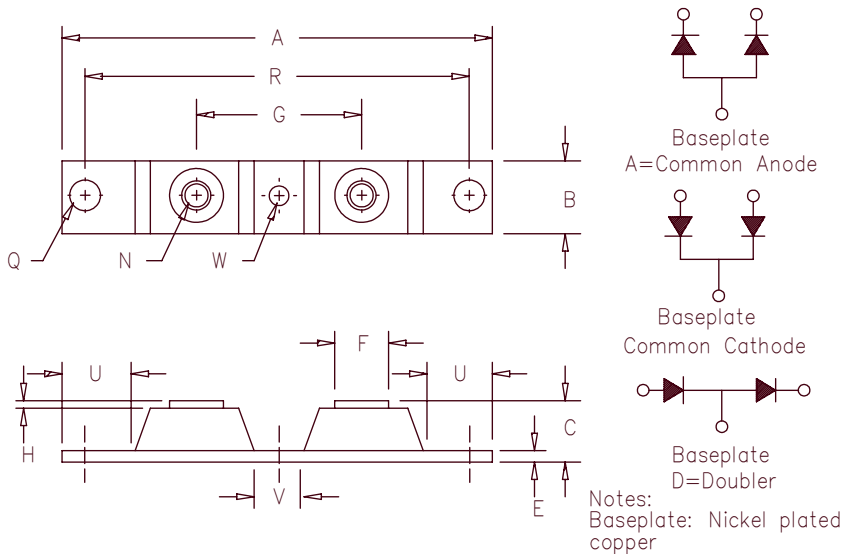


# Schottky PowerMod

## CPT20080–CPT200100



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
Q	0.275	0.290	6.99	7.37	Dia.
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	Industry Part Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
CPT20080*	203CNQ080 MBR12080CT MBR20080CT	80V	80V
CPT20090*		90V	90V
CPT200100*	203CNQ100 MBR120100CT MBR200100CT	100V	100V

\*Add Suffix A for Common Anode, D for Doubler

- Schottky Barrier Rectifier
- Guard Ring Protection
- 200 Amperes/ 80 to 100 Volts
- 175°C Junction Temperature
- Reverse Energy Tested
- ROHS Compliant

### Electrical Characteristics

Average forward current per pkg	$I_{F(AV)}$ 200 Amps	$T_C = 135^\circ\text{C}$ , Square wave, $R_{\theta JC} = 0.20^\circ\text{C/W}$
Average forward current per leg	$I_{F(AV)}$ 100 Amps	$T_C = 135^\circ\text{C}$ , Square wave, $R_{\theta JC} = 0.40^\circ\text{C/W}$
Maximum surge current per leg	$I_{FSM}$ 2000 Amps	8.3ms, half sine, $T_J = 175^\circ\text{C}$
Maximum repetitive reverse current per leg	$I_R(OV)$ 2 Amps	$f = 1\text{ KHZ}$ , $25^\circ\text{C}$ , $1\mu\text{sec}$ square wave
Max peak forward voltage per leg	$V_{FM}$ 0.98 Volts	$I_{FM} = 200\text{A}; T_J = 25^\circ\text{C}^*$
Typical forward voltage per leg	$V_{FM}$ .86 Volts	$I_{FM} = 200\text{A}; T_J = 175^\circ\text{C}^*$
Max peak reverse current per leg	$I_{RM}$ 75 mA	$V_{RRM}, T_J = 125^\circ\text{C}^*$
Max peak reverse current per leg	$I_{RM}$ 4.0 mA	$V_{RRM}, T_J = 25^\circ\text{C}$
Typical junction capacitance per leg	$C_J$ 3000 pF	$V_R = 5.0\text{V}, T_C = 25^\circ\text{C}$

\*Pulse test: Pulse width 300 $\mu\text{sec}$ , 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	$R_{\theta JC}$	0.40°C/W Junction to case
Max thermal resistance per pkg	$R_{\theta JC}$	0.20°C/W Junction to case
Typical thermal resistance (greased)	$R_{\theta CS}$	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) center hole must be torqued first		8–10 inch pounds
Weight		2.8 ounces (75 grams) typical

# CPT20080-CPT200100

Figure 1  
Typical Forward Characteristics - Per Leg

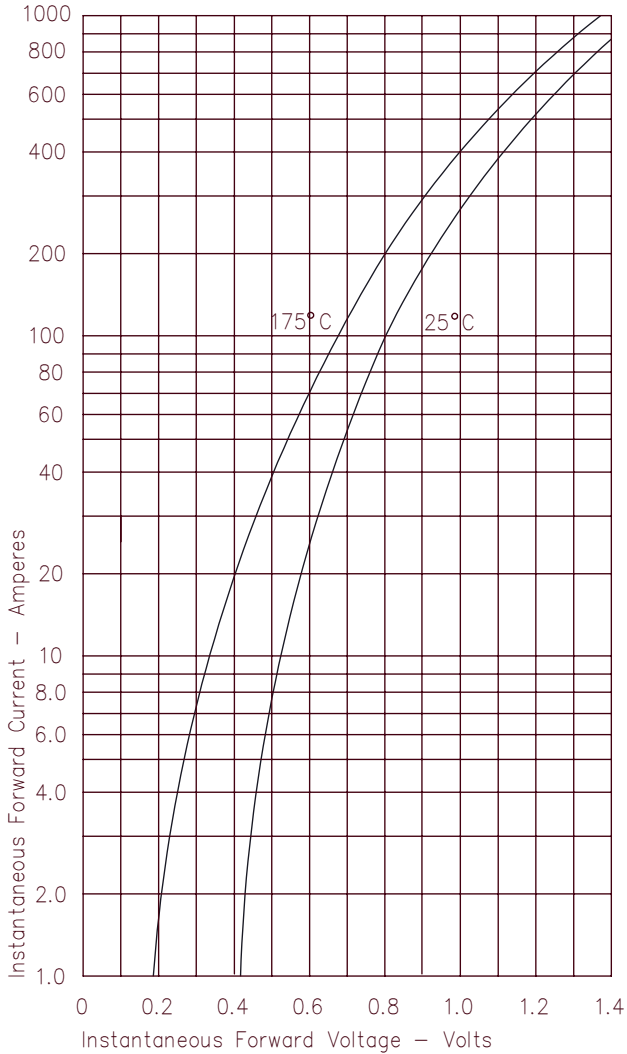


Figure 3  
Typical Junction Capacitance - Per Leg

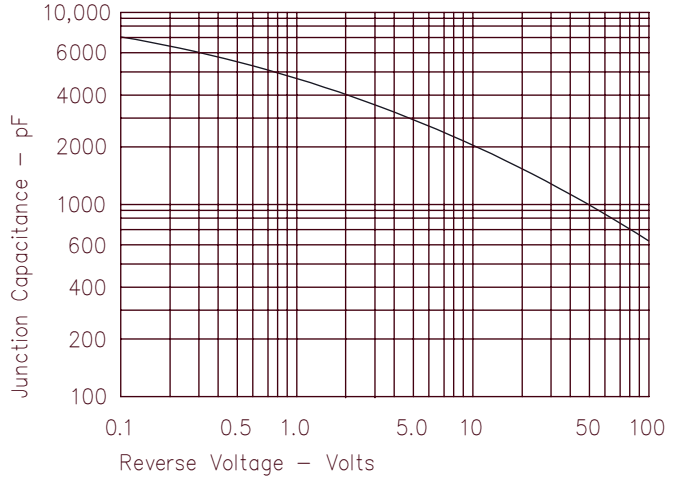


Figure 4  
Forward Current Derating - Per Leg

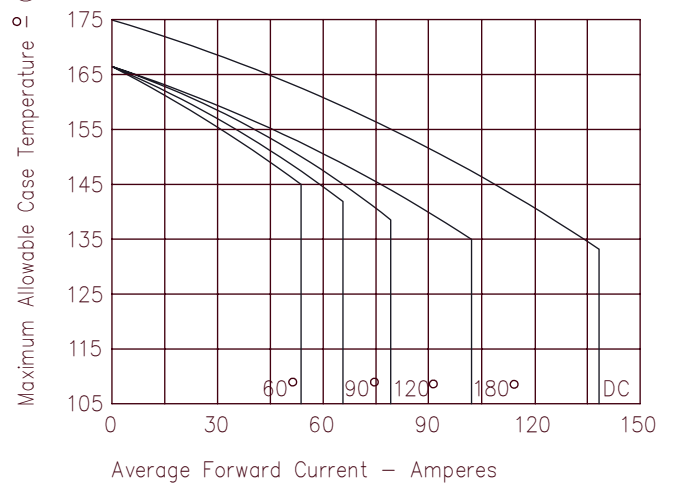


Figure 2  
Typical Reverse Characteristics - Per Leg

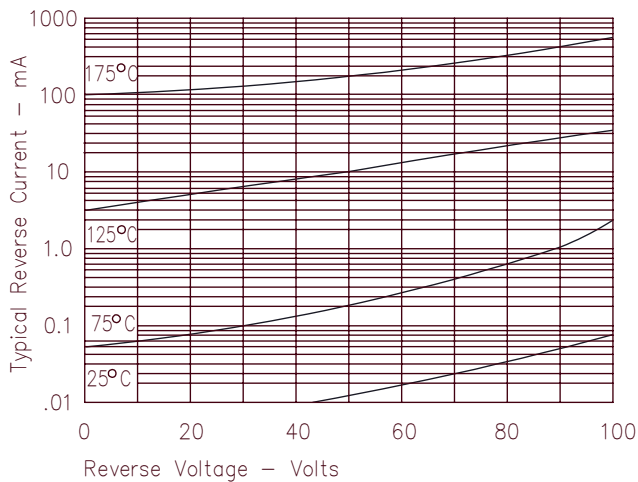


Figure 5  
Maximum Forward Power Dissipation - Per Leg

