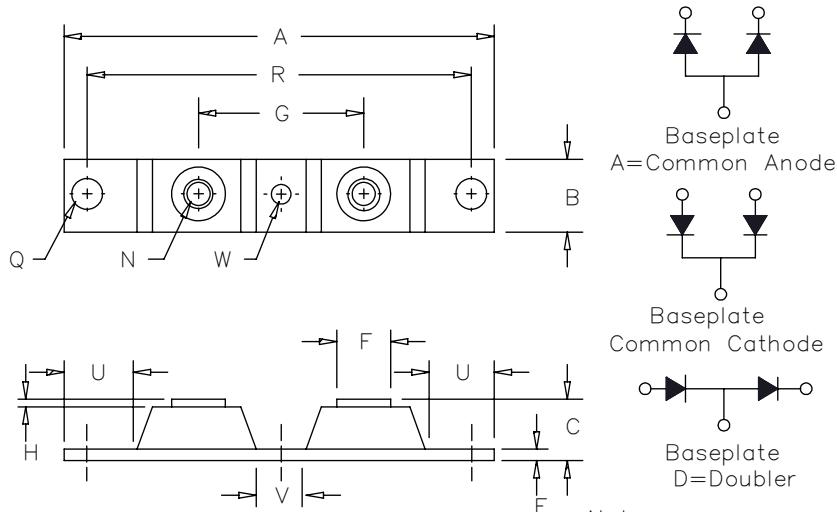


Schottky PowerMod

CPT30120 — CPT30145



Notes:
Baseplate: Nickel plated copper; common cathode

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	—	—	—	—
Q	0.275	0.290	6.99	7.37
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.

Microsemi Catalog Number	Working Peak Reverse Voltage
CPT30120*	20V
CPT30125*	25V
CPT30130*	30V
CPT30135*	35V
CPT30140*	40V
CPT30145*	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
Average forward current per leg	$I_F(AV)$ 150 Amps
Maximum surge current per leg	I_FSM 2000 Amps
Maximum repetitive reverse current per leg	$I_R(OV)$ 2 Amps
Max peak forward voltage per leg	V_{FM} 0.62 Volts
Max peak forward voltage per leg	V_{FM} 0.58 Volts
Max peak reverse current per leg	I_{RM} 2 Amps
Max peak reverse current per leg	I_{RM} 4.0 mA
Typical junction capacitance	C_J 5500 pF

$$\begin{aligned}T_C &= 71^\circ\text{C}, \text{ Square wave, } R_{\theta JC} = 0.20^\circ\text{C/W} \\T_C &= 71^\circ\text{C}, \text{ Square wave, } R_{\theta JC} = 0.40^\circ\text{C/W} \\8.3\text{ms, half sine, } T_J &= 125^\circ\text{C} \\f = 1 \text{ KHZ, } 25^\circ\text{C} & \\I_{FM} = 200A: T_J &= 25^\circ\text{C*} \\I_{FM} = 200A: T_J &= 125^\circ\text{C*} \\V_{RRM}, T_J &= 125^\circ\text{C*} \\V_{RRM}, T_J &= 25^\circ\text{C} \\V_R = 5.0V, T_C &= 25^\circ\text{C}\end{aligned}$$

*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

CPT30120 – CPT30145

Figure 1
Typical Forward Characteristics – Per Leg

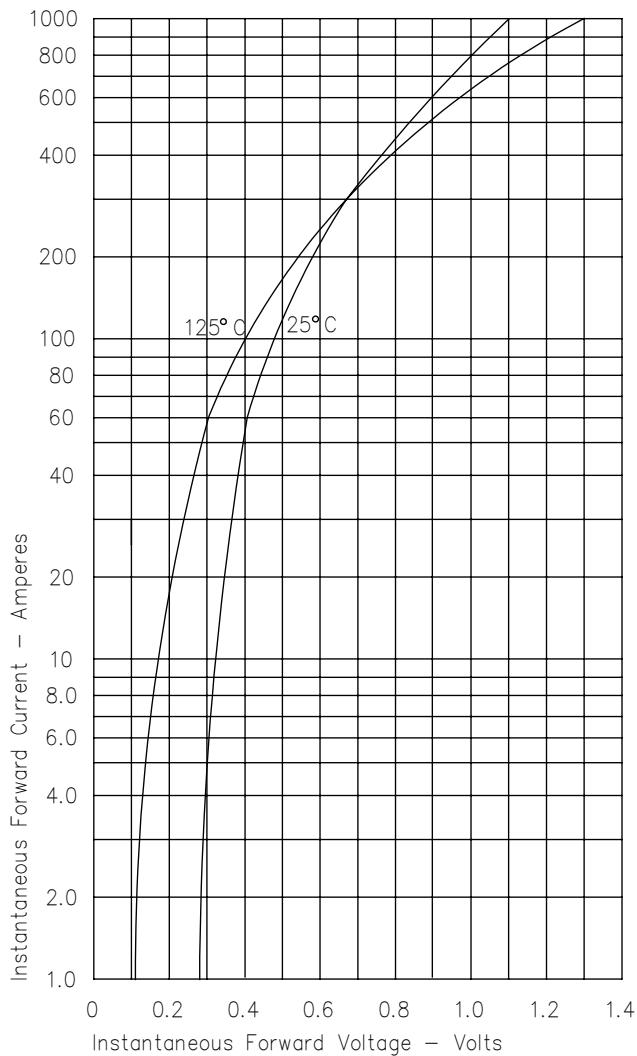


Figure 2
Typical Reverse Characteristics – Per Leg

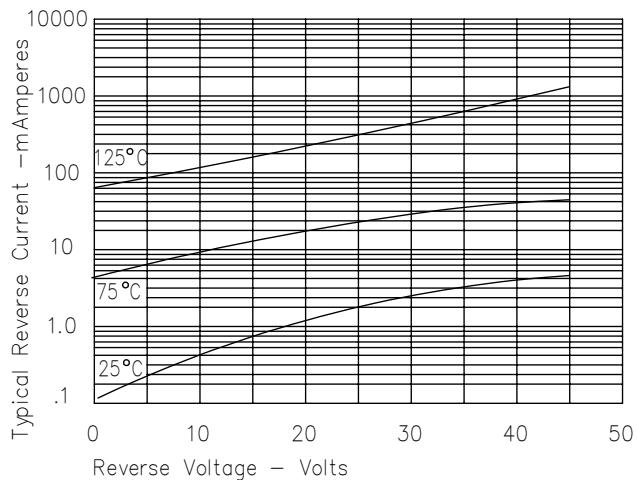


Figure 3
Typical Junction Capacitance – Per Leg

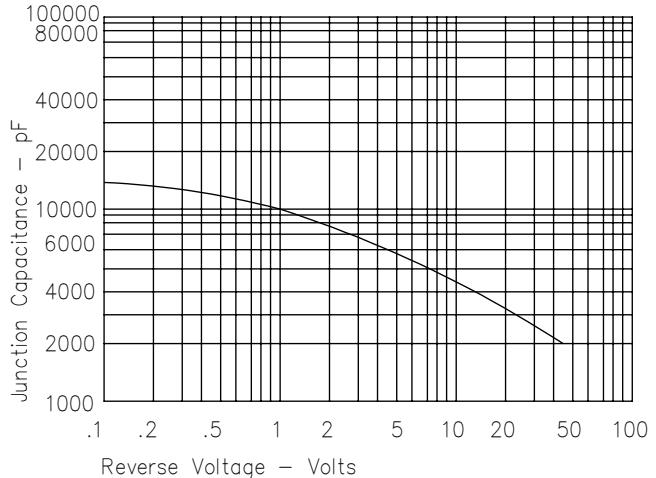


Figure 4
Forward Current Derating – Per Leg

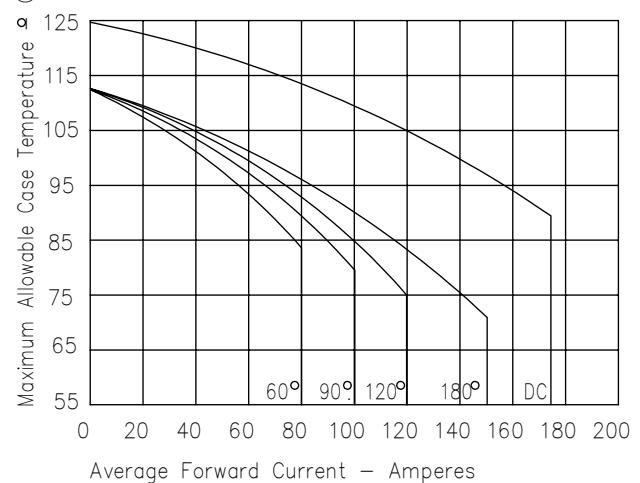


Figure 5
Maximum Forward Power Dissipation – Per Leg

