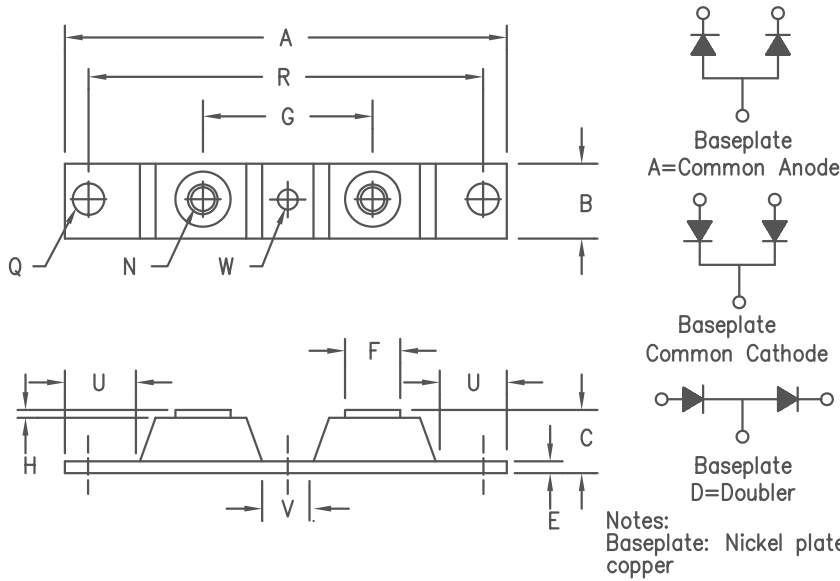


# Schottky PowerMod

## CPT600120 — CPT600150



| Dim. | Inches |       | Millimeters |       | Notes  |
|------|--------|-------|-------------|-------|--------|
|      | Min.   | Max.  | Min.        | Max.  |        |
| A    | ---    | 3.630 | ---         | 92.20 |        |
| B    | 0.700  | 0.800 | 17.78       | 20.32 |        |
| C    | ---    | .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    | 0.050  | ---   | 1.25        | ---   |        |
| 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 |
|--------------------------|----------------------|------------------------------|---------------------------------|
| CPT600120*               |                      | 120V                         | 120V                            |
| CPT600150*               |                      | 150V                         | 150V                            |

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

- Schottky Barrier Rectifier
- Guard ring protection
- 600 Amperes/ 120 to 150 Volts
- 175°C junction temperature
- Reverse energy tested

| Electrical Characteristics                 |                             |  |
|--|-----------------------------|--|
| Average forward current per pkg            | I <sub>F(AV)</sub> 600 Amps | T <sub>C</sub> = 132°C, Square wave, R <sub>θJC</sub> = 0.10°C/W |
| Average forward current per leg            | I <sub>F(AV)</sub> 300 Amps | T <sub>C</sub> = 132°C, Square wave, R <sub>θJC</sub> = 0.20°C/W |
| Maximum surge current per leg              | I <sub>FSM</sub> 6000 Amps  | 8.3ms, half sine, T <sub>J</sub> = 175°C                         |
| Maximum repetitive reverse current per leg | I <sub>R(OV)</sub> 2 Amps   | f = 1 KHZ, 25°C, 1 μsec square wave                              |
| Max peak forward voltage per leg           | V <sub>FM</sub> 0.85 Volts  | I <sub>FM</sub> = 300A: T <sub>J</sub> = 25°C                    |
| Max peak forward voltage per leg           | V <sub>FM</sub> 0.62 Volts  | I <sub>FM</sub> = 300A: T <sub>J</sub> = 175°C                   |
| Max peak reverse current per leg           | I <sub>RM</sub> 75 mA       | V <sub>RRM</sub> , T <sub>J</sub> = 125°C*                       |
| Max peak reverse current per leg           | I <sub>RM</sub> 7.0 mA      | V <sub>RRM</sub> , T <sub>J</sub> = 25°C                         |
| Typical junction capacitance per leg       | C <sub>J</sub> 7000 pF      | V <sub>R</sub> = 5.0V, T <sub>C</sub> = 25°C                     |

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

| Thermal and Mechanical Characteristics                                  |                  |                               |
|---|------------------|-------------------------------|
| Storage temp range  | T <sub>STG</sub> | -55°C to 175°C                |
| Operating junction temp range   | T <sub>J</sub>   | -55°C to 175°C                |
| Max thermal resistance per leg  | R <sub>θJC</sub> | 0.20°C/W Junction to case     |
| Max thermal resistance per pkg  | R <sub>θJC</sub> | 0.10°C/W Junction to case     |
| Typical thermal resistance (greased)                                    | R <sub>θCS</sub> | 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)<br>center hole must be torqued first |                  | 8-10 inch pounds              |
| Weight  |                  | 2.8 ounces (78 grams) typical |

Figure 1  
Typical Forward Characteristics – Per Leg

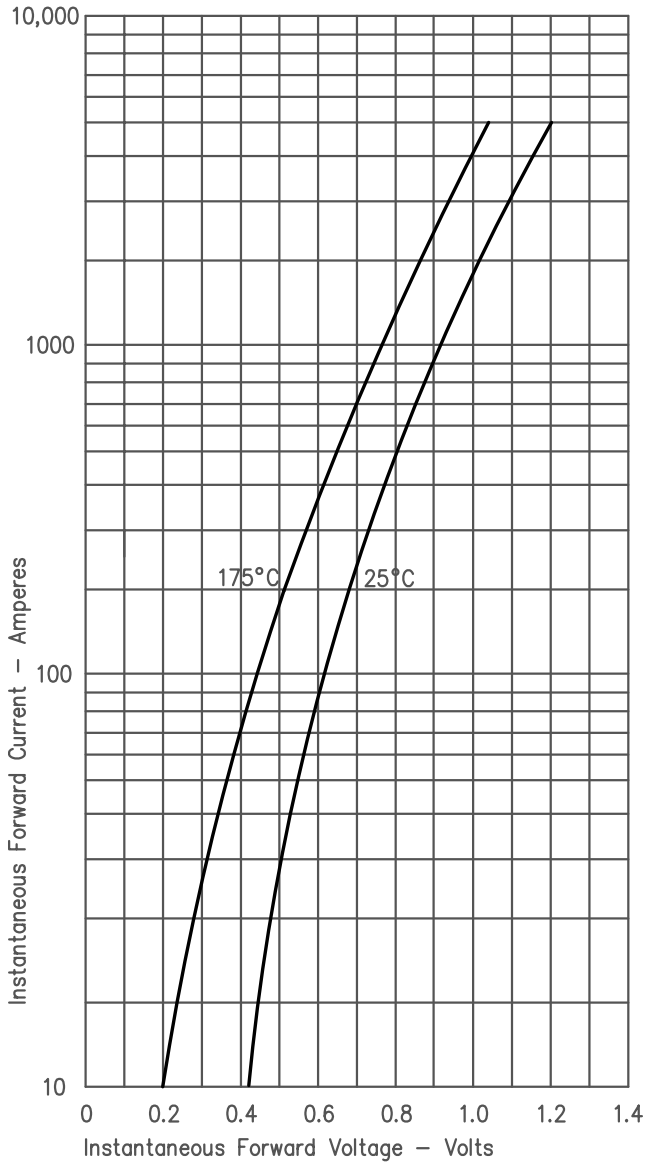


Figure 3  
Typical Junction Capacitance – Per Leg

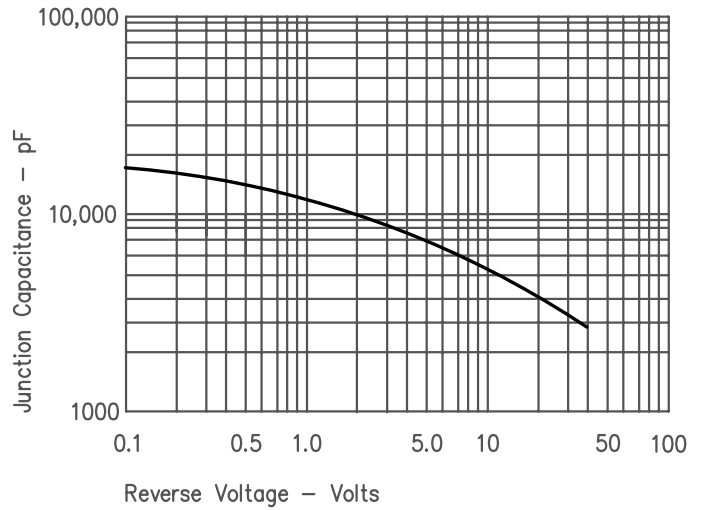


Figure 4  
Forward Current Derating – Per Leg

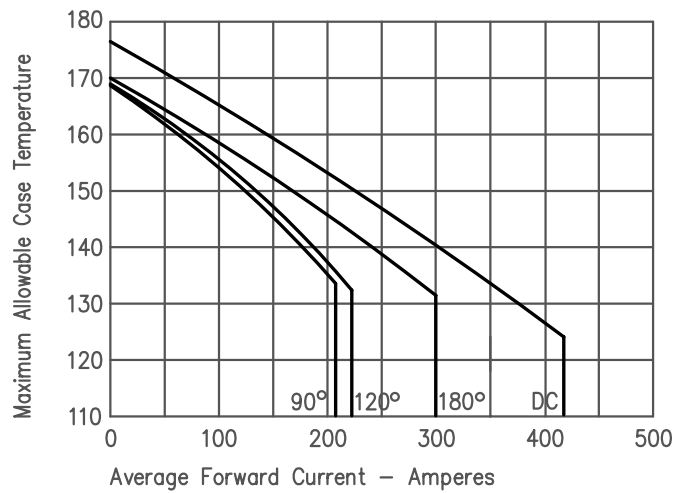


Figure 2  
Typical Reverse Characteristics – Per Leg

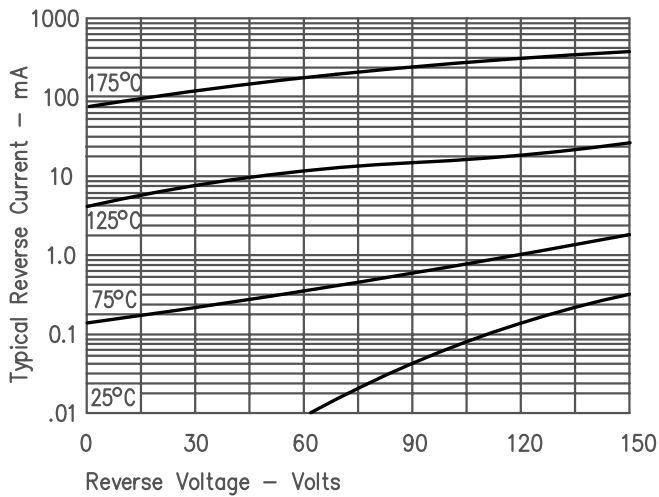


Figure 5  
Maximum Forward Power Dissipation – Per Leg

