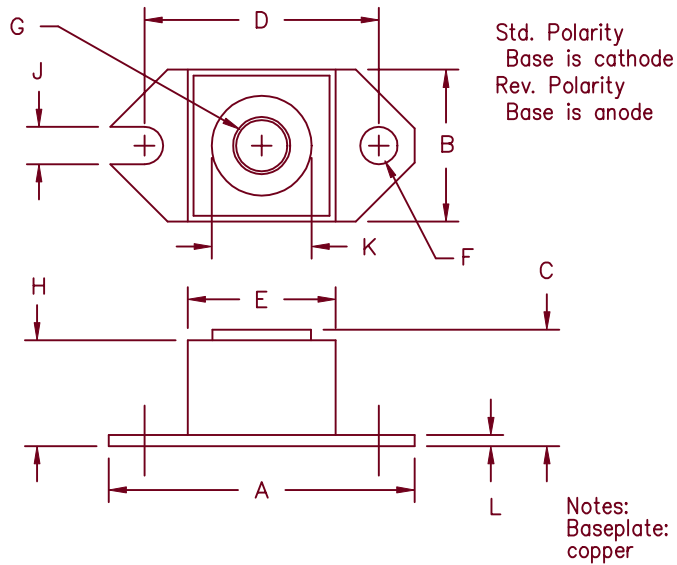


# Ultrafast Recovery Modules

## HU20010 — HU20020

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Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	1.52	1.56	38.86	39.62	
B	.725	.775	18.42	19.69	
C	.605	.625	15.37	15.88	
D	1.177	1.197	29.90	30.41	
E	.745	.755	18.92	19.18	Sq.
F	.152	.162	3.86	4.11	Dia.
G			1/4-20 UNC-2B		
H	.540	.580	13.72	14.73	
J	.152	.162	3.86	4.11	
K	.495	.505	12.57	12.83	Dia.
L	.120	.130	3.05	3.30	

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
HU20010*	100V	100V
HU20015*	150V	150V
HU20020*	200V	200V

\*Add Suffix R for Reverse Polarity

- Ultra Fast Recovery
- 175°C Junction Temperature
- 200 Amp current rating

### Electrical Characteristics

Average forward current	$I_{F(AV)}$ 200 Amps	$T_C = 135^\circ\text{C}$ , Square wave, $R_{\theta JC} = 0.24^\circ\text{C/W}$
Maximum surge current	$I_{FSM}$ 2600 Amps	8.3ms, half sine, $T_J = 175^\circ\text{C}$
Max peak forward voltage	$V_{FM}$ 0.975 Volts	$I_F = 200\text{A}; T_J = 25^\circ\text{C}^*$
Max peak reverse recovery time	$t_{rr}$ 100 nS	$I_F = 1\text{A}, V_R = 30\text{V di/dt} = 25\text{A}/\mu\text{S}$
Max peak reverse current	$I_{RM}$ 8 mA	$V_{RRM}, T_J = 125^\circ\text{C}^*$
Max peak reverse current	$I_{RM}$ 50 $\mu\text{A}$	$V_{RRM}, T_J = 25^\circ\text{C}$
Typical junction capacitance	$C_J$ 1400 pF	$V_R = 10\text{V}, T_J = 25^\circ\text{C}$

\*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	$R_{\theta JC}$	0.24°C/W Junction to case
Typical thermal resistance (greased)	$R_{\theta CS}$	0.12°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

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Figure 1  
Typical Forward Characteristics

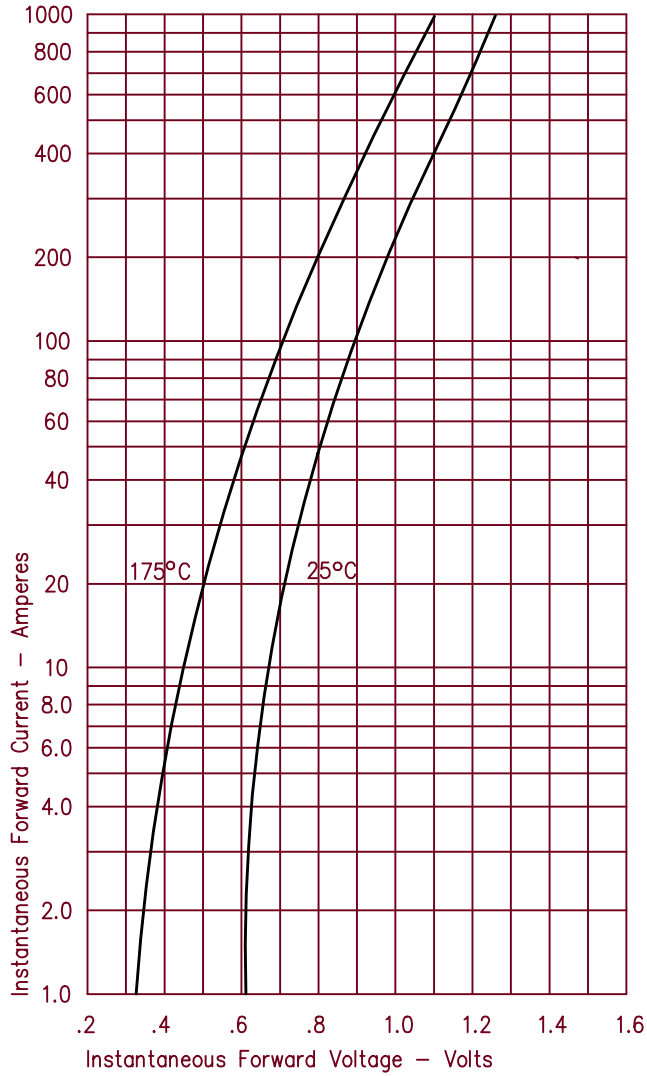


Figure 3  
Typical Junction Capacitance

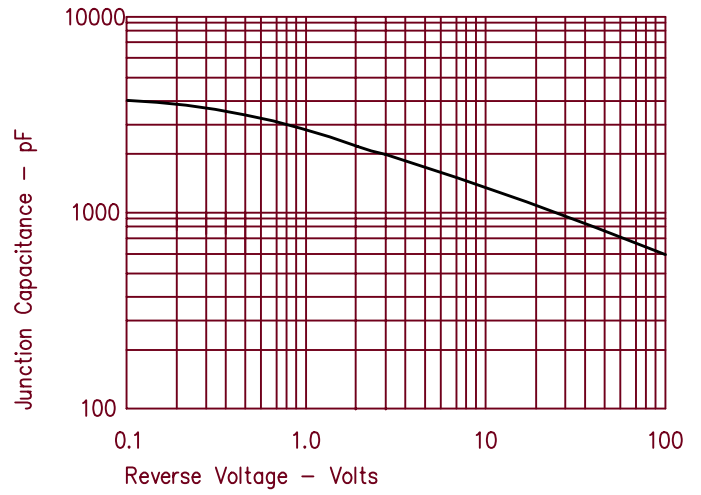


Figure 4  
Forward Current Derating

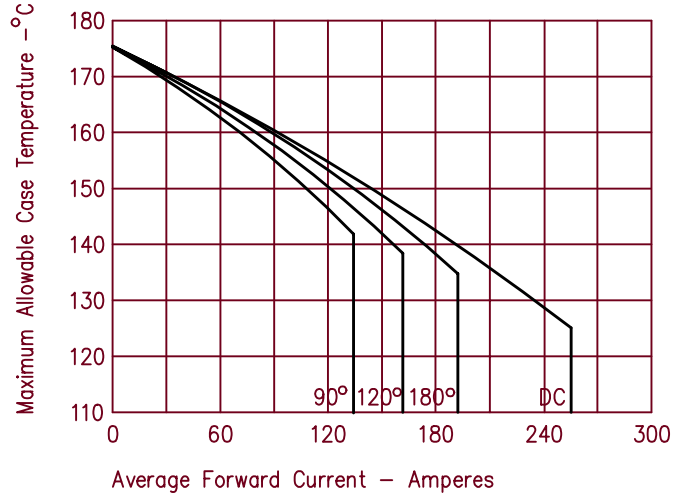


Figure 2  
Typical Reverse Characteristics

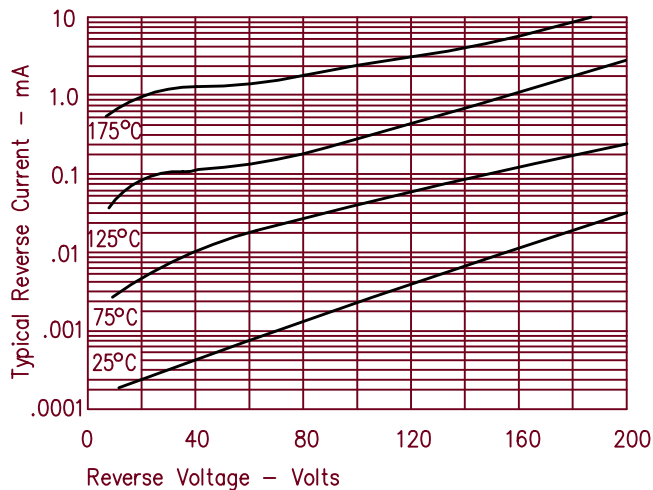


Figure 5  
Maximum Forward Power Dissipation

