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## Contact us

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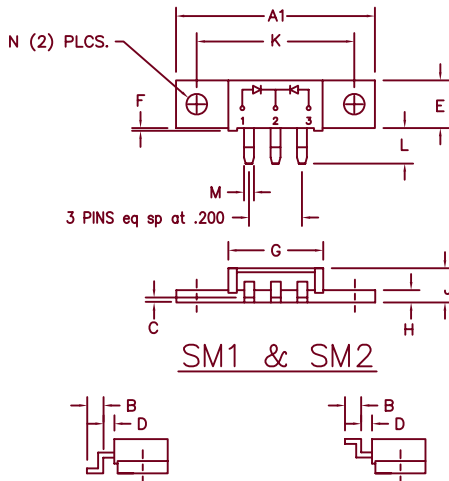
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# Ultrafast Recovery Modules

## UFT70SM, 71SM & 72SM



TYP. PIN CONFIGURATION  
FOR SM1, SM3, & SM5

TYP. PIN CONFIGURATION  
FOR SM2, SM4, & SM6

|    | Dim. Inches |         | Millimeter |         | Notes |
|----|-------------|---------|------------|---------|-------|
|    | Minimum     | Maximum | Minimum    | Maximum |       |
| 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   | $R_{\theta JC} = 1.0^\circ C/W$       |
| Maximum surge current per leg     | $I_{FSM}$ 700A  | 600A    | 500A    | 8.3ms, half sine, $T_J = 175^\circ C$ |
| Max peak forward voltage per leg  | $V_{FM}$ .95V   | 1.20V   | 1.35V   | $I_{FM} = 35A; T_J = 25^\circ C^*$    |
| 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  | $I_{RM}$ ---    | 25µA    | ---     | $V_{RRM}, T_J = 25^\circ C$           |
| Typical junction capacitance      | $C_J$ 300pF     | 120pF   | 115pF   | $V_R = 10V, T_J = 25^\circ C$         |

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

### Thermal and Mechanical Characteristics

|                                      |                 |                                |
|--------------------------------------|-----------------|--------------------------------|
| Storage temp range                   | TSTG            | -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 |

# UFT70SM1 — SM6

Figure 1  
Typical Forward Characteristics — Per Leg

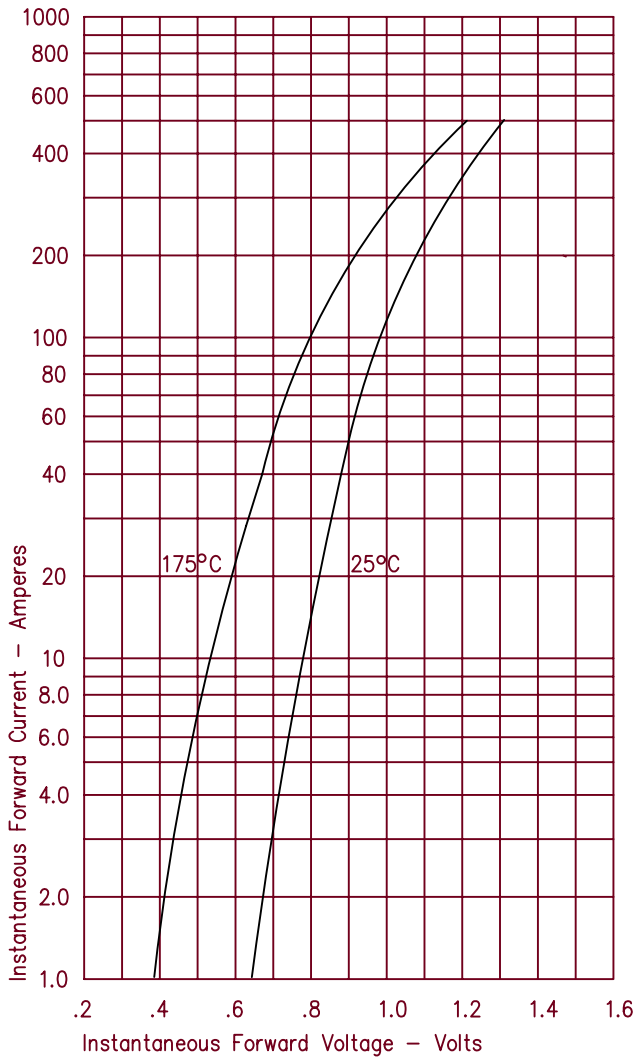


Figure 3  
Typical Junction Capacitance — Per Leg

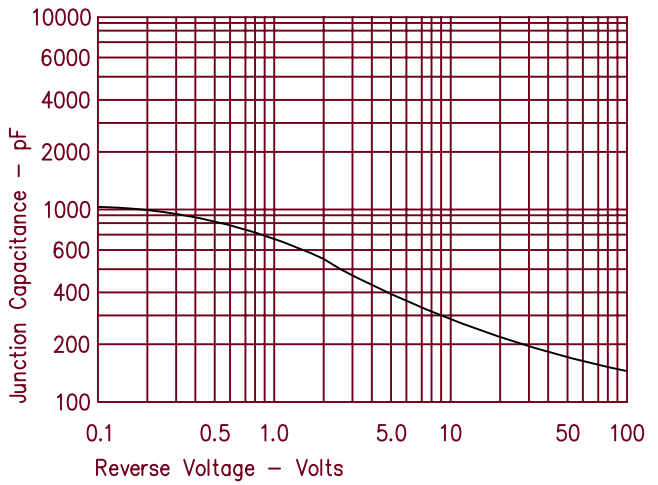


Figure 4  
Forward Current Derating — Per Leg

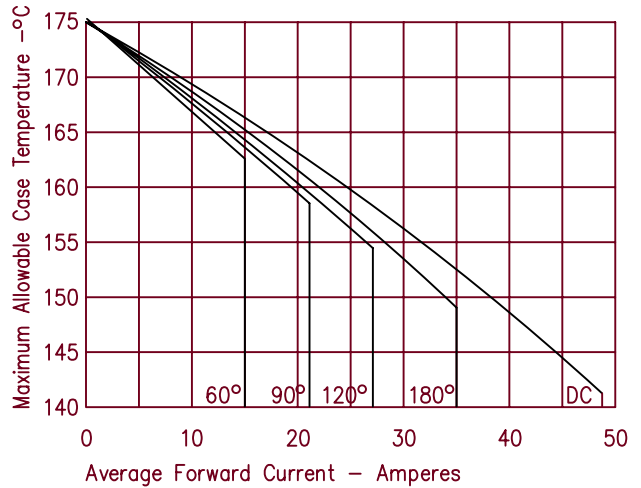


Figure 2  
Typical Reverse Characteristics — Per Leg

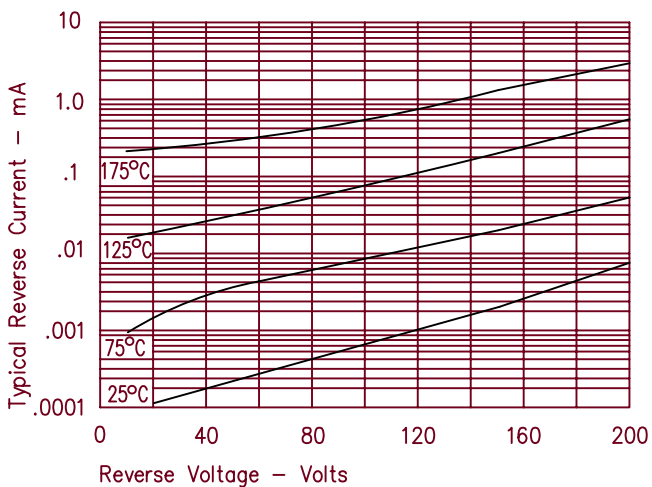
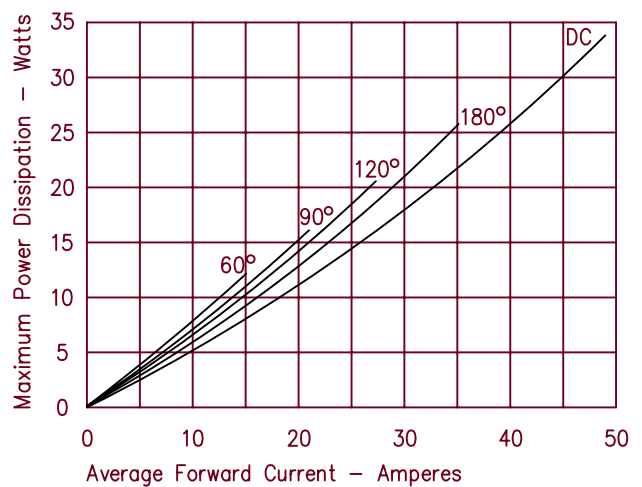


Figure 5  
Maximum Forward Power Dissipation — Per Leg



# UFT71SM1 – SM6

Figure 1  
Typical Forward Characteristics – Per Leg

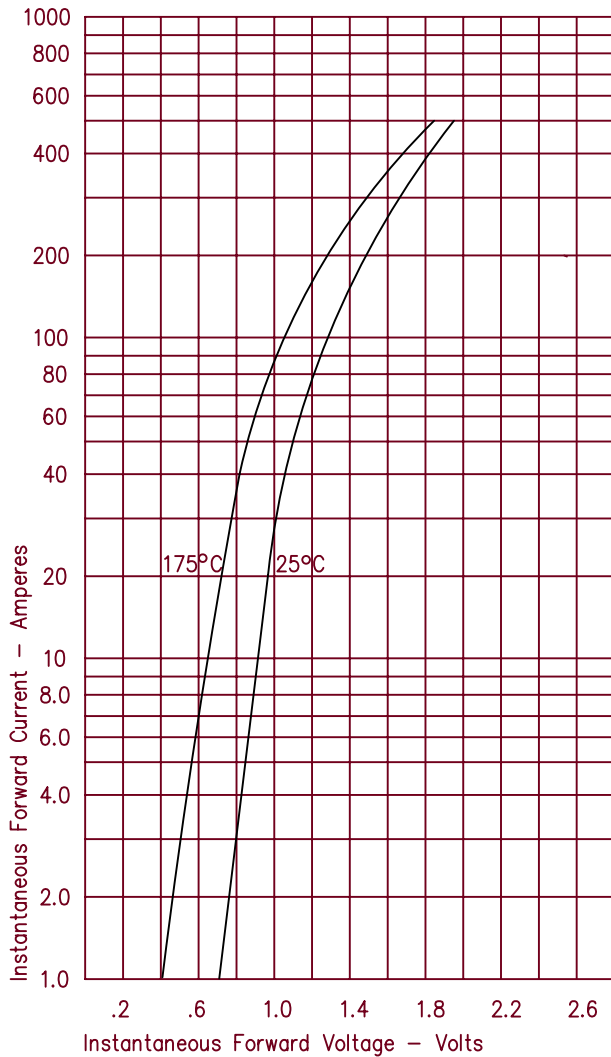


Figure 3  
Typical Junction Capacitance – Per Leg

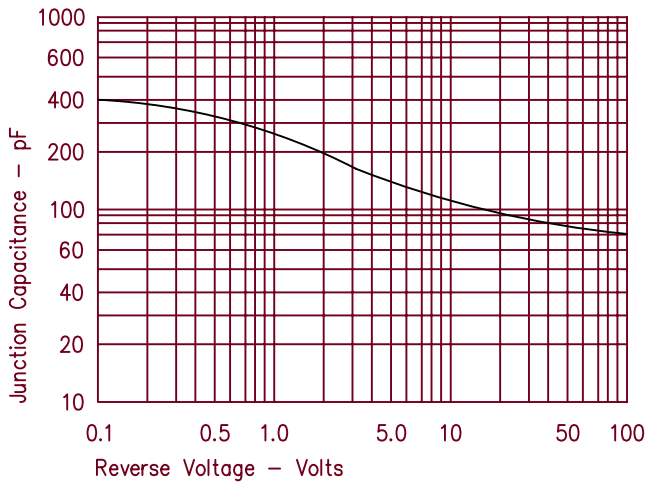


Figure 4  
Forward Current Derating – Per Leg

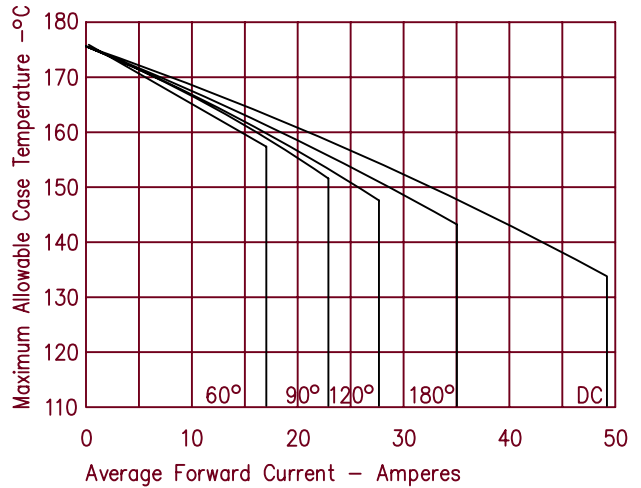


Figure 2  
Typical Reverse Characteristics – Per Leg

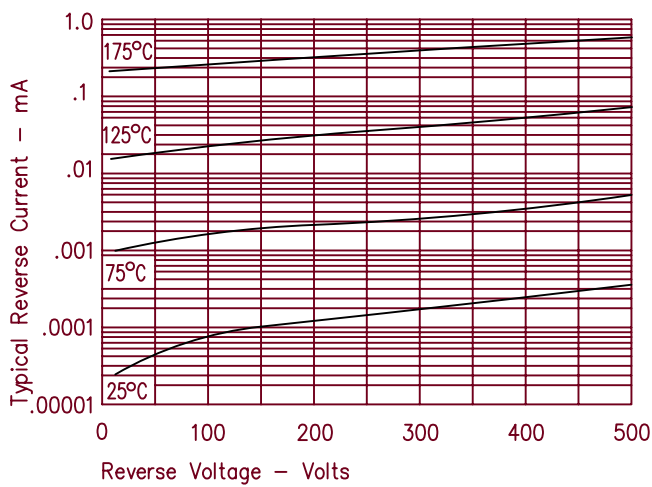
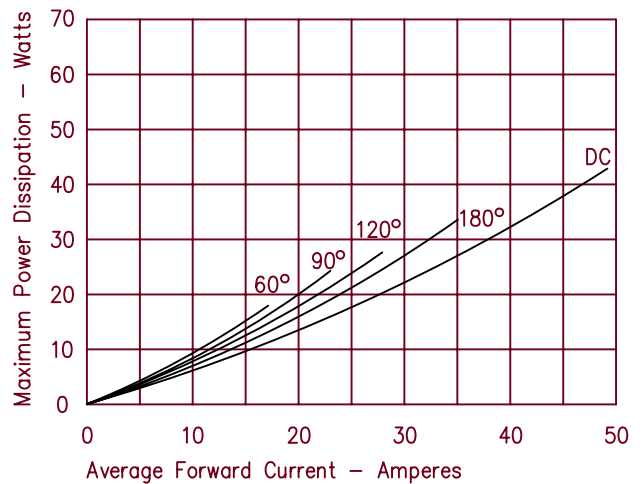


Figure 5  
Maximum Forward Power Dissipation – Per Leg



# UFT72SM1 – SM6

Figure 1  
Typical Forward Characteristics – Per Leg

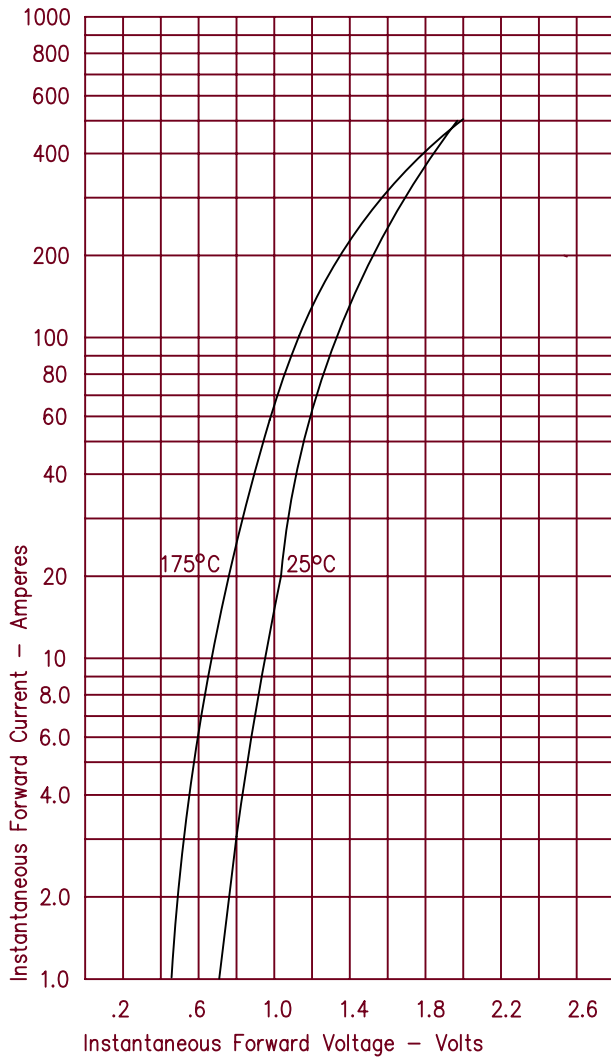


Figure 3  
Typical Junction Capacitance – Per Leg

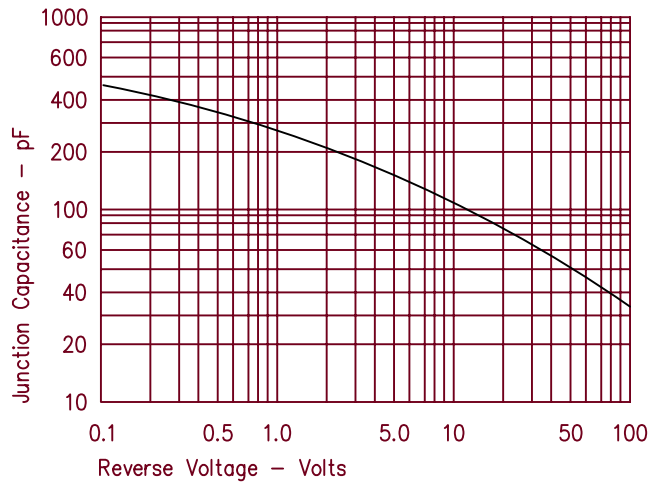


Figure 4  
Forward Current Derating – Per Leg

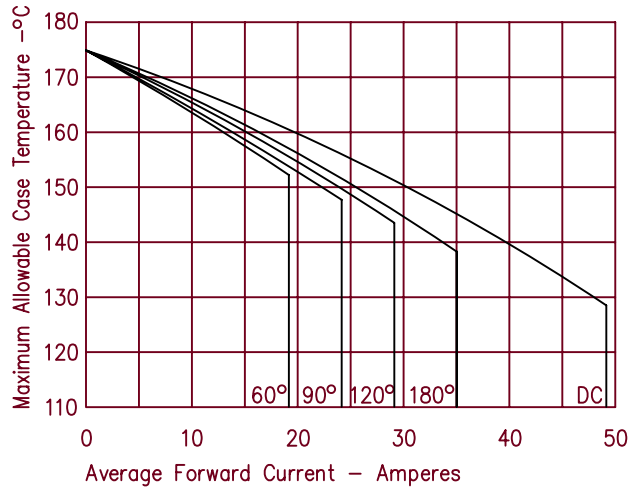


Figure 2  
Typical Reverse Characteristics – Per Leg

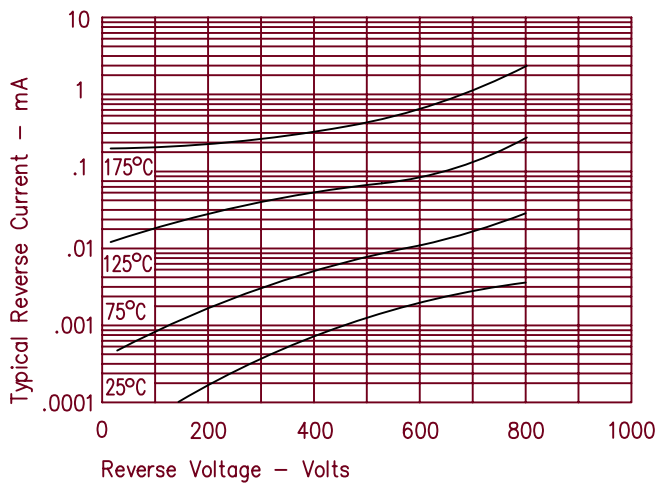


Figure 5  
Maximum Forward Power Dissipation – Per Leg

