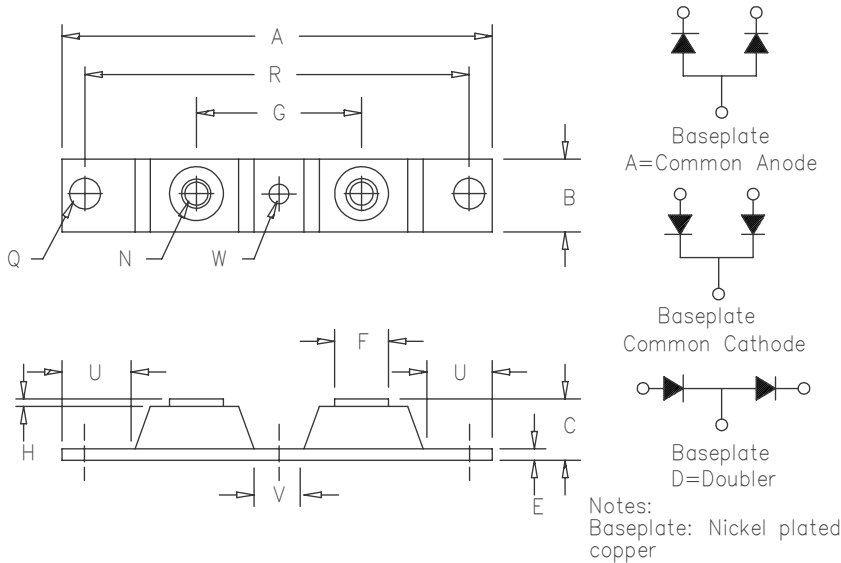


# Schottky PowerMod

## CPT400120—CPT400150



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
CPT400120*	409CNQ120	120V	120V
CPT400150*	409CNQ150	150V	150V

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

- Schottky Barrier Rectifier
- Guard Ring Protection
- 400 Amperes/120–150 Volts
- 175°C Junction Temperature
- Reverse Energy Tested
- ROHS Compliant

### Electrical Characteristics

Average forward current per pkg	I <sub>F(AV)</sub> 400 Amps	T <sub>C</sub> = 121°C, Square wave, R <sub>θJC</sub> = 0.16°C/W
Average forward current per leg	I <sub>F(AV)</sub> 200 Amps	T <sub>C</sub> = 121°C, Square wave, R <sub>θJC</sub> = 0.32°C/W
Maximum surge current per leg	I <sub>FSM</sub> 3000 Amps	8.3ms, half sine, T <sub>J</sub> = 175°C
Maximum repetitive reverse current per leg	I <sub>R(OV)</sub> 2 Amps	f = 1 KHZ, 25°C, 1μsec square wave
Max peak forward voltage per leg	V <sub>FM</sub> .89 Volts	I <sub>FM</sub> = 200A: T <sub>J</sub> = 25°C*
Max peak forward voltage per leg	V <sub>FM</sub> .69 Volts	I <sub>FM</sub> = 200A: T <sub>J</sub> = 175°C*
Max peak reverse current per leg	I <sub>RM</sub> 50 mA	V <sub>RRM, T<sub>J</sub></sub> = 125°C*
Max peak reverse current per leg	I <sub>RM</sub> 6.0 mA	V <sub>RRM, T<sub>J</sub></sub> = 25°C
Typical junction capacitance per leg	C <sub>J</sub> 3400 pF	V <sub>R</sub> = 5.0V, T <sub>C</sub> = 25°C

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

### Thermal and Mechanical Characteristics

Storage temp range	T <sub>STG</sub>	-55°C to 175°C
Operating junction temp range	T <sub>J</sub>	-55°C to 175°C
Max thermal resistance per leg	R <sub>θJC</sub>	0.32°C/W Junction to case
Max thermal resistance per pkg	R <sub>θJC</sub>	0.16°C/W Junction to case
Typical thermal resistance (greased)	R <sub>θCS</sub>	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 (77 grams) typical

# CPT400120-CPT400150

Figure 1  
Typical Forward Characteristics - Per Leg

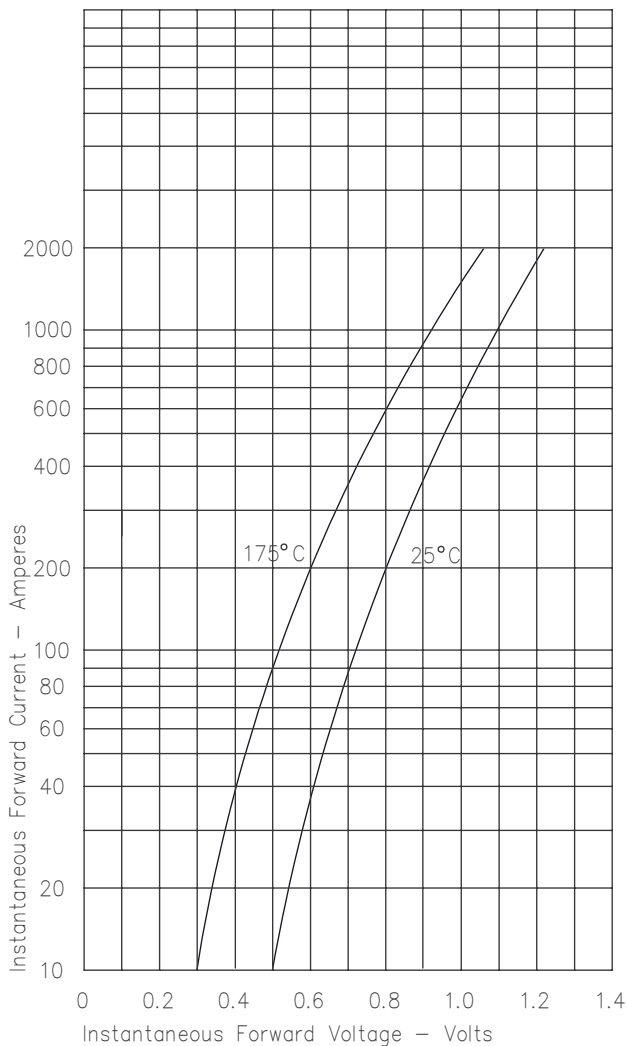


Figure 3  
Typical Junction Capacitance - Per Leg

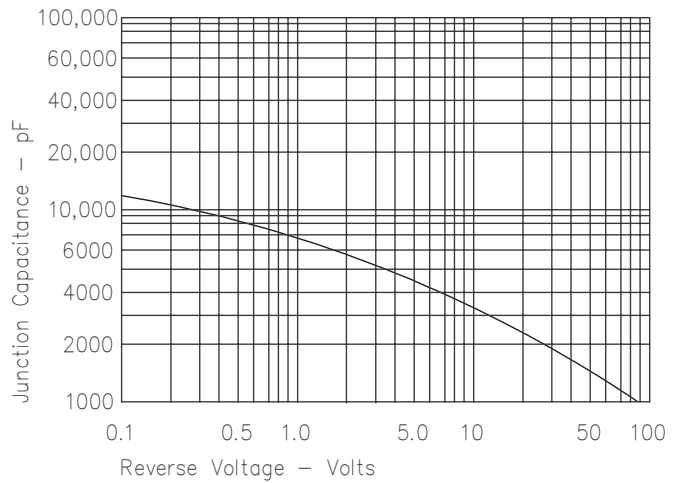


Figure 4  
Forward Current Derating - Per Leg

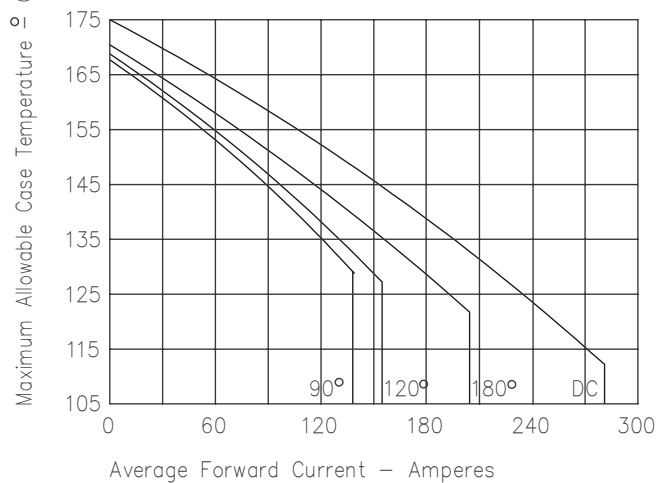


Figure 2  
Typical Reverse Characteristics - Per Leg

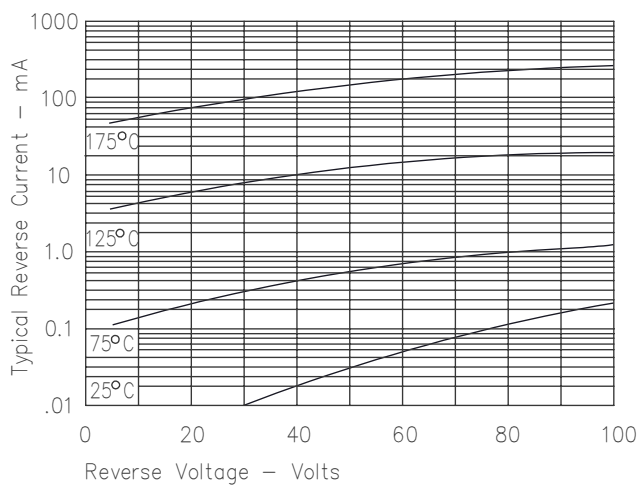
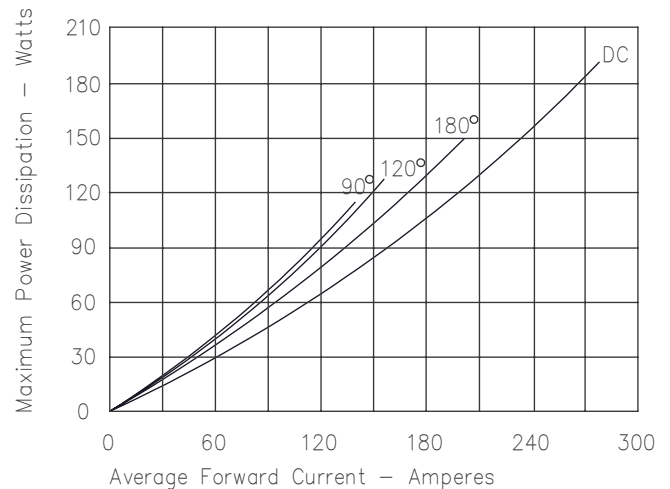


Figure 5  
Maximum Forward Power Dissipation - Per Leg



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