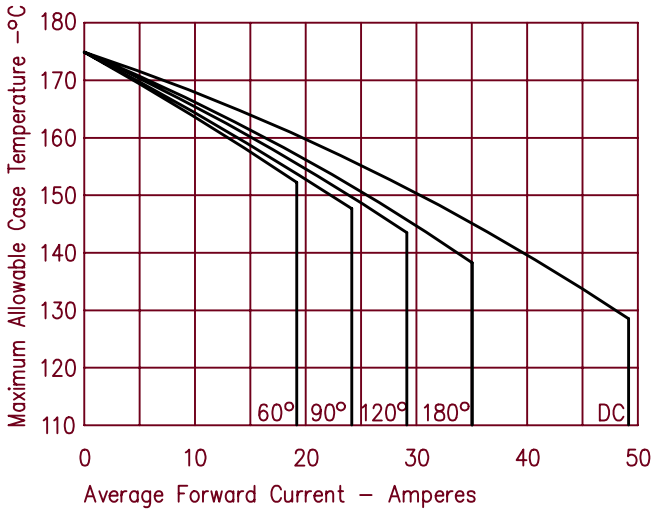


Figure 5
Maximum Forward Power Dissipation – Per Leg

