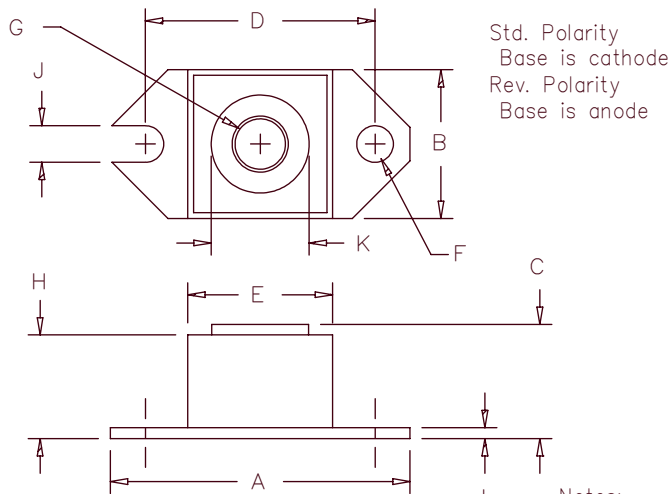


# Ultrafast Recovery Modules HU100, 101 & 102



| Dim. | Inches  |         | Millimeter |         | Notes |
|------|---------|---------|------------|---------|-------|
|      | Minimum | Maximum | Minimum    | Maximum |       |
| A    | 1.52    | 1.56    | 38.61      | 39.62   |       |
| B    | .725    | .775    | 18.42      | 19.69   |       |
| C    | .605    | .625    | 15.37      | 15.88   |       |
| D    | 1.182   | 1.192   | 30.02      | 30.28   |       |
| E    | .745    | .755    | 18.92      | 19.18   | Sq.   |
| F    | .152    | .160    | 3.86       | 4.06    | Dia.  |
| G    |         |         | 1/4-20     | UNC-2B  |       |
| H    | .525    | .580    | 13.34      | 14.73   |       |
| J    | .156    | .160    | 3.96       | 4.06    |       |
| K    | .495    | .505    | 12.57      | 12.83   | Dia.  |
| L    | .120    | .130    | 3.05       | 3.30    |       |

Notes:  
Baseplate: Nickel plated  
copper

| Microsemi<br>Catalog Number | Working Peak<br>Reverse Voltage | Repetitive Peak<br>Reverse Voltage |
|-----------------------------|---------------------------------|------------------------------------|
| HU10005*                    | 50V                             | 50V                                |
| HU10010*                    | 100V                            | 100V                               |
| HU10015*                    | 150V                            | 150V                               |
| HU10020*                    | 200V                            | 200V                               |
| HU10120*                    | 300V                            | 300V                               |
| HU10130*                    | 400V                            | 400V                               |
| HU10140*                    | 500V                            | 500V                               |
| HU10150*                    | 600V                            | 600V                               |
| HU10260*                    | 700V                            | 700V                               |
| HU10270*                    | 800V                            | 800V                               |
| HU10280*                    |                                 |                                    |

Add Suffix R for Reverse Polarity

- Ultra Fast Recovery
- 175°C Junction Temperature
- $V_{RRM}$  50 to 800 Volts
- High surge capacity
- 100 Amp current rating
- ROHS Compliant

## Electrical Characteristics

|                              |           | HU100 | HU101 | HU102 |                                       |
|------------------------------|-----------|-------|-------|-------|---------------------------------------|
| Average forward current      | $I_F(AV)$ | 100A  | 100A  | 100A  | Square Wave                           |
| Case Temperature             | $T_C$     | 135°C | 120°C | 115°C | $R_{\theta JC} = 0.5^\circ C/W$       |
| Maximum surge current        | $I_{FSM}$ | 1500A | 1400A | 1200A | 8.3ms, half sine, $T_J = 175^\circ C$ |
| Max peak forward voltage     | $V_{FM}$  | .975V | 1.25V | 1.35V | $I_{FM} = 100A; T_J = 25^\circ C^*$   |
| Max reverse recovery time    | $t_{rr}$  | 50ns  | 70ns  | 90ns  | 1/2A, 1A, 1/4A, $T_J = 25^\circ C$    |
| Max peak reverse current     | $I_{RM}$  | —     | 6.0mA | —     | $V_{RRM}, T_J = 125^\circ C$          |
| Max peak reverse current     | $I_{RM}$  | —     | 50μA  | —     | $V_{RRM}, T_J = 25^\circ C$           |
| Typical Junction capacitance | $C_J$     | 575pF | 300pF | 275pF | $V_R = 10V, T_J = 25^\circ C$         |

\*Pulse test: Pulse width 300μsec, 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                 | $R_{\theta JC}$ | 0.5°C/W Junction to case      |
| Typical thermal resistance (greased)   | $R_{\theta CS}$ | .012°C/W Case to sink         |
| Terminal Torque                        |                 | 35-40 inch pounds             |
| Mounting base torque — (outside holes) |                 | 20-25 inch pounds             |
| Weight                                 |                 | 1.1 ounces (32 grams) typical |

# HU100

Figure 1  
Typical Forward Characteristics

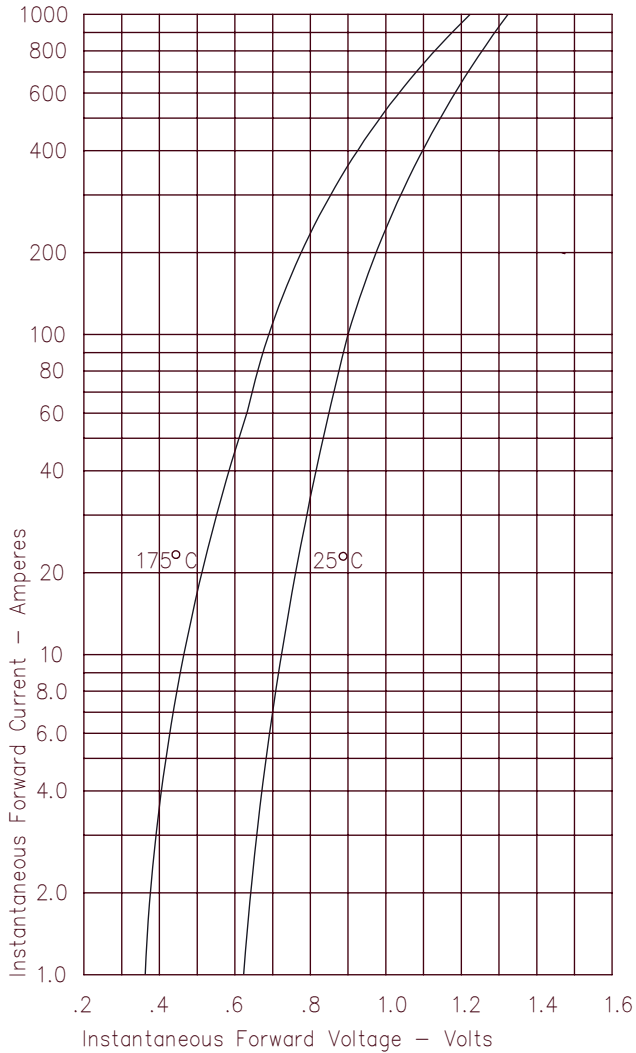


Figure 3  
Typical Junction Capacitance

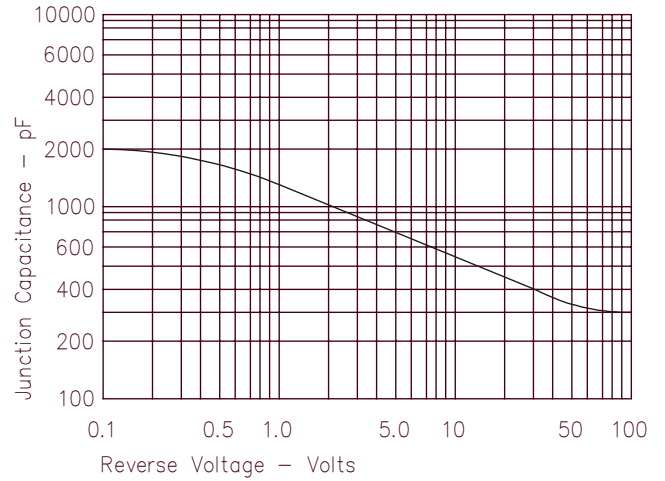


Figure 4  
Forward Current Derating

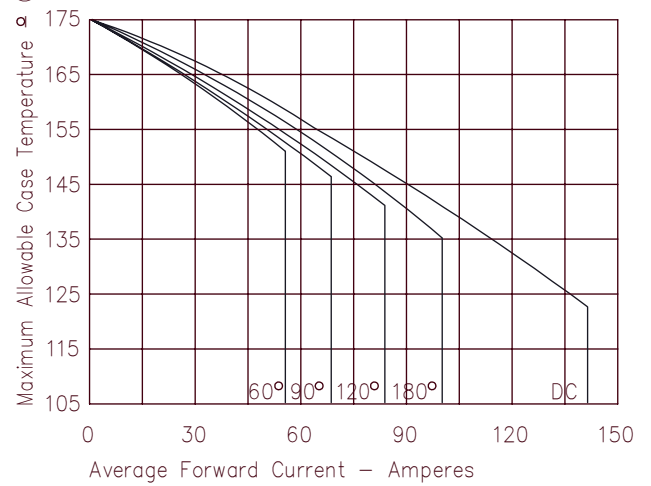


Figure 2  
Typical Reverse Characteristics

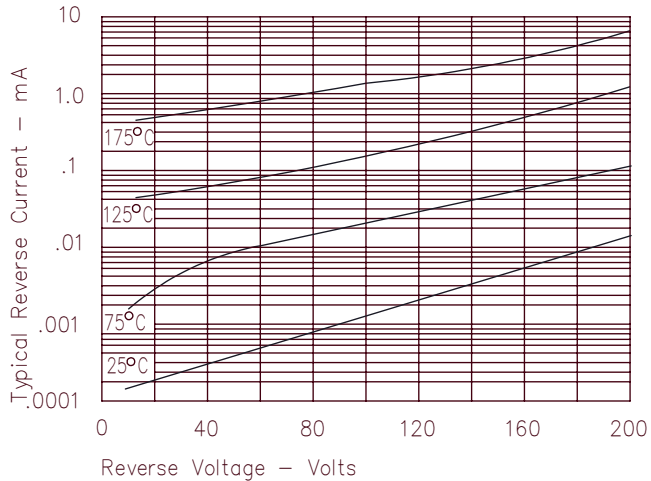
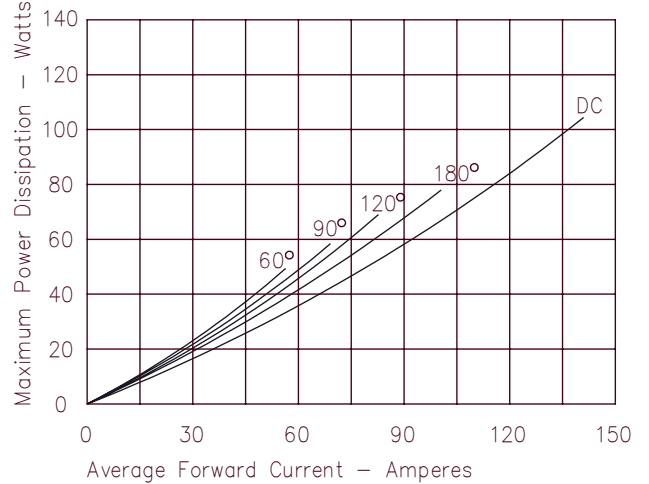


Figure 5  
Maximum Forward Power Dissipation



# HU101

Figure 1  
Typical Forward Characteristics

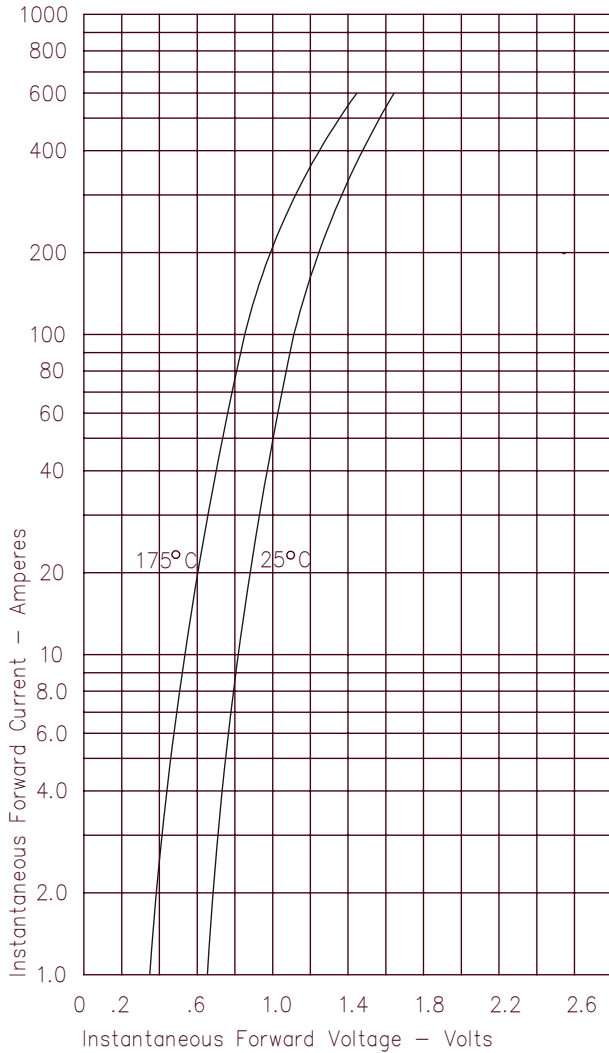


Figure 3  
Typical Junction Capacitance

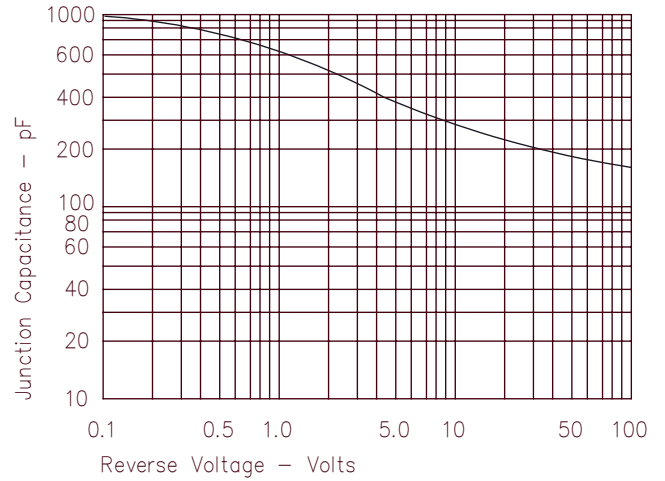


Figure 4  
Forward Current Derating

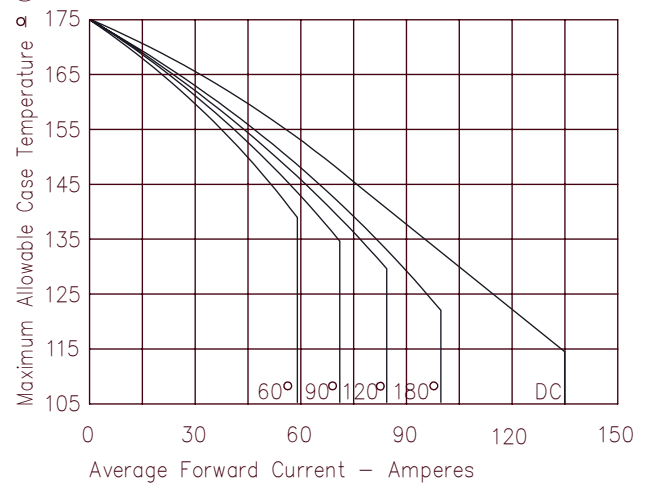


Figure 2  
Typical Reverse Characteristics

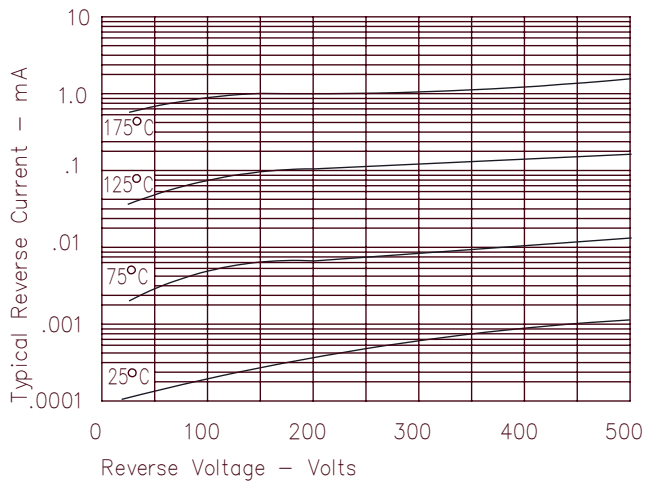
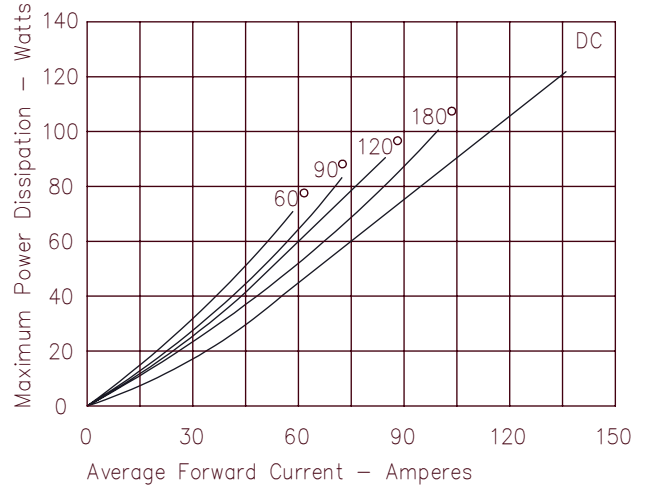


Figure 5  
Maximum Forward Power Dissipation



# HU102

Figure 1  
Typical Forward Characteristics

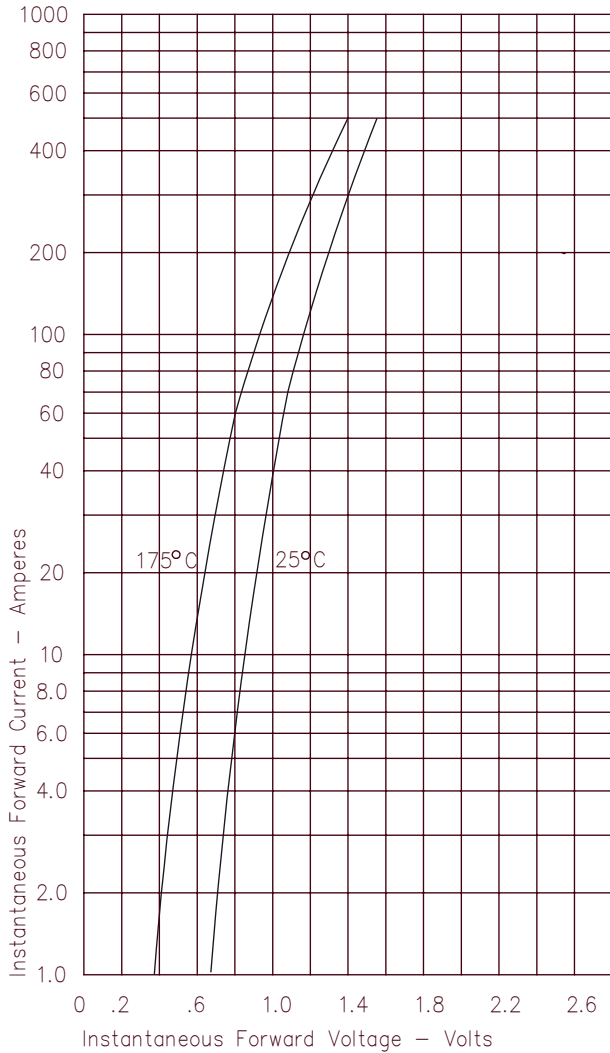


Figure 3  
Typical Junction Capacitance

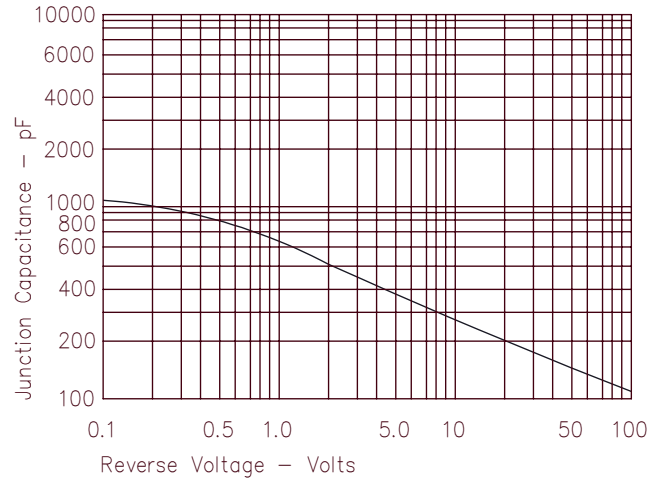


Figure 4  
Forward Current Derating

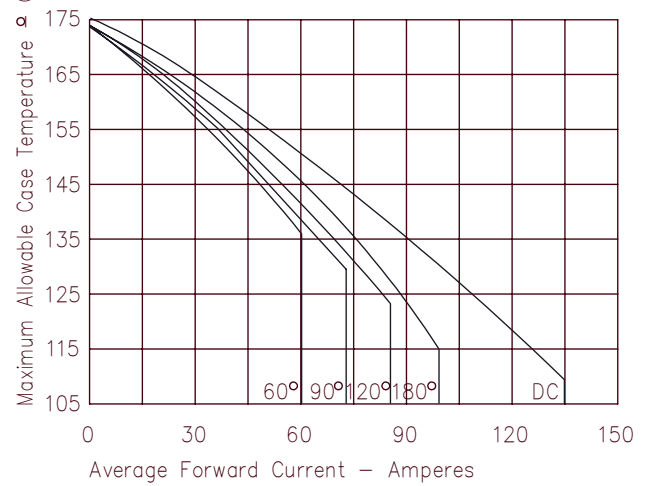


Figure 2  
Typical Reverse Characteristics

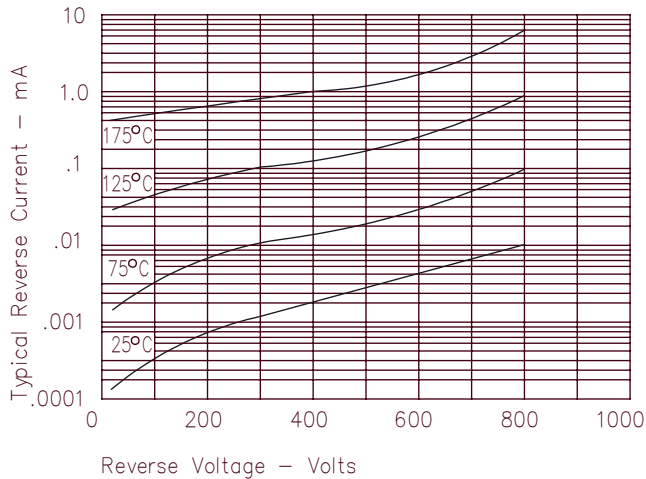


Figure 5  
Maximum Forward Power Dissipation

