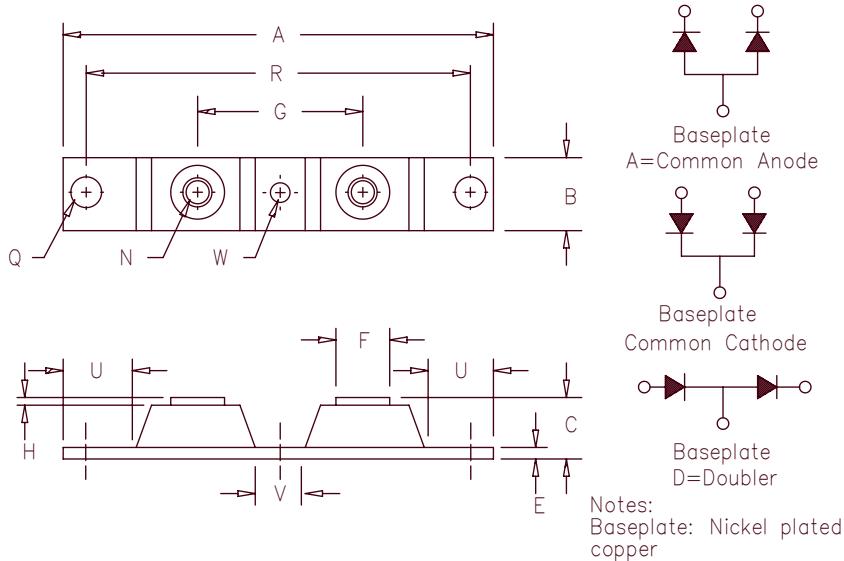


# Schottky PowerMod

## CPT50235 – CPT50245



Dim.		Inches	Millimeters		
Min.	Max.	Min.	Max.	Notes	
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 Reverse Voltage	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	IF(AV) 500 Amps
Average forward current per leg	IF(AV) 250 Amps
Maximum surge current per leg	IFSM 5000 Amps
Maximum repetitive reverse current per leg	IR(OV) 2 Amps
Max peak forward voltage per leg	VFM 0.55 Volts
Max peak forward voltage per leg	VFM 0.49 Volts
Max peak reverse current per leg	IRM 4.0 A
Max peak reverse current per leg	IRM 12.0 mA
Typical junction capacitance per leg	C <sub>J</sub> 10500 pF

T <sub>C</sub> = 79°C, square wave, R <sub>θJC</sub> = 0.12°C/W
T <sub>C</sub> = 79°C, square wave, R <sub>θJC</sub> = 0.24°C/W
8.3ms, half sine, T <sub>J</sub> = 150°C
f = 1 KHZ, 25°C, 1μsec square wave
IFM = 250A:T <sub>J</sub> = 25°C*
IFM = 250A:T <sub>J</sub> = 150°C*
V <sub>RRM</sub> , T <sub>J</sub> = 125°C*
V <sub>RRM</sub> , T <sub>J</sub> = 25°C*
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>TG</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		35–50 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

# CPT50235 – CPT50245

Figure 1  
Typical Forward Characteristics – Per Leg

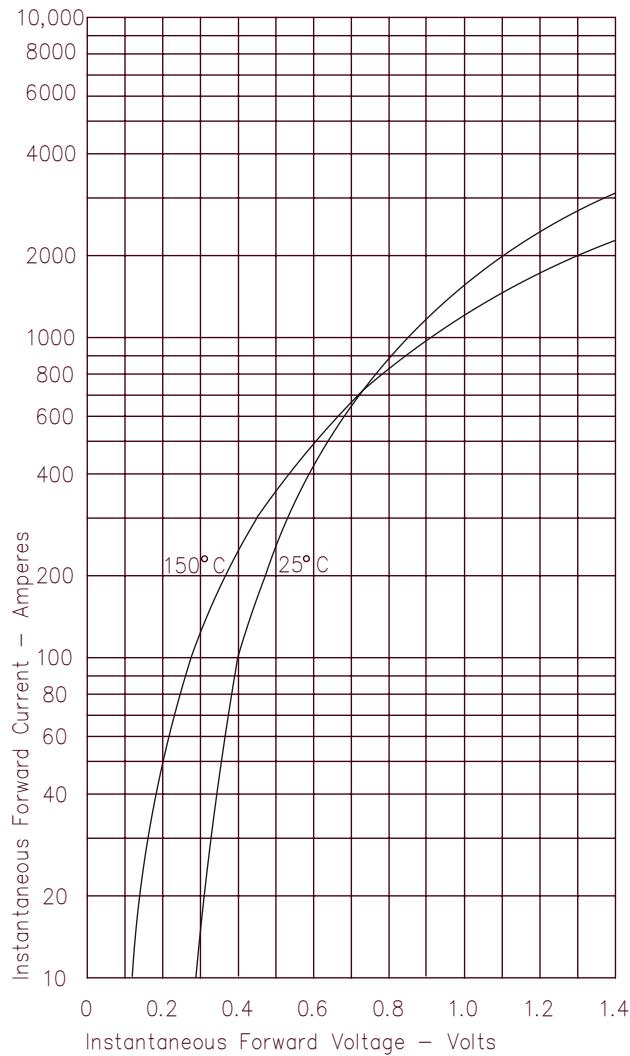


Figure 2  
Typical Reverse Characteristics – Per Leg

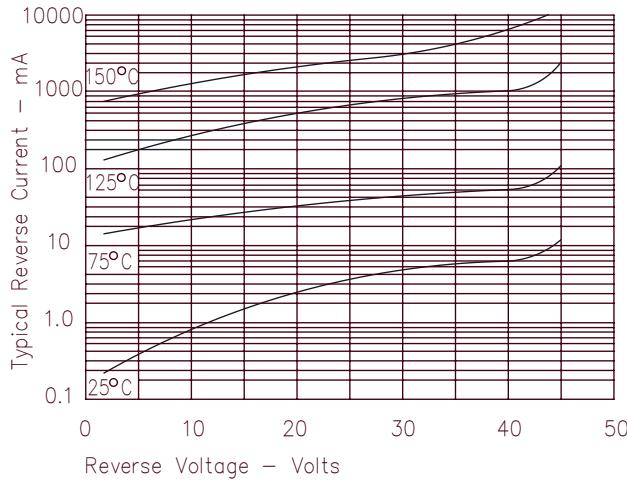


Figure 3  
Typical Junction Capacitance – Per Leg

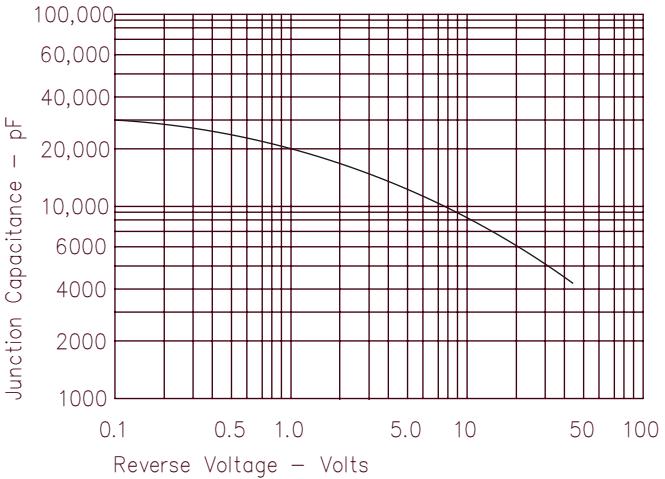


Figure 4  
Forward Current Derating – Per Leg

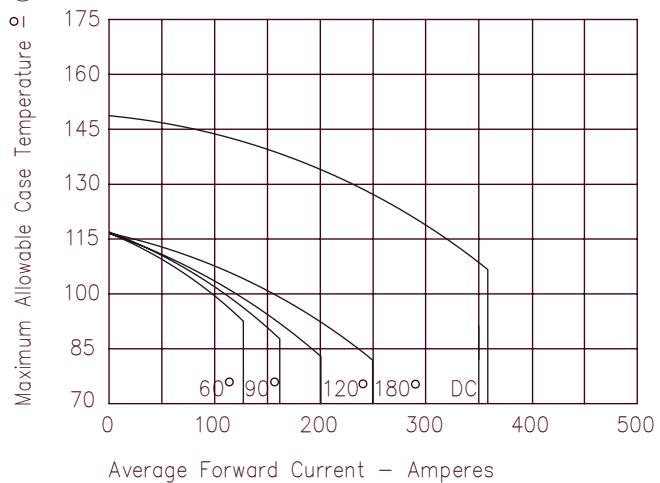
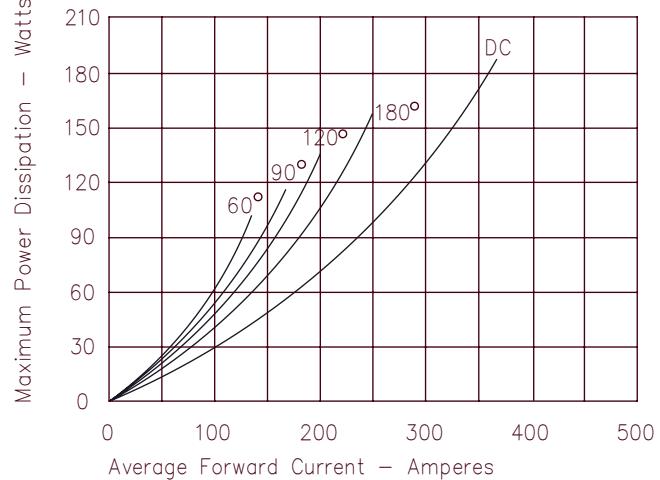


Figure 5  
Maximum Forward Power Dissipation – Per Leg



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