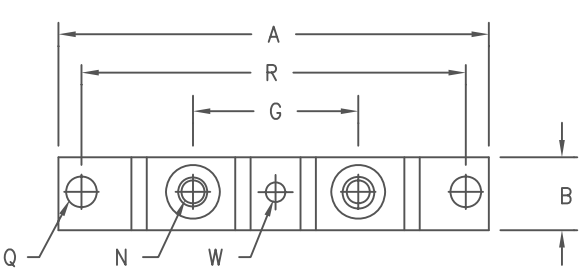
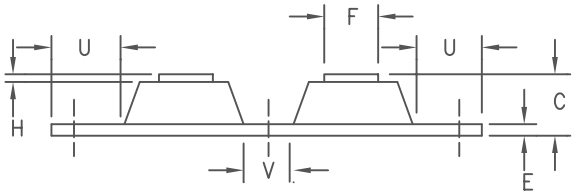
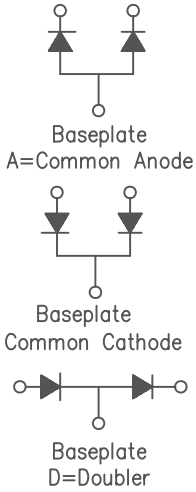
Schottky PowerMod

CPT400150







Notes:
Baseplate: Nickel plated copper

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 Peak Reverse Voltage	Repetitive Peak Reverse Voltage
CPT400150*		150V	150V

*Add Suffix A for Common Anode, D for Doubler

- Schottky Barrier Rectifier
- Guard Ring Protection
- 400 Amperes/150 Volts
- 175°C Junction Temperature
- Reverse Energy Tested

Electrical Characteristics

Average forward current per pkg	$I_{F(AV)}$ 400 Amps	T_C = 120° C, Square wave, $R_{\theta JC}$ = 0.16° C/W
Average forward current per leg	$I_{F(AV)}$ 200 Amps	T_C = 120° C, Square wave, $R_{\theta JC}$ = 0.32° C/W
Maximum surge current per leg	I_{FSM} 3000 Amps	8.3ms, half sine, T_J = 175°C
Maximum repetitive reverse current per leg	$I_{R(OV)}$ 2 Amps	f = 1 KHZ, 25°C, 1 usec square wave
Max peak forward voltage per leg	V_{FM} .89 Volts	I_{FM} = 200A; T_J = 25°C*
Typ. peak forward voltage per leg	V_{FM} .60 Volts	I_{FM} = 200A; T_J = 175°C*
Typ. peak reverse current per leg	I_{RM} 25 mA	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 per leg	C_J 3600 pF	V_R = 5.0V, T_C = 25°C

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

Thermal and Mechanical Characteristics

Storage temp range	T_{STG}	−55°C to 175°C
Operating junction temp range	T_J	−55°C to 175°C
Max thermal resistance per leg	$R_{\theta JC}$	0.32°C/W Junction to case
Max thermal resistance per pkg	$R_{\theta JC}$	0.16°C/W Junction to case
Typical thermal resistance (greased)	$R_{\theta CS}$	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 (77 grams) typical

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05-10-07 Rev. 1

CPT400150

Figure 1
Typical Forward Characteristics – Per Leg

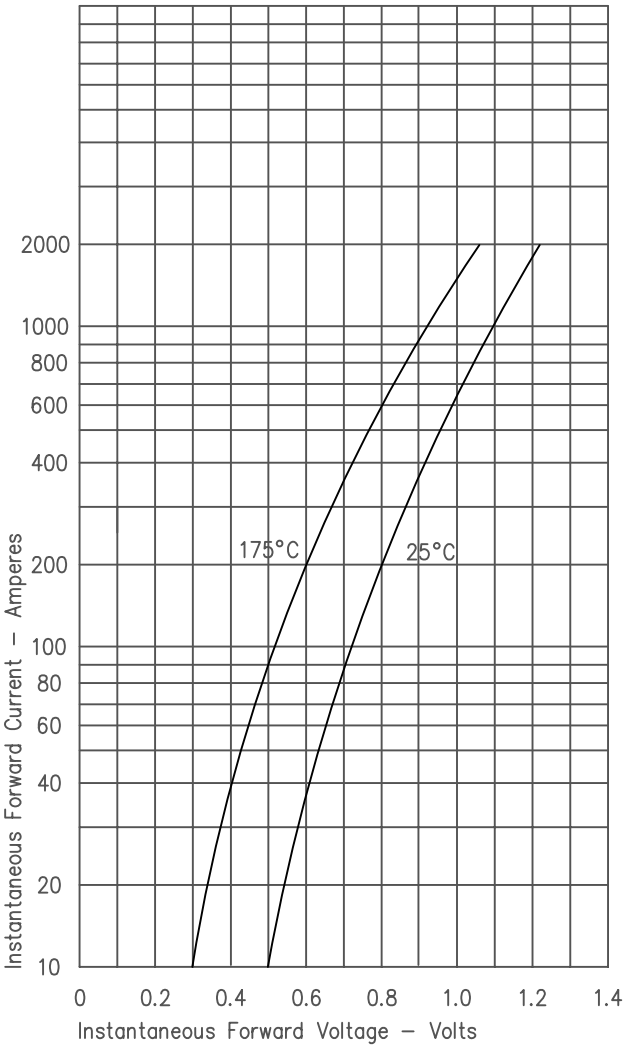

Figure 2
Typical Reverse Characteristics – Per Leg

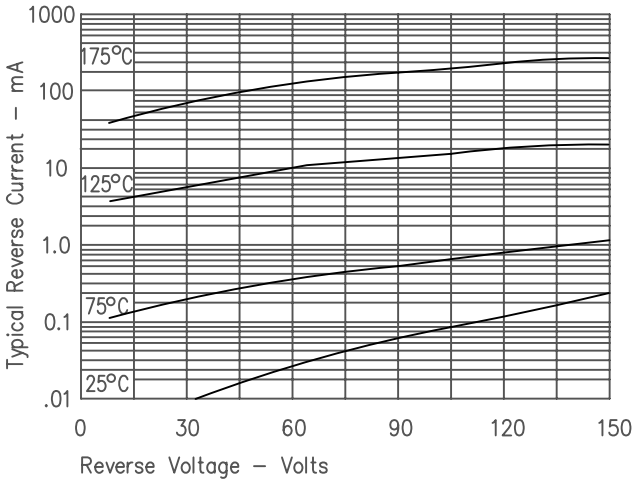

Figure 3
Typical Junction Capacitance – Per Leg

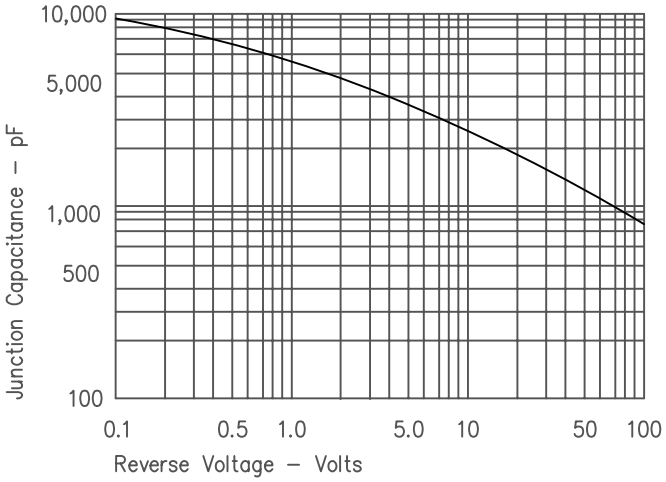

Figure 4
Forward Current Derating – Per Leg

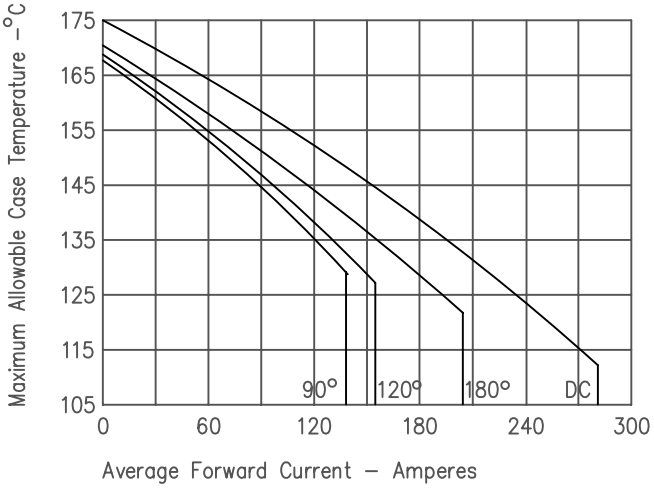

Figure 5
Maximum Forward Power Dissipation – Per Leg