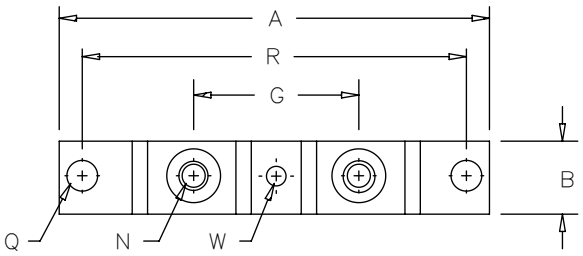
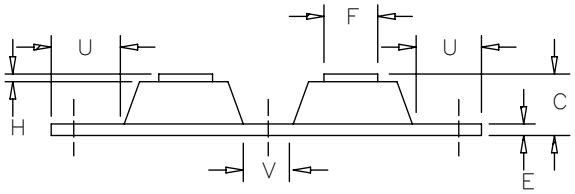
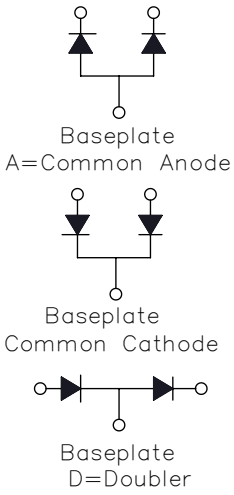
Schottky PowerMod

CPT30120 – CPT30145







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	---	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°C, Square wave, $R_{\theta JC}$ = 0.20°C/W
Average forward current per leg	$I_{F(AV)}$	150 Amps	T_C = 71°C, Square wave, $R_{\theta JC}$ = 0.40°C/W
Maximum surge current per leg	I_{FSM}	2000 Amps	8.3ms, half sine, T_J = 125°C
Maximum repetitive reverse current per leg	$I_{R(OV)}$	2 Amps	f = 1 KHZ, 25°C
Max peak forward voltage per leg	V_{FM}	0.62 Volts	I_{FM} = 200A; T_J = 25°C*
Max peak forward voltage per leg	V_{FM}	0.58 Volts	I_{FM} = 200A; T_J = 125°C*
Max peak reverse current per leg	I_{RM}	2 Amps	V_{RRM}, T_J = 125°C*
Max peak reverse current per leg	I_{RM}	4.0 mA	V_{RRM}, T_J = 25°C
Typical junction capacitance	C_J	5500 pF	V_R = 5.0V, T_C = 25°C

*Pulse test: Pulse width 300μsec, 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		35–50 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 (75 grams) typical

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Figure 1
Typical Forward Characteristics – Per Leg

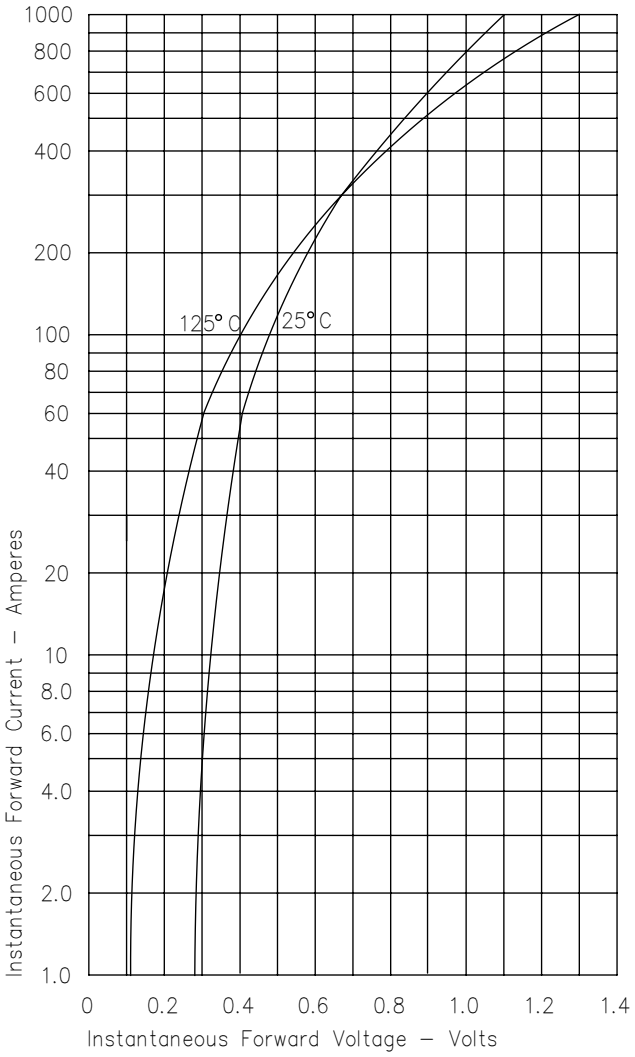


Figure 2
Typical Reverse Characteristics – Per Leg

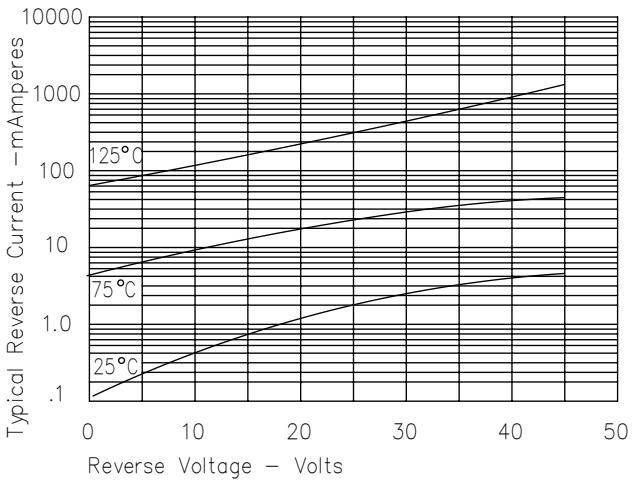


Figure 3
Typical Junction Capacitance – Per Leg

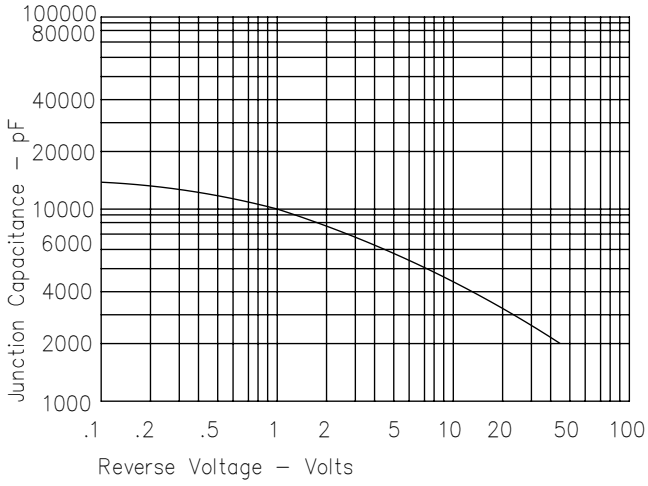


Figure 4
Forward Current Derating – Per Leg

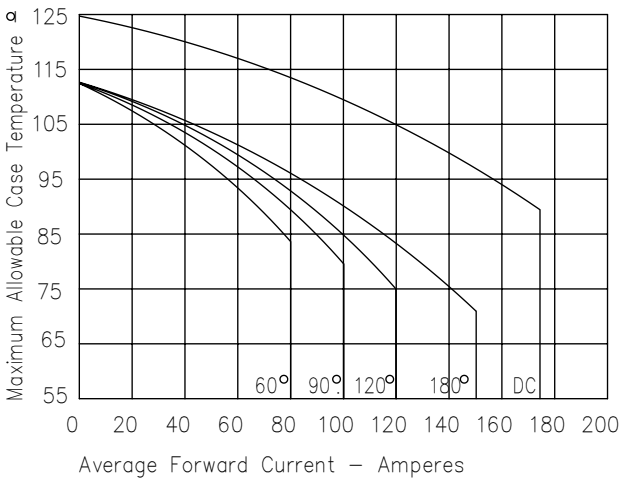
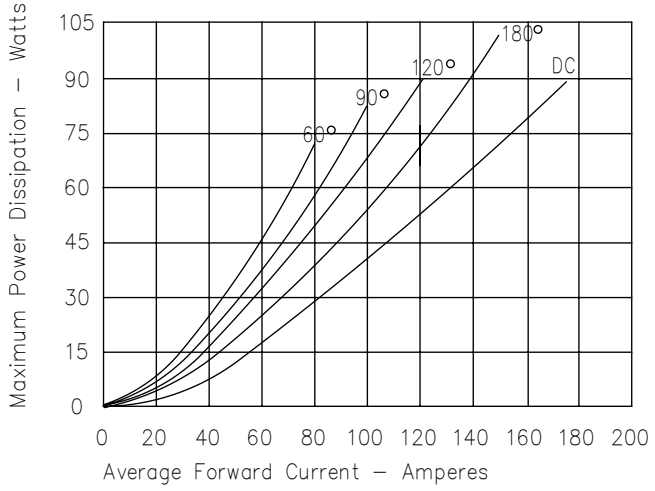


Figure 5
Maximum Forward Power Dissipation – Per Leg



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