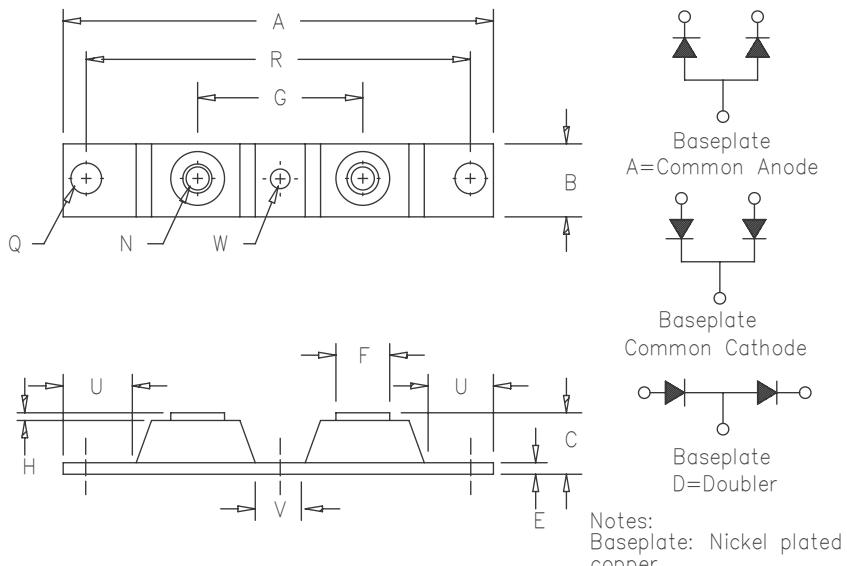


Schottky PowerMod

CPT12035 – CPT12050



Dim.		Inches	Millimeters		
Min.	Max.	Min.	Max.	Notes	
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 Reverse Voltage	Peak Reverse Voltage	Repetitive Peak Reverse Voltage
CPT12035*	MBR12035CT	35V	35V	
CPT12040*	MBR12040CT	40V	40V	
CPT12045*	MBR12045CT	45V	45V	
CPT12050*		50V	50V	

*Add Suffix A for Common Anode, D for Doubler

- Schottky Barrier Rectifier
- Guard Ring Protection
- 120 Amperes/35 to 50 Volts
- 175°C Junction Temperature
- Reverse Energy Tested
- ROHS Compliant

Electrical Characteristics

Average forward current per pkg	F(AV) 120 Amps	TC = 140°C ,Square wave, $R_{\theta JC} = 0.43^{\circ}\text{C}/\text{W}$
Average forward current per leg	F(AV) 60 Amps	TC = 140°C ,Square wave, $R_{\theta JC} = 0.85^{\circ}\text{C}/\text{W}$
Maximum surge current per leg	FSM 1000 Amps	8.3ms, half sine, $T_J = 175^{\circ}\text{C}$
Maximum repetitive reverse current per leg	IR(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 .63 Volts	FM = 120A: $T_J = 175^{\circ}\text{C}$
Max peak forward voltage per leg	V FM .80 Volts	FM = 120A: $T_J = 25^{\circ}\text{C}^*$
Max peak reverse current per leg	I RM 40 mA	VRM,TJ = 125°C*
Max peak reverse current per leg	I RM 3 mA	VRM,TJ = 25°C
Typical junction capacitance per leg	C J 2700 pF	VR = 5.0V,TJ = 25°C

*Pulse test: Pulse width 300 μ sec, Duty cycle 2%

Thermal and Mechanical Characteristics

Storage temp range	T STG	-55° C to 175° C
Operation junction temp range	T J	-55° C to 175° C
Max thermal resistance per leg	R θ JC	0.85° C/W Junction to case
Max thermal resistance per pkg	R θ JC	0.43° C/W Junction to case
Typical thermal resistance (greased)	R θ 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)		8–10 inch pounds
center bolt must be torqued first		
Weight		2.8 ounces (75 grams) typical

CPT12035 – CPT12050

Figure 1
Typical Forward Characteristics – Per Leg

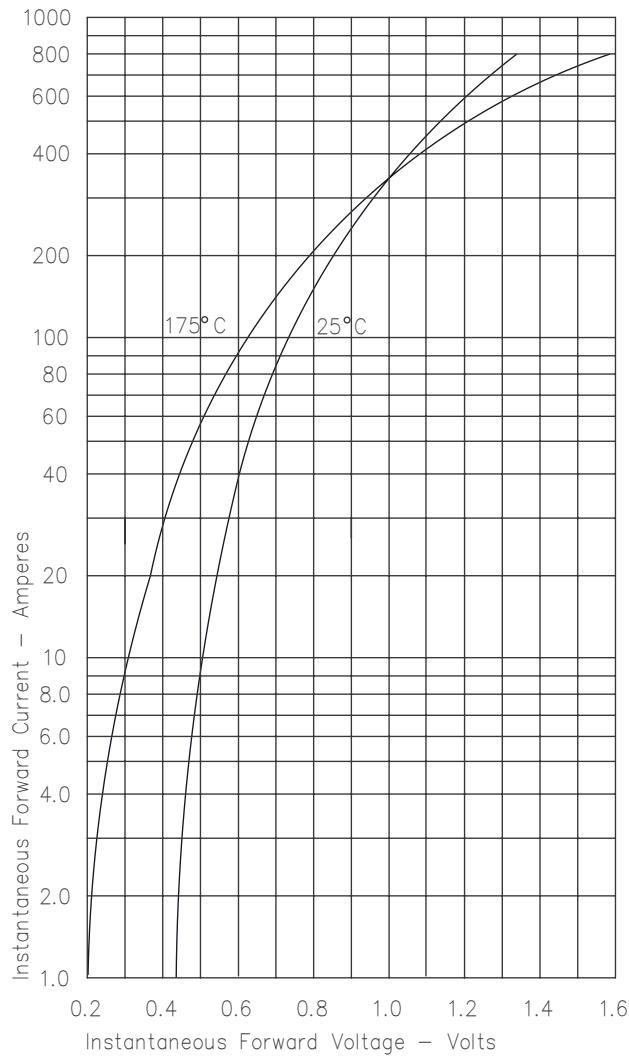


Figure 2
Typical Reverse Characteristics – Per Leg

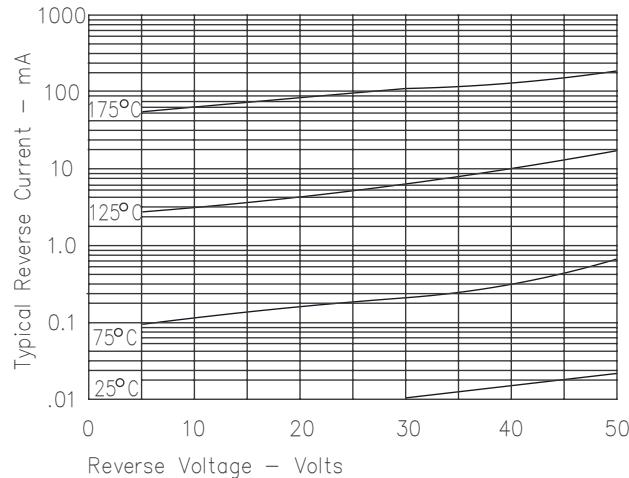


Figure 3
Typical Junction Capacitance – Per Leg

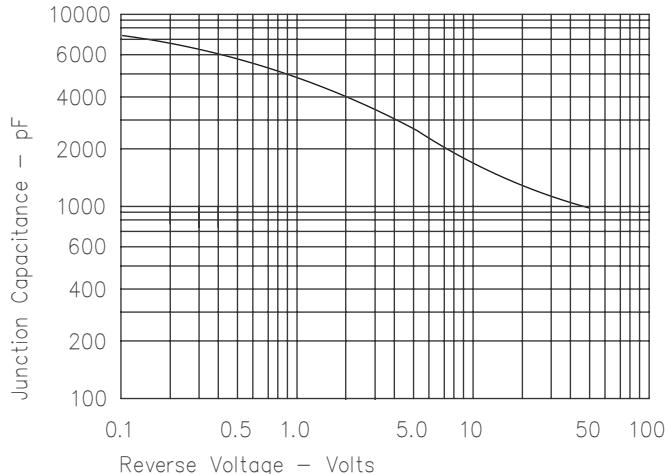


Figure 4
Forward Current Derating – Per Leg

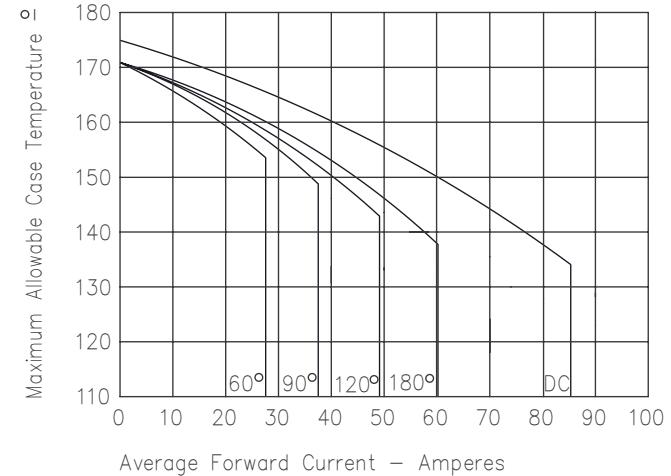
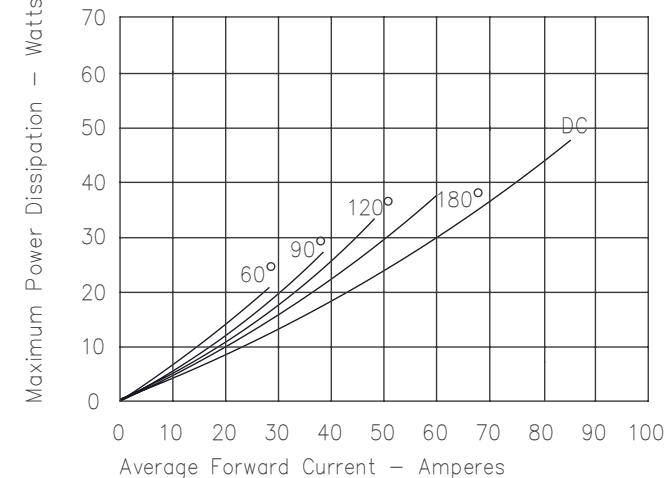


Figure 5
Maximum Forward Power Dissipation – Per Leg



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