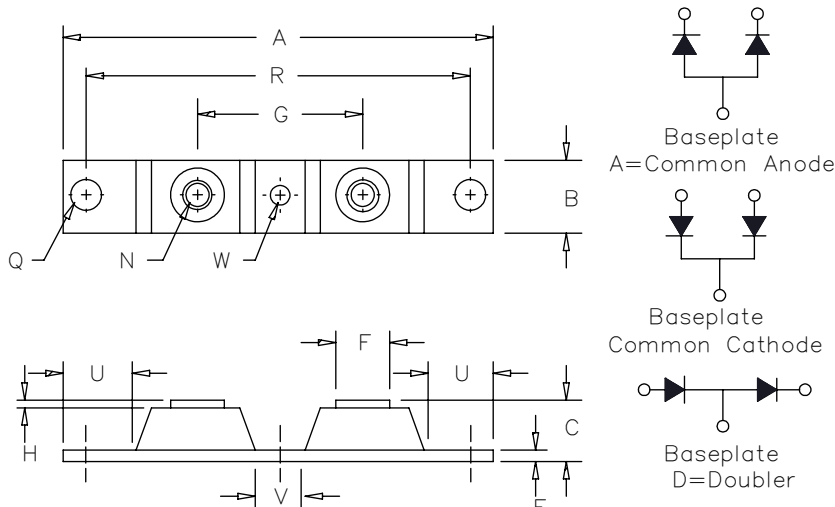


# Schottky PowerMod

## CPT30120 — CPT30145



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	---	7.92	---	
W	0.180	0.195	4.57	4.95	Dia.

Notes:  
Baseplate: Nickel plated copper; common cathode

Microsemi Catalog Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
CPT30120*	20V	20V
CPT30125*	25V	25V
CPT30130*	30V	30V
CPT30135*	35V	35V
CPT30140*	40V	40V
CPT30145*	45V	45V

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

- Schottky Barrier Rectifier
- Guard Ring Protection
- Common Cathode Center Tap
- 300 Amperes/45 Volts
- 125°C Junction Temperature
- Reverse Energy Tested
- $V_{RRM}$  20 – 45 Volts
- ROHS Compliant

### Electrical Characteristics

Average forward current per pkg	$I_{F(AV)}$ 300 Amps	$T_C = 71^\circ\text{C}$ , Square wave, $R_{\theta JC} = 0.20^\circ\text{C/W}$
Average forward current per leg	$I_{F(AV)}$ 150 Amps	$T_C = 71^\circ\text{C}$ , Square wave, $R_{\theta JC} = 0.40^\circ\text{C/W}$
Maximum surge current per leg	$I_{FSM}$ 2000 Amps	8.3ms, half sine, $T_J = 125^\circ\text{C}$
Maximum repetitive reverse current per leg	$I_{R(OV)}$ 2 Amps	$f = 1 \text{ KHZ}$ , $25^\circ\text{C}$
Max peak forward voltage per leg	$V_{FM}$ 0.62 Volts	$I_{FM} = 200\text{A}; T_J = 25^\circ\text{C}^*$
Max peak forward voltage per leg	$V_{FM}$ 0.58 Volts	$I_{FM} = 200\text{A}; T_J = 125^\circ\text{C}^*$
Max peak reverse current per leg	$I_{RM}$ 2 Amps	$V_{RRM}, T_J = 125^\circ\text{C}^*$
Max peak reverse current per leg	$I_{RM}$ 4.0 mA	$V_{RRM}, T_J = 25^\circ\text{C}$
Typical junction capacitance	$C_J$ 5500 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	$T_{STG}$	-40°C to 150°C
Operating junction temp range	$T_J$	-40°C to 125°C
Max thermal resistance per leg	$R_{\theta JC}$	0.40°C/W Junction to case
Typical thermal resistance	$R_{\theta CS}$	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 (75 grams) typical

# CPT30120 — CPT30145

Figure 1  
Typical Forward Characteristics — Per Leg

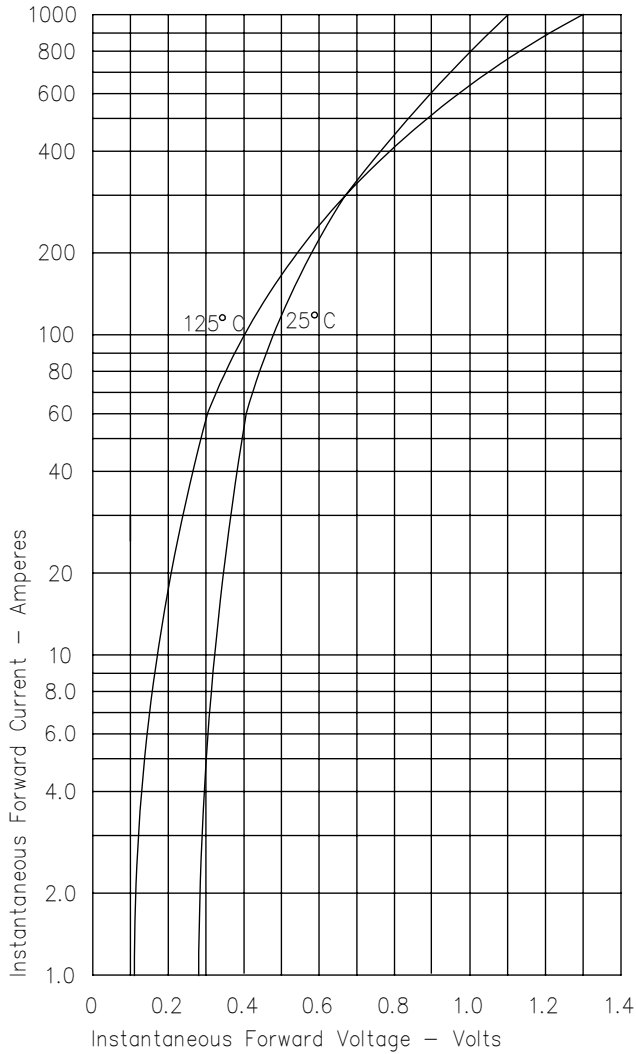


Figure 3  
Typical Junction Capacitance — Per Leg

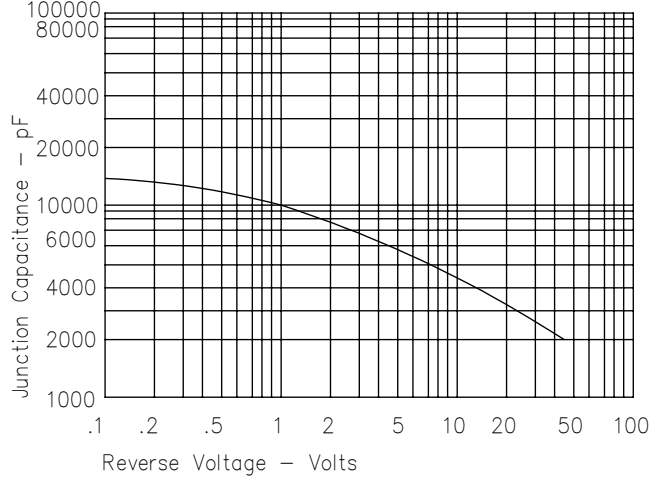


Figure 4  
Forward Current Derating — Per Leg

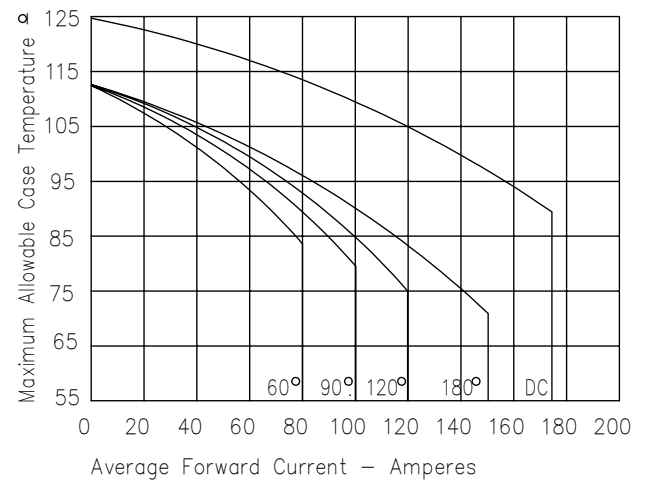


Figure 2  
Typical Reverse Characteristics — Per Leg

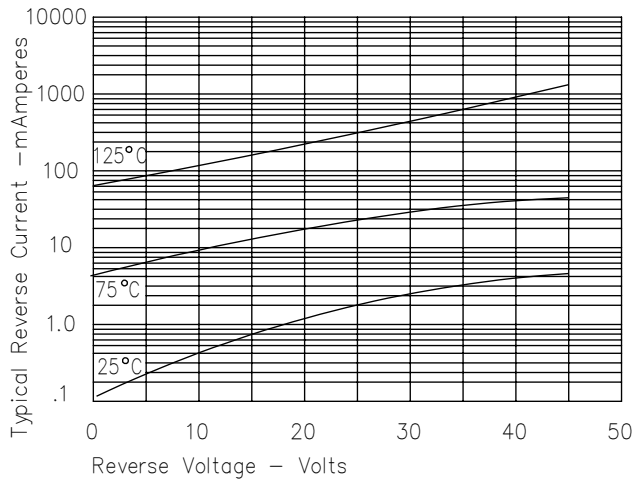
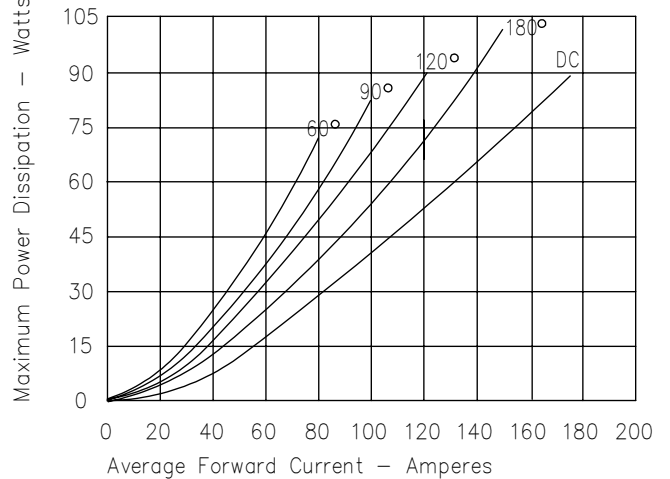


Figure 5  
Maximum Forward Power Dissipation — Per Leg



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