

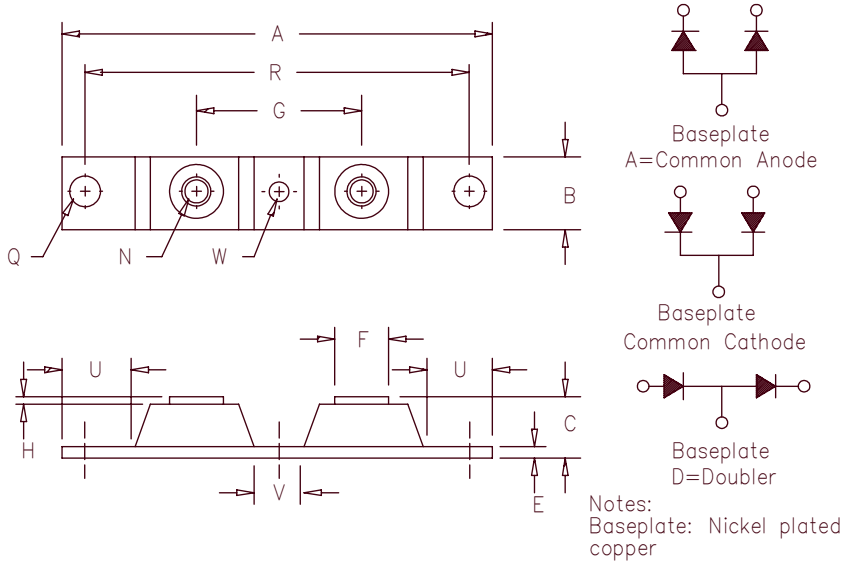


**THE DATASHEET OF  
CPT50235**



# Schottky PowerMod

## CPT50235 — CPT50245



Dim.	Inches		Millimeters		Notes
	Min.	Max.	Min.	Max.	
A	---	3.630	---	92.20	
B	0.700	0.800	17.78	20.32	
C	0.615	0.640	15.53	16.26	
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	0.007	0.030	0.18	0.76	
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
CPT50235*	440CNQ030 444CNQ035 MBR50035CT	35V	35V
CPT50240*	444CNQ040 MBR50040CT	40V	40V
CPT50245*	444CNQ045 MBR50045CT	45V	45V

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

- Schottky Barrier Rectifier
- Guard Ring Protection
- 500 Amperes/35 to 45 Volts
- 150°C Junction Temperature
- Reverse Energy Tested
- ROHS Compliant

### Electrical Characteristics

Average forward current per pkg	I <sub>F(AV)</sub> 500 Amps	T <sub>C</sub> = 79°C, square wave, R <sub>θJC</sub> = 0.12°C/W
Average forward current per leg	I <sub>F(AV)</sub> 250 Amps	T <sub>C</sub> = 79°C, square wave, R <sub>θJC</sub> = 0.24°C/W
Maximum surge current per leg	I <sub>FSM</sub> 5000 Amps	8.3ms, half sine, T <sub>J</sub> = 150°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> 0.55 Volts	I <sub>FM</sub> = 250A: T <sub>J</sub> = 25°C*
Max peak forward voltage per leg	V <sub>FM</sub> 0.49 Volts	I <sub>FM</sub> = 250A: T <sub>J</sub> = 150°C*
Max peak reverse current per leg	I <sub>RM</sub> 4.0 A	V <sub>R</sub> = 5.0V, T <sub>J</sub> = 125°C*
Max peak reverse current per leg	I <sub>RM</sub> 12.0 mA	V <sub>R</sub> = 5.0V, T <sub>J</sub> = 25°C*
Typical junction capacitance per leg	C <sub>J</sub> 10500 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 150°C
Operating junction temp range	T <sub>J</sub>	-55°C to 150°C
Max thermal resistance per leg	R <sub>θJC</sub>	0.24°C/W Junction to case
Max thermal resistance per pkg	R <sub>θJC</sub>	0.12°C/W Junction to case
Typical thermal resistance (greased)	R <sub>θCS</sub>	0.08°C/W Case to sink
Terminal Torque		35-40 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

# CPT50235 – CPT50245

Figure 1  
Typical Forward Characteristics – Per Leg

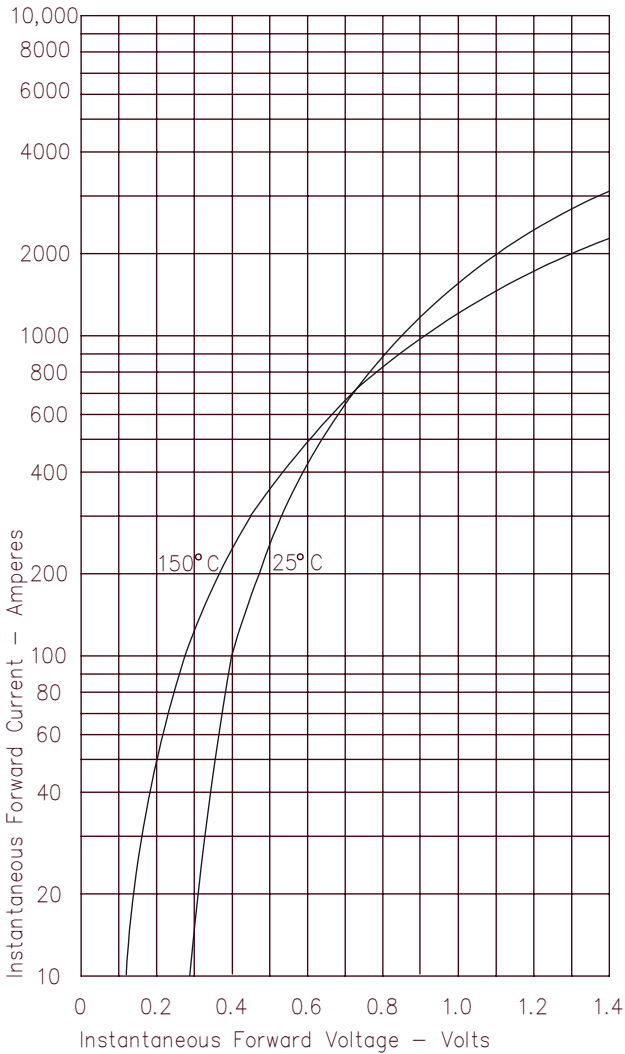


Figure 3  
Typical Junction Capacitance – Per Leg

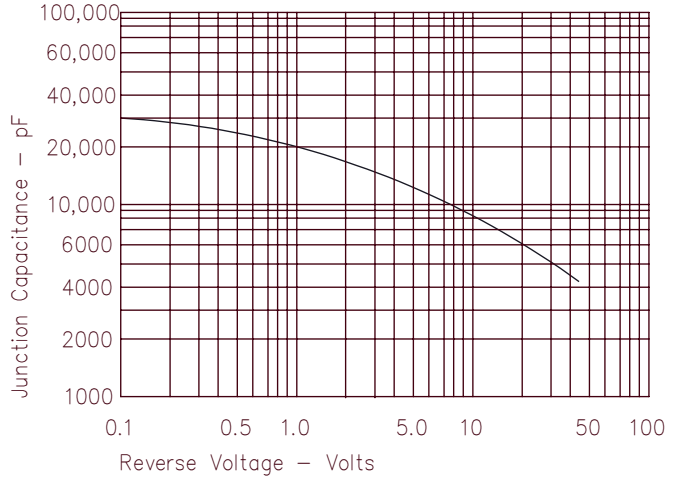


Figure 4  
Forward Current Derating – Per Leg

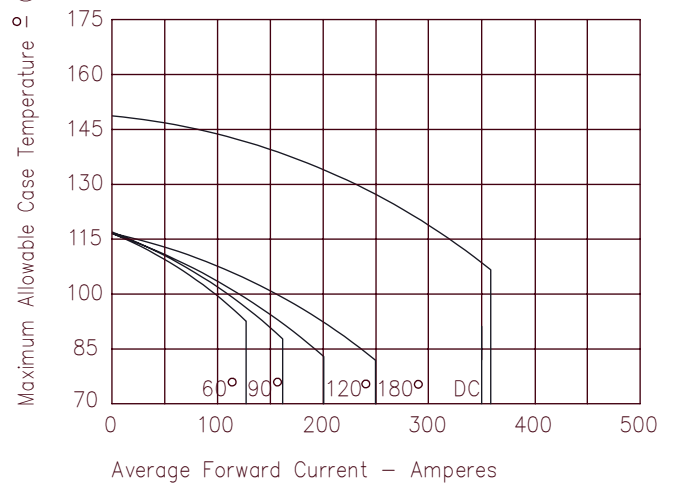


Figure 2  
Typical Reverse Characteristics – Per Leg

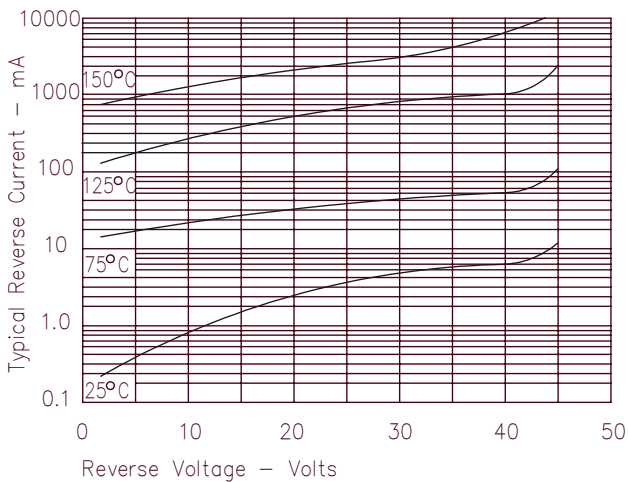
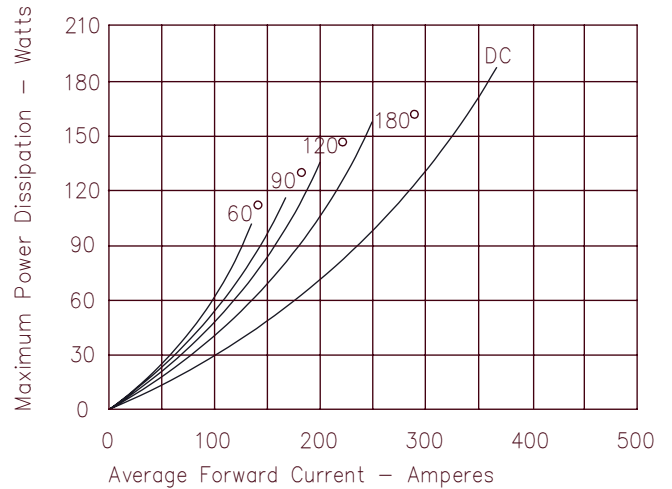


Figure 5  
Maximum Forward Power Dissipation – Per Leg



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