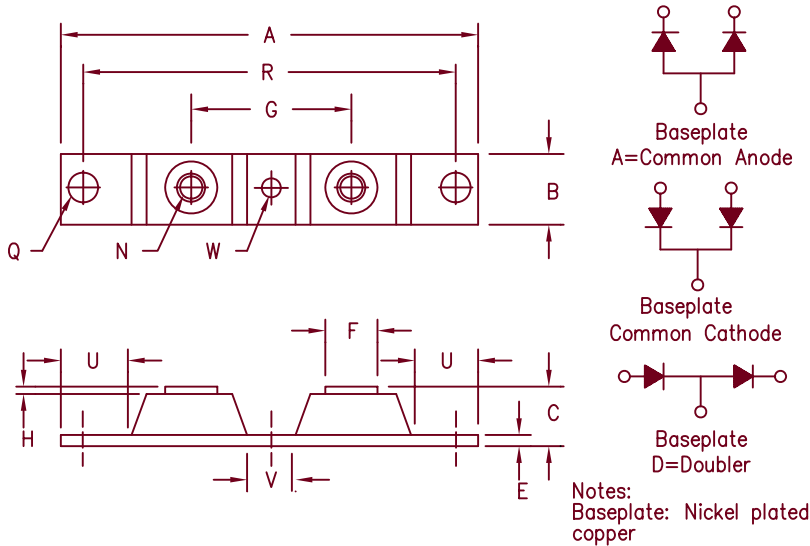


# Schottky PowerMod

## CPT50130 — CPT50145



Dim.	Inches		Millimeters		Notes
	Min.	Max.	Min.	Max.	
A	---	3.630	---	92.20	
B	0.700	0.800	17.78	20.32	
C	---	0.680	---	17.28	
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	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
CPT50130*	30V	30V
CPT50135*	35V	35V
CPT50140*	40V	40V
CPT50145*	45V	45V

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

- Schottky Barrier Rectifier
- Guard Ring Protection
- 500 Amperes/30 to 45 Volts
- 150°C Junction Temperature
- Reverse Energy Tested

Electrical Characteristics		
Average forward current per pkg	$I_F(AV)$ 500 Amps	$T_C = 79^\circ C$ , square wave, $R_{\theta JC} = 0.12^\circ C/W$
Average forward current per leg	$I_F(AV)$ 250 Amps	$T_C = 79^\circ C$ , square wave, $R_{\theta JC} = 0.24^\circ C/W$
Maximum surge current per leg	$I_{FSM}$ 5000 Amps	8.3ms, half sine, $T_J = 150^\circ C$
Maximum repetitive reverse current per leg	$I_R(OV)$ 2 Amps	$f = 1$ KHZ, $25^\circ C$ , 1 usec square wave
Max peak forward voltage per leg	$V_{FM}$ 0.55 Volts	$I_{FM} = 250A: T_J = 25^\circ C^*$
Max peak forward voltage per leg	$V_{FM}$ 0.49 Volts	$I_{FM} = 250A: T_J = 150^\circ C^*$
Max peak reverse current per leg	$I_{RM}$ 4.0 A	$V_{RRM}, T_J = 125^\circ C^*$
Max peak reverse current per leg	$I_{RM}$ 12.0 mA	$V_{RRM}, T_J = 25^\circ C^*$
Typical junction capacitance per leg	$C_J$ 10500 pF	$V_R = 5.0V, T_C = 25^\circ C$

\*Pulse test: Pulse width 300 usec, Duty cycle 2%

Thermal and Mechanical Characteristics		
Storage temp range	$T_{STG}$	$-55^\circ C$ to $150^\circ C$
Operating junction temp range	$T_J$	$-55^\circ C$ to $150^\circ C$
Max thermal resistance per leg	$R_{\theta JC}$	$0.24^\circ C/W$ Junction to case
Max thermal resistance per pkg	$R_{\theta JC}$	$0.12^\circ C/W$ Junction to case
Typical thermal resistance (greased)	$R_{\theta CS}$	$0.08^\circ C/W$ 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 (78 grams) typical



SCOTTSDALE

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05-10-07 Rev. 3

# CPT50130 — CPT50145

Figure 1  
Typical Forward Characteristics – Per Leg

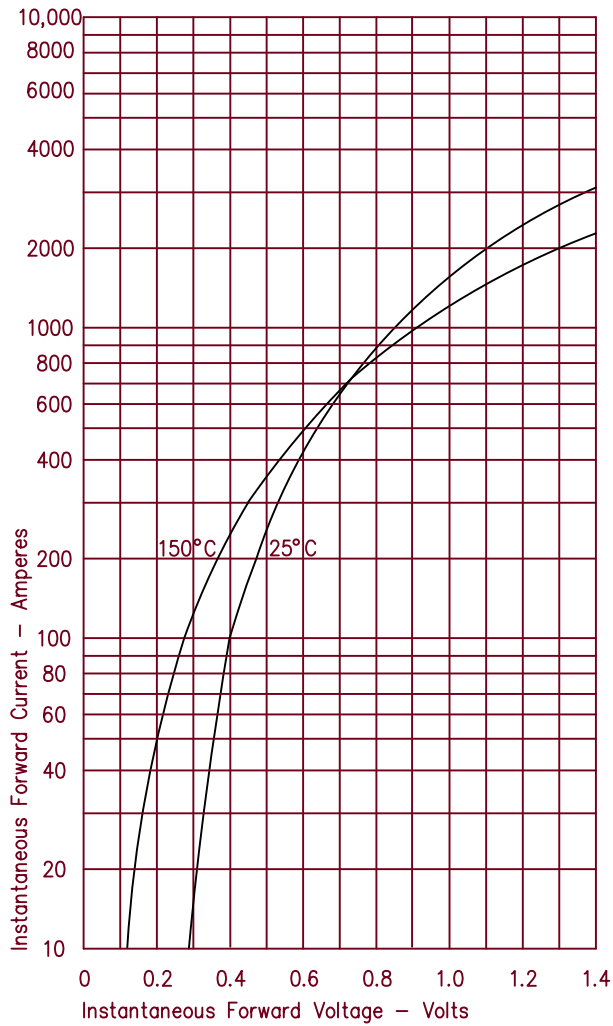


Figure 3  
Typical Junction Capacitance – Per Leg

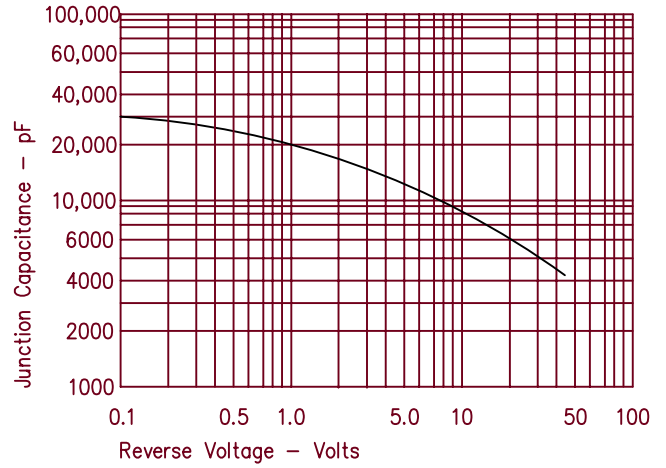


Figure 4  
Forward Current Derating – Per Leg

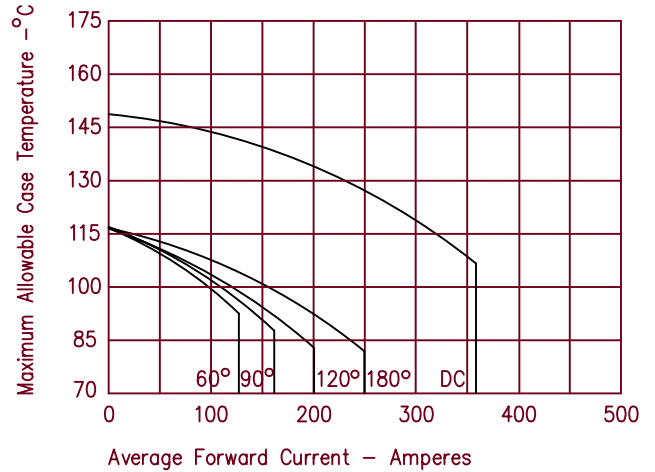


Figure 2  
Typical Reverse Characteristics – Per Leg

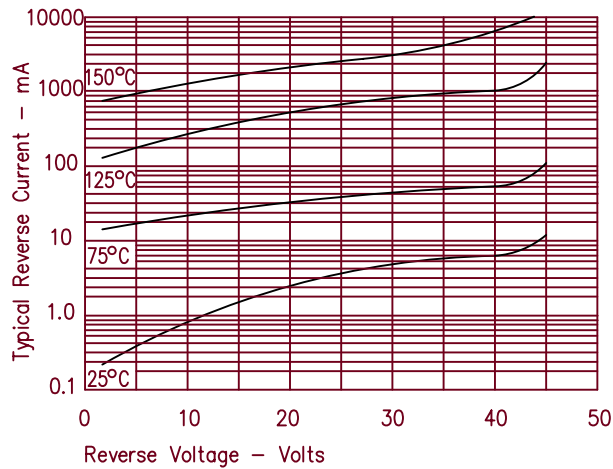


Figure 5  
Maximum Forward Power Dissipation – Per Leg

