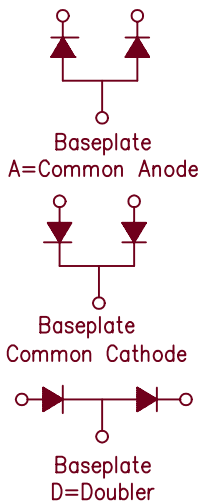
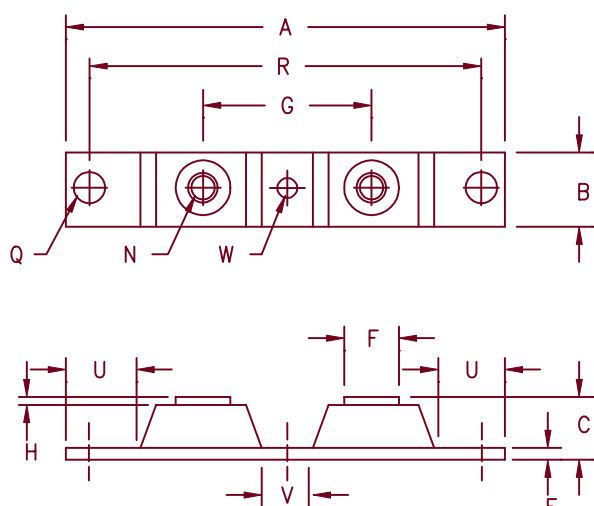


# Schottky PowerMod

## CPT50080 — CPT500100



Notes:  
Baseplate: Nickel plated copper

Dim.	Inches		Millimeters		Notes
	Min.	Max.	Min.	Max.	
A	---	3.630	---	92.20	
B	0.700	0.800	17.78	20.32	
C	---	.680	---	17.28	
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	0.050	---	1.25	---	
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
CPT50080*	MBR50080CT	80V	80V
CPT50090*		90V	90V
CPT500100*	MBR500100CT	100V	100V

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

- Schottky Barrier Rectifier
- Guard ring protection
- 500 Amperes/ 80 to 100 Volts
- 175°C junction temperature
- Reverse energy tested

### Electrical Characteristics

Average forward current per pkg	$I_{F(AV)}$ 500 Amps	$T_C = 120^\circ\text{C}$ , Square wave, $R_{\theta JC} = 0.12^\circ\text{C/W}$
Average forward current per leg	$I_{F(AV)}$ 250 Amps	$T_C = 120^\circ\text{C}$ , Square wave, $R_{\theta JC} = 0.24^\circ\text{C/W}$
Maximum surge current per leg	$I_{FSM}$ 5000 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	$V_{FM}$ 0.90 Volts	$I_{FM} = 250\text{A}$ ; $T_J = 25^\circ\text{C}$
Max peak forward voltage per leg	$V_{FM}$ 0.72 Volts	$I_{FM} = 250\text{A}$ ; $T_J = 175^\circ\text{C}$
Max peak reverse current per leg	$I_{RM}$ 200 mA	$V_{RRM}$ , $T_J = 125^\circ\text{C}$ *
Max peak reverse current per leg	$I_{RM}$ 8.0 mA	$V_{RRM}$ , $T_J = 25^\circ\text{C}$
Typical junction capacitance per leg	$C_J$ 6400 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	$T_{STG}$	$-55^\circ\text{C}$ to $175^\circ\text{C}$
Operating junction temp range	$T_J$	$-55^\circ\text{C}$ to $175^\circ\text{C}$
Max thermal resistance per leg	$R_{\theta JC}$	$0.24^\circ\text{C/W}$ Junction to case
Max thermal resistance per pkg	$R_{\theta JC}$	$0.12^\circ\text{C/W}$ Junction to case
Typical thermal resistance (greased)	$R_{\theta CS}$	$0.08^\circ\text{C/W}$ Case to sink
Terminal Torque		35-50 inch pounds
Mounting Base Torque (outside holes)		30-40 inch pounds
Mounting Base Torque (center hole)		8-10 inch pounds
center hole must be torqued first		
Weight		2.8 ounces (78 grams) typical



**Microsemi**

800 Hoyt Street  
Broomfield, CO. 80020  
PH: (303) 469-2161  
FAX: (303) 466-3775  
www.microsemi.com

# CPT50080 — CPT500100

Figure 1  
Typical Forward Characteristics — Per Leg

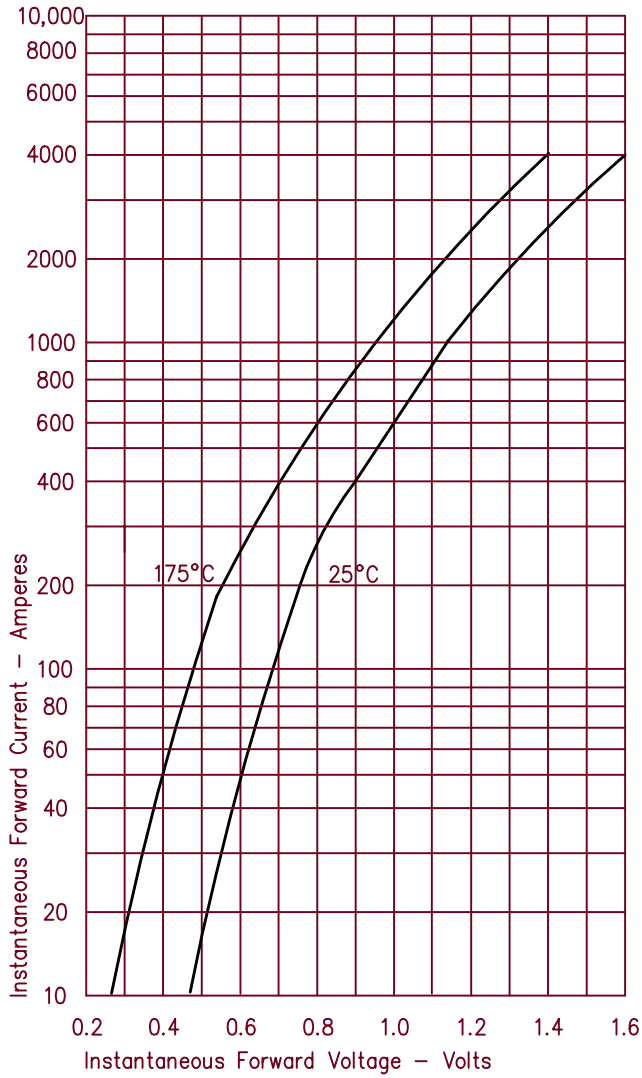


Figure 3  
Typical Junction Capacitance — Per Leg

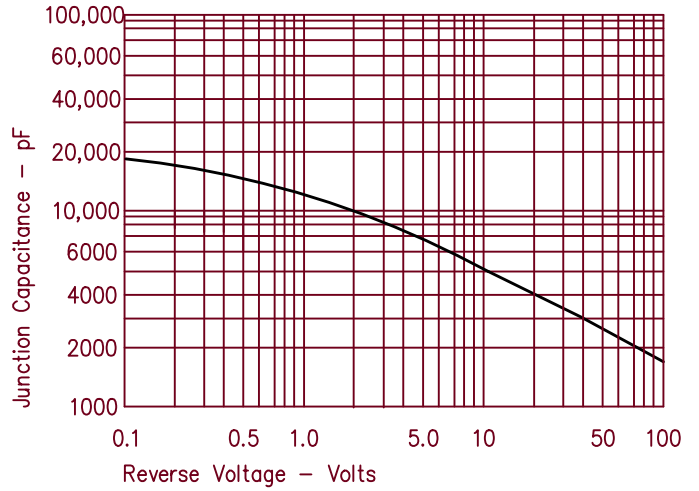


Figure 4  
Forward Current Derating — Per Leg

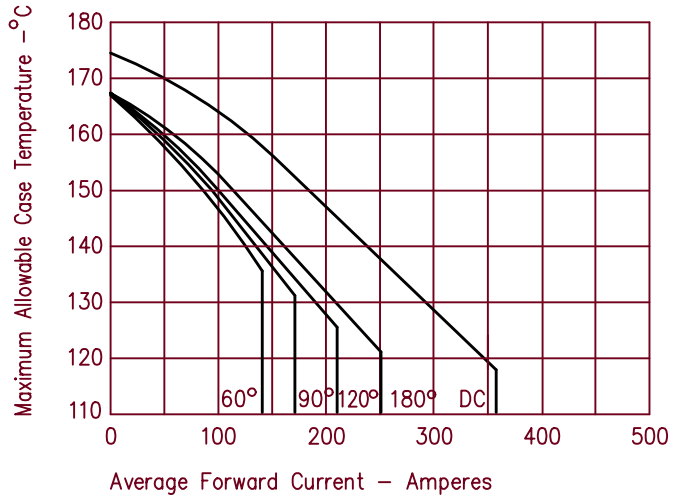


Figure 2  
Typical Reverse Characteristics — Per Leg

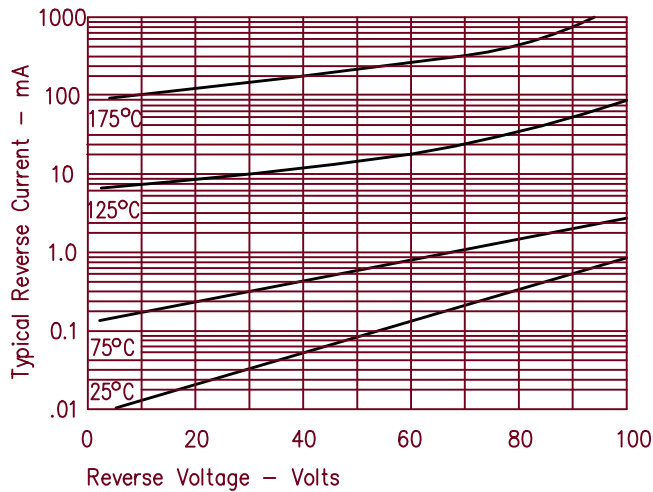


Figure 5  
Maximum Forward Power Dissipation — Per Leg

