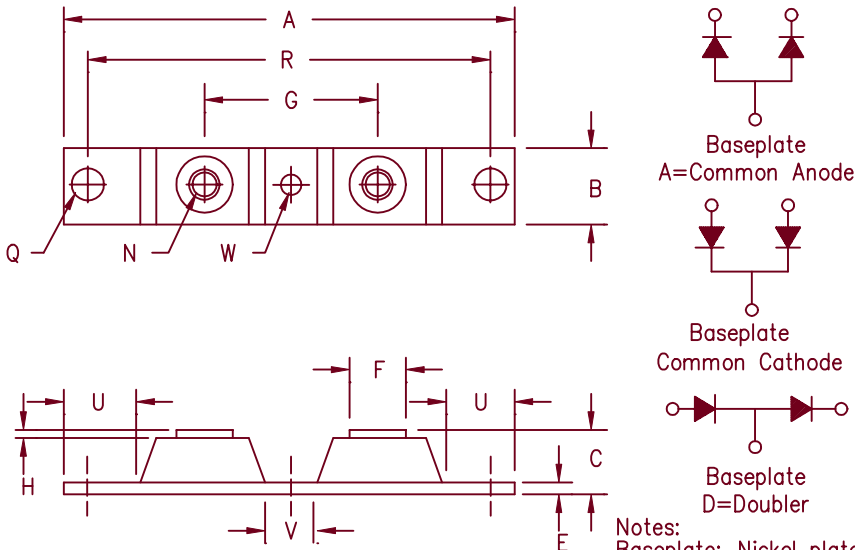


Ultrafast Recovery Modules

UFT125, 126 & 127



Notes:
Baseplate: Nickel plated copper; common cathode

| Dim. | Inches | | Millimeters | | Notes |
|------|-----------|-------|-------------|-------|-------------|
| | Min. | Max. | Min. | Max. | |
| A | --- | 3.630 | --- | 92.20 | |
| B | 0.700 | 0.800 | 17.78 | 20.32 | |
| C | --- | 0.630 | --- | 16.00 | |
| E | 0.120 | 0.130 | 3.05 | 3.30 | |
| F | 0.490 | 0.510 | 12.45 | 12.95 | |
| G | 1.375 BSC | | 34.92 BSC | | |
| H | 0.010 | --- | 0.25 | --- | |
| N | --- | --- | --- | --- | 1/4-20 Dia. |
| Q | 0.275 | 0.290 | 6.99 | 7.37 | |
| R | 3.150 BSC | | 80.01 BSC | | |
| U | 0.600 | --- | 15.24 | --- | |
| V | 0.312 | 0.340 | 7.92 | 8.64 | |
| W | 0.180 | 0.195 | 4.57 | 4.95 | Dia. |

| Microsemi Catalog Number | Working Peak Reverse Voltage | Repetitive Peak Reverse Voltage |
|--------------------------|------------------------------|---------------------------------|
| UFT12505* | 50V | 50V |
| UFT12510* | 100V | 100V |
| UFT12515* | 150V | 150V |
| UFT12520*UFT12620* | 200V | 200V |
| UFT12630* | 300V | 300V |
| UFT12640* | 400V | 400V |
| UFT12650* | 500V | 500V |
| UFT12760* | 600V | 600V |
| UFT12770* | 700V | 700V |
| UFT12780* | 800V | 800V |

Add Suffix A for Common Anode, D for Doubler

- Ultra Fast Recovery
- 175°C Junction Temperature
- V_{RRM} 50 to 800 Volts
- 120 Amps Current Rating
- 2 X 60 Amp current rating

| Electrical Characteristics | | | | | | |
|-----------------------------------|----------------|--------|--------|---------------------------------------|--|--|
| | UFT125 | UFT126 | UFT127 | | | |
| 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 130°C | 115°C | 114°C | $R_{\theta JC} = 0.85^\circ C/W$ | | |
| Maximum surge current per leg | I_{FSM} 800A | 700A | 600A | 8.3ms, half sine, $T_J = 175^\circ C$ | | |
| Max peak forward voltage per leg | V_{FM} .975V | 1.25V | 1.35V | $I_{FM} = 60A, T_J = 25^\circ C^*$ | | |
| Max reverse recovery time per leg | t_{rr} 40ns | 60ns | 80ns | 1/2A, 1A, 1/4A, $T_J = 25^\circ C$ | | |
| Max peak reverse current per leg | I_{RM} --- | 2.0ma | --- | $V_{RRM, T_J} = 125^\circ C^*$ | | |
| Max peak reverse current per leg | I_{RM} --- | 30µa | --- | $V_{RRM, T_J} = 25^\circ C$ | | |
| Typical Junction capacitance | C_J 270pF | 200pF | 160pF | $V_R = 10V, T_J = 25^\circ C$ | | |

*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 | $R_{\theta JC}$ | 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 | $R_{\theta CS}$ | 0.08°C/W Case to sink |
| Terminal Torque | | 35-50 inch pounds |
| Mounting Base Torque - outside holes | | 30-40 inch pounds |
| Mounting Base Torque - (center hole) | | 8-10 inch pounds |
| center bolt must be torqued first | | |
| Weight | | 2.8 ounces (75 grams) typical |

UFT125

Figure 1
Typical Forward Characteristics – Per Leg

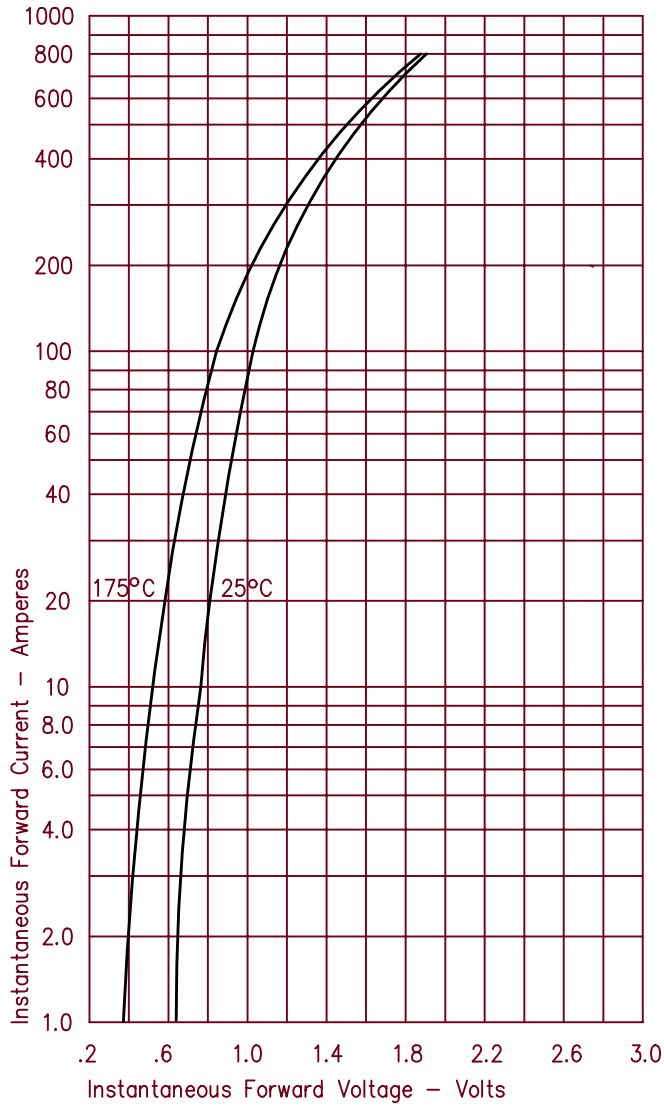


Figure 3
Typical Junction Capacitance – Per Leg

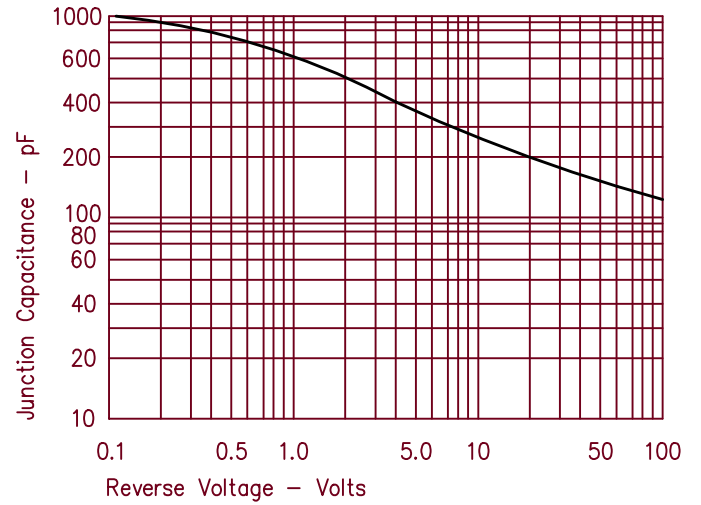


Figure 4
Forward Current Derating – Per Leg

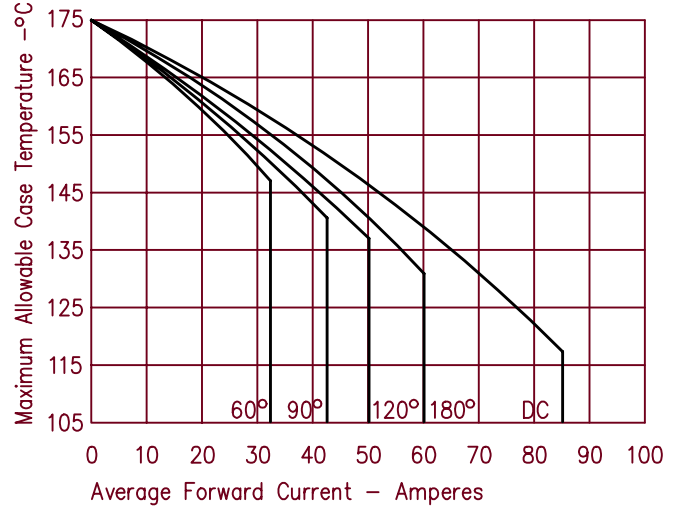


Figure 2
Typical Reverse Characteristics – Per Leg

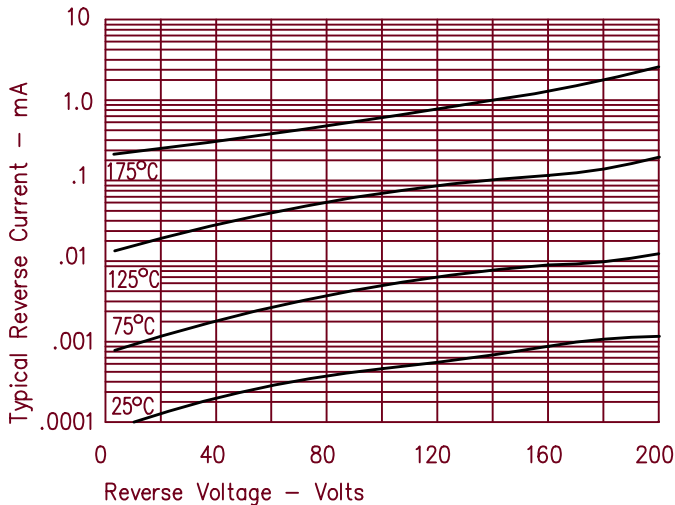
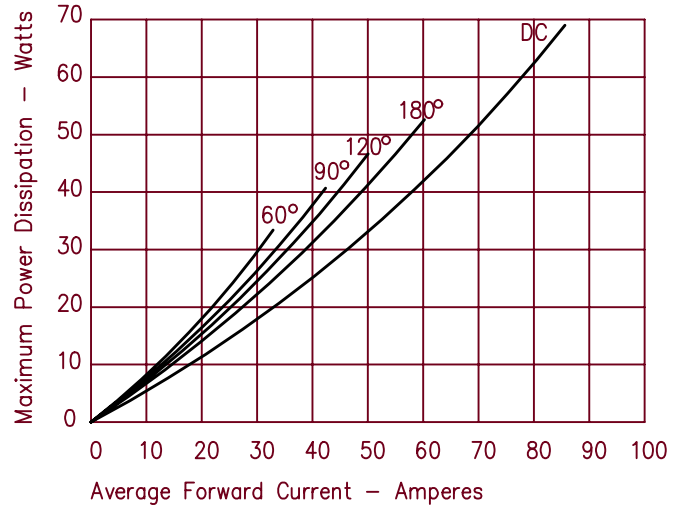


Figure 5
Maximum Forward Power Dissipation – Per Leg



UFT126

Figure 1
Typical Forward Characteristics – Per Leg

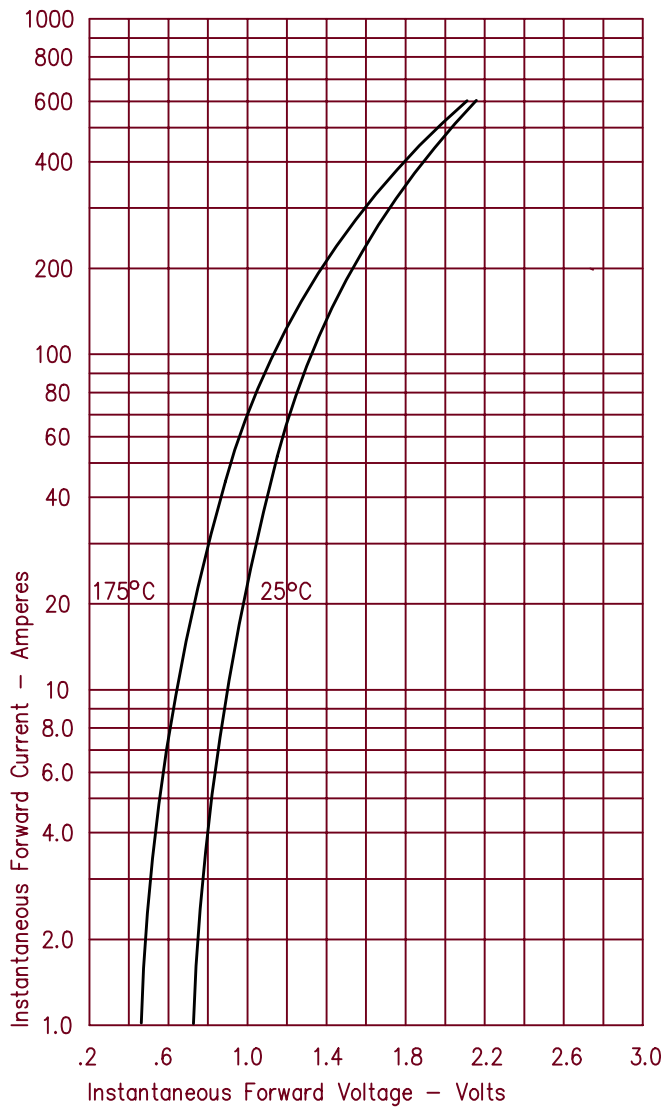


Figure 3
Typical Junction Capacitance – Per Leg

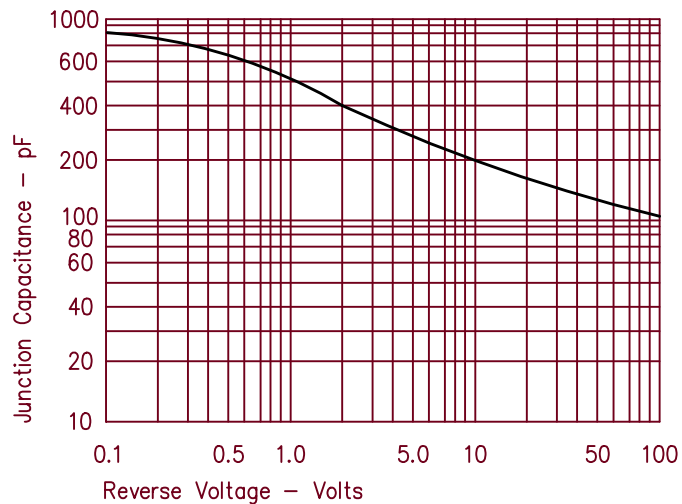


Figure 4
Forward Current Derating – Per Leg

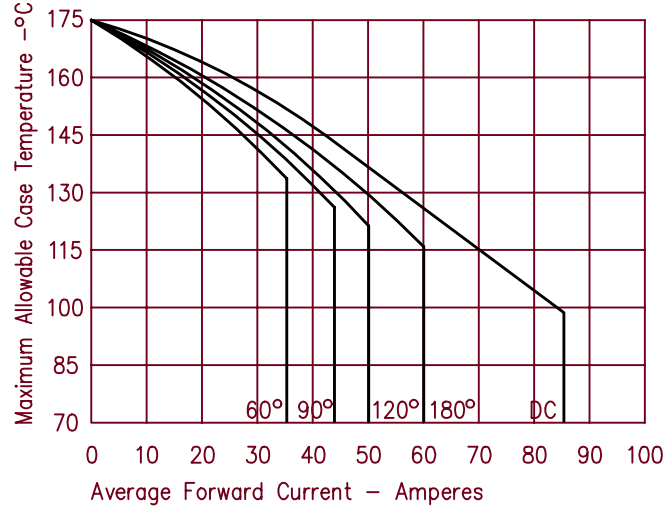


Figure 2
Typical Reverse Characteristics – Per Leg

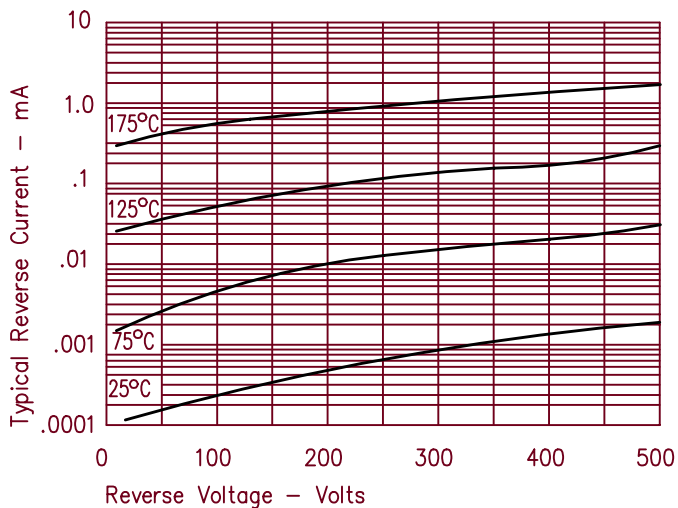
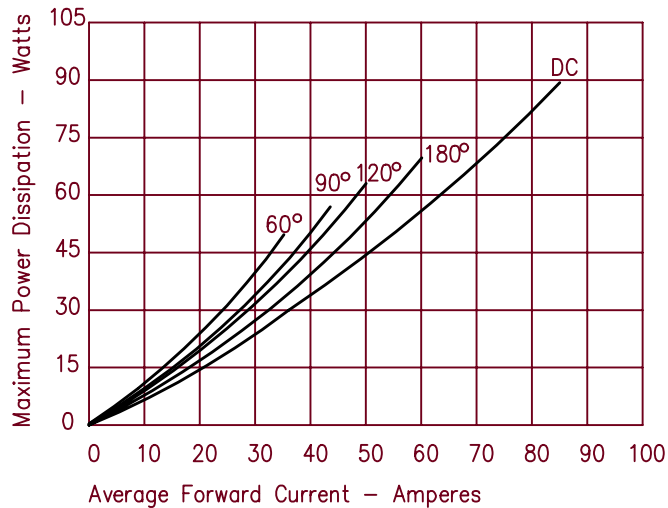


Figure 5
Maximum Forward Power Dissipation – Per Leg



UFT127

Figure 1
Typical Forward Characteristics – Per Leg

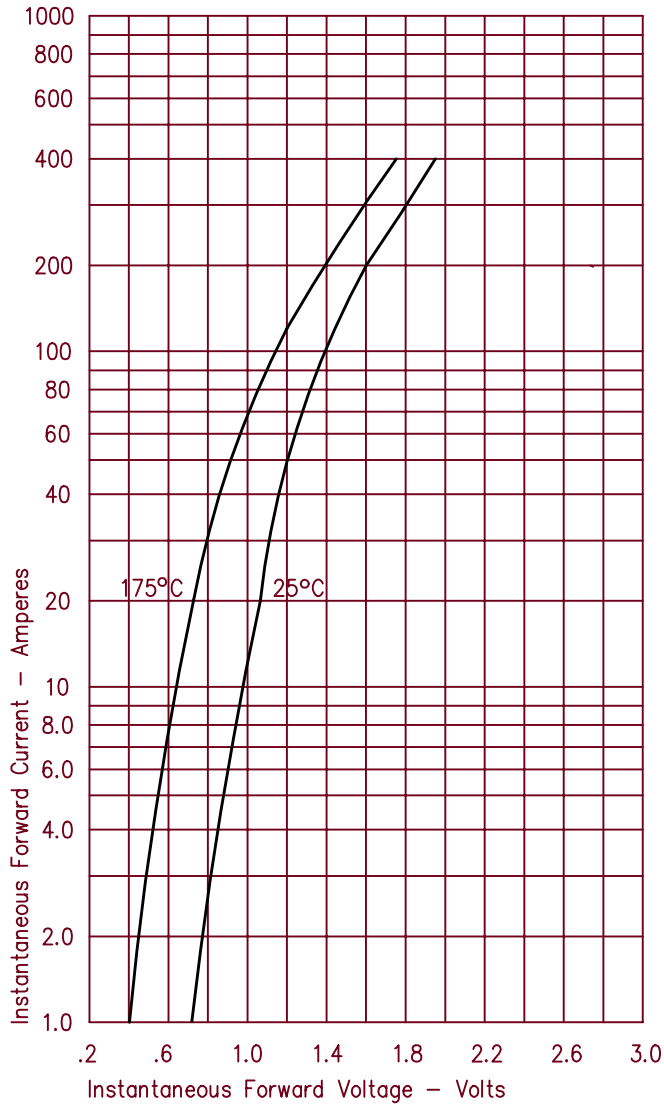


Figure 3
Typical Junction Capacitance – Per Leg

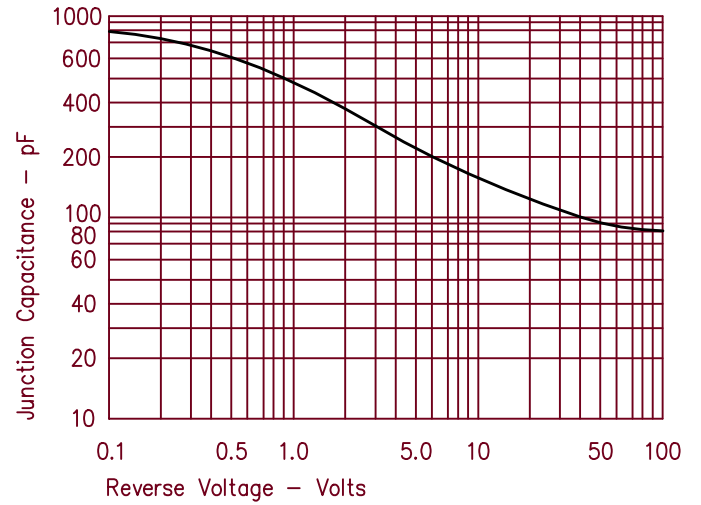


Figure 4
Forward Current Derating – Per Leg

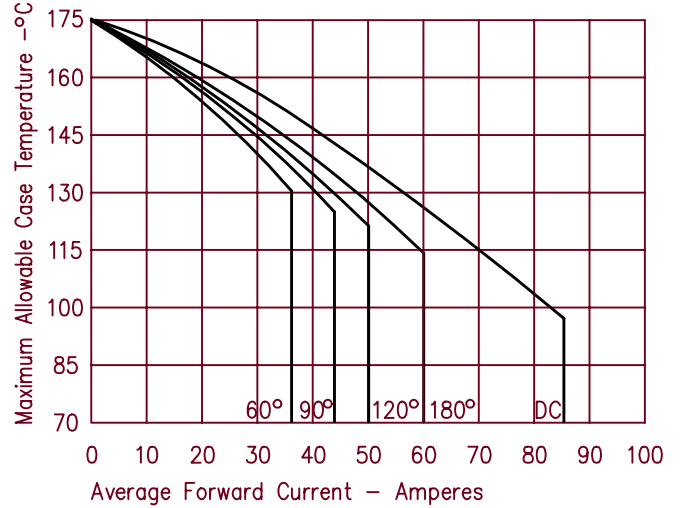


Figure 2
Typical Reverse Characteristics – Per Leg

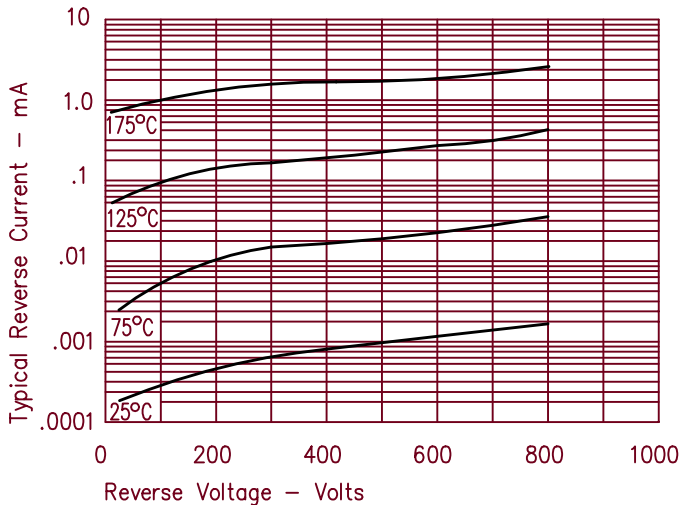


Figure 5
Maximum Forward Power Dissipation – Per Leg

