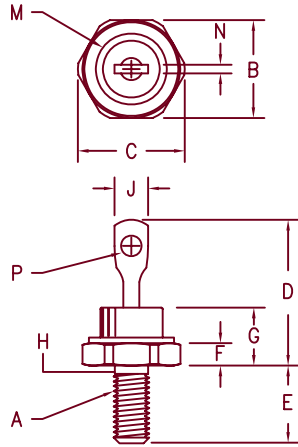


Ultra Fast Recovery Rectifiers UFR30, 31 & 32



- Notes:
- 10-32 UNF3A threads
 - Full threads within 2 1/2 threads Standard Polarity: Stud is Cathode
Reverse Polarity: Stud is Anode

| Dim. | Inches | | Millimeter | | Notes |
|------|---------|---------|------------|---------|-------|
| | Minimum | Maximum | Minimum | Maximum | |
| A | ---- | ---- | ---- | ---- | 1 |
| B | .424 | .437 | 10.77 | 11.10 | |
| C | ---- | .505 | ---- | 12.82 | |
| D | .600 | .800 | 15.24 | 20.32 | |
| E | .422 | .453 | 10.72 | 11.50 | |
| F | .075 | .175 | 1.91 | 4.44 | |
| G | ---- | .405 | ---- | 10.29 | |
| H | .163 | .189 | 4.15 | 4.80 | 2 |
| J | .100 | .310 | 2.54 | 7.87 | |
| M | ---- | .350 | ---- | 8.89 | Dia. |
| N | .020 | .065 | .510 | 1.65 | |
| P | .070 | .100 | 1.78 | 2.54 | Dia. |

D0203AA (D04)

| Microsemi Catalog Number | Working Peak Reverse Voltage | Peak Reverse Voltage |
|--------------------------|------------------------------|----------------------|
| UFR3010* | 100V | 100V |
| UFR3015* | 150V | 150V |
| UFR3020* | 200V | 200V |
| UFR3120* | 200V | 200V |
| UFR3130* | 300V | 300V |
| UFR3140* | 400V | 400V |
| UFR3150* | 500V | 500V |
| UFR3260* | 600V | 600V |
| UFR3270* | 700V | 700V |
| UFR3280* | 800V | 800V |

*Add Suffix R For Reverse Polarity

- Ultra Fast Recovery Rectifier
- 175°C Junction Temperature
- V_{RRM} 100 to 800V
- High Reliability
- 30 Amps current rating
- t_{RR} 35 to 60 nsec maximum

Electrical Characteristics

| | UFR30 | UFR31 | UFR32 | |
|------------------------------|-----------------|------------|--------|--|
| Average forward current | $I_{F(AV)}$ 30A | 30A | 30A | Square wave, $R_{\theta JC} = 1.8^\circ C/W$ |
| Case Temperature | T_C 127°C | 110°C | 107°C | |
| Maximum surge current | I_{FSM} 500A | 400A | 300A | 8.3 ms, half sine, $T_J = 175^\circ C$ |
| Max peak forward voltage | V_{FM} .975V | 1.25V | 1.35V | $I_{FM} = 30A; T_J = 25^\circ C^*$ |
| Max reverse recovery time | t_{RR} 35 ns | 50 ns | 60 ns | 1/2A, 1A, 1/4A, $T_J = 25^\circ C$ |
| Max peak reverse current | I_{RM} — | 1.0 mA | — | $V_{RRM}, T_J = 125^\circ C$ |
| Max peak reverse current | I_{RM} — | 15 μA | — | $V_{RRM}, T_J = 25^\circ C$ |
| Typical Junction Capacitance | C_J 140 pF | 115 pF | 100 pF | $V_R = 10V, f = 1MHz, T_J = 25^\circ C$ |

*Pulse test: Pulse width 300 μsec , Duty cycle 2%

Thermal and Mechanical Characteristics

| | | |
|--------------------------------------|-----------------|--------------------------------|
| Storage temp range | TSTG | -65°C to 175°C |
| Operating junction temp range | T_J | -65°C to 175°C |
| Max thermal resistance | $R_{\theta JC}$ | 1.8°C/W Junction to Case |
| Typical thermal resistance | $R_{\theta JC}$ | 1.3°C/W Junction to Case |
| Typical thermal resistance (greased) | $R_{\theta CS}$ | 0.4°C/W Case to sink |
| Mounting torque | | 12-15 inch pounds |
| Weight | | 0.2 ounces (6.0 grams) typical |



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05-07-07 Rev. 2

UFR30

Figure 1
Typical Forward Characteristics

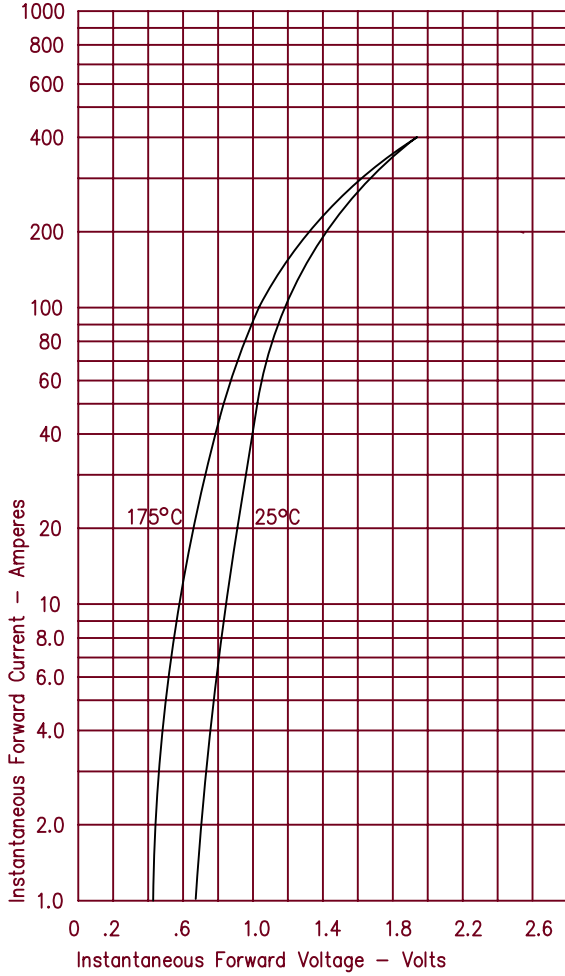


Figure 3
Typical Junction Capacitance

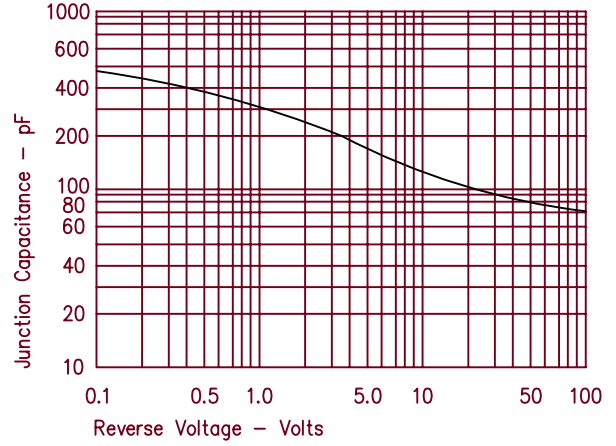


Figure 4
Forward Current Derating

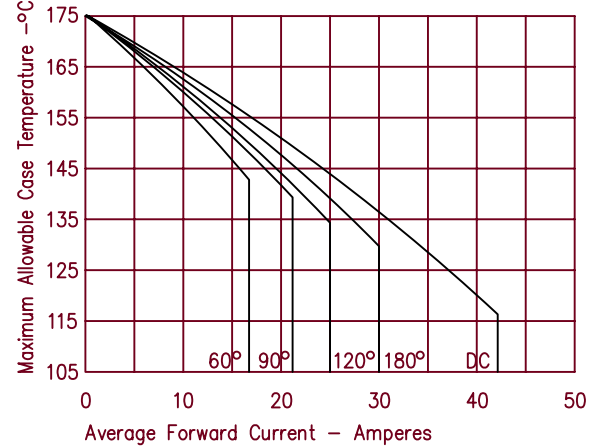


Figure 2
Typical Reverse Characteristics

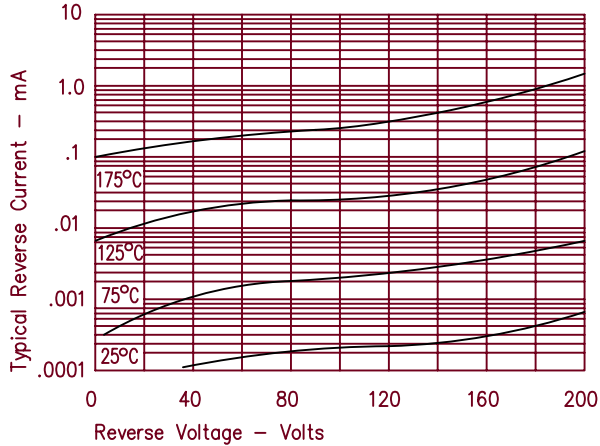
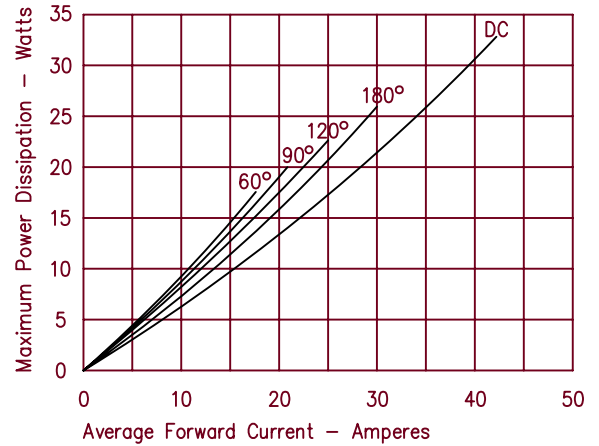


Figure 5
Maximum Forward Power Dissipation



UFR31

Figure 1
Typical Forward Characteristics

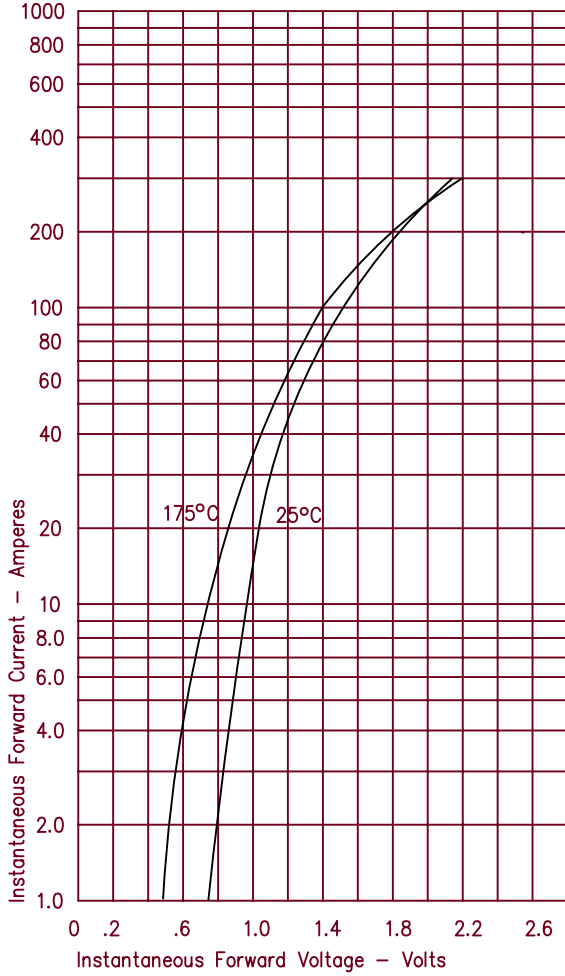


Figure 3
Typical Junction Capacitance

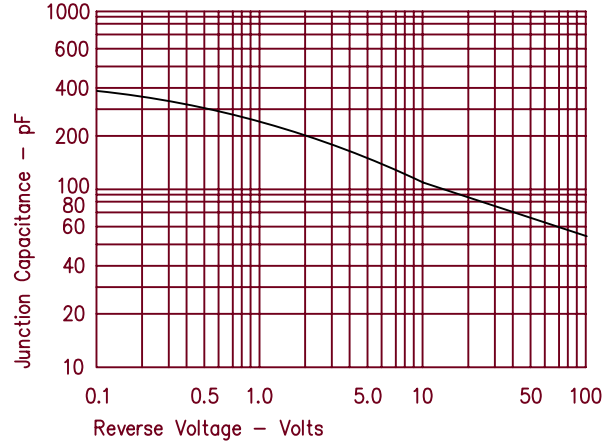


Figure 4
Forward Current Derating

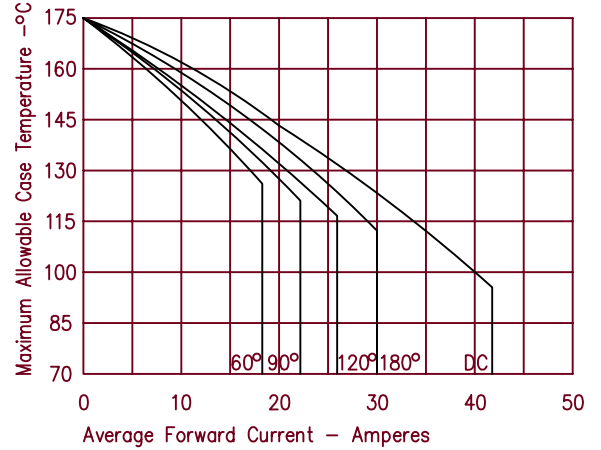


Figure 2
Typical Reverse Characteristics

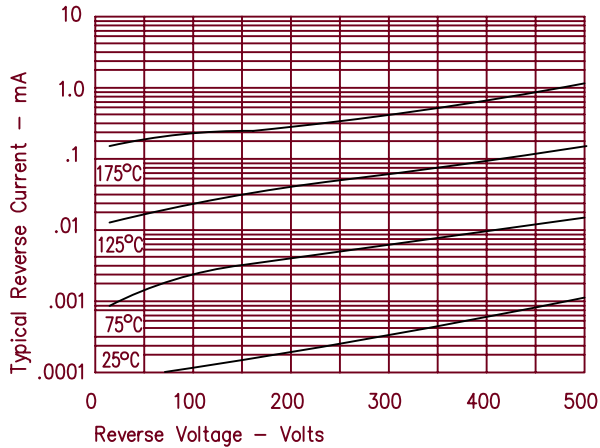


Figure 5
Maximum Forward Power Dissipation

