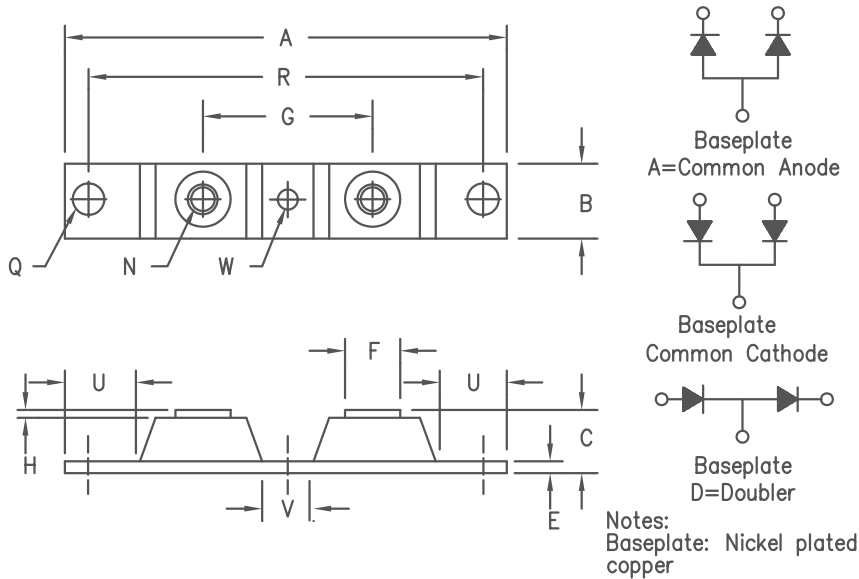


# Schottky PowerMod

## 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   |
| 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)   |                  | 8-10 inch pounds              |
| center hole must be torqued first    |                  |                               |
| Weight                               |                  | 2.8 ounces (78 grams) typical |

# CPT600120 — CPT600150

Figure 1  
Typical Forward Characteristics — Per Leg

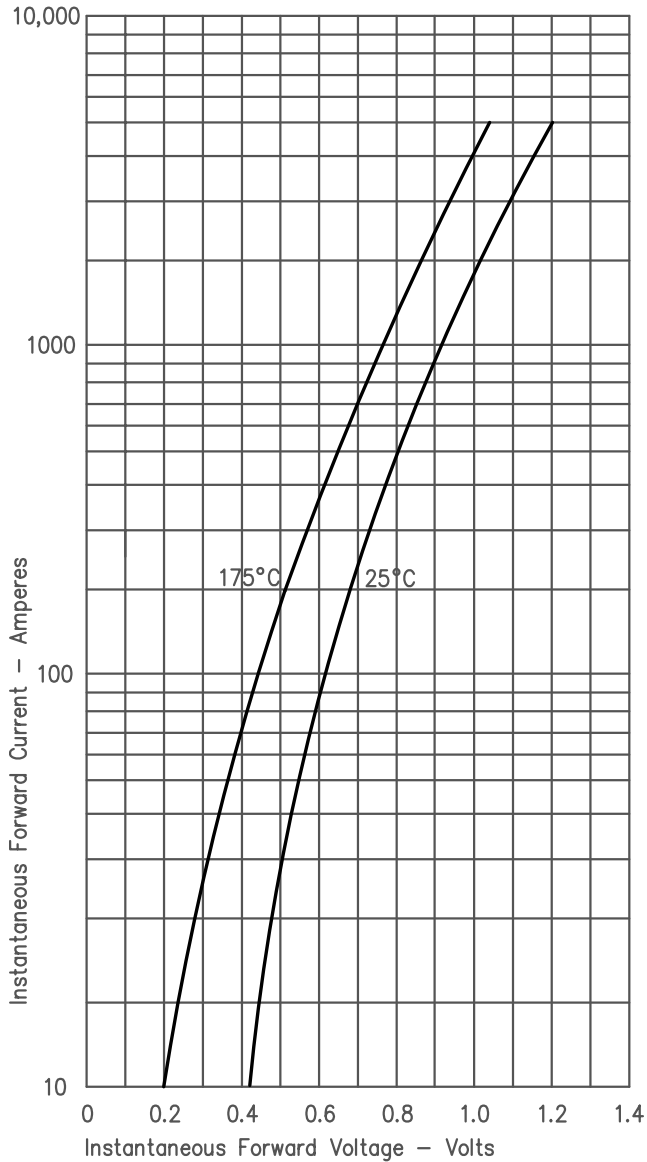


Figure 3  
Typical Junction Capacitance — Per Leg

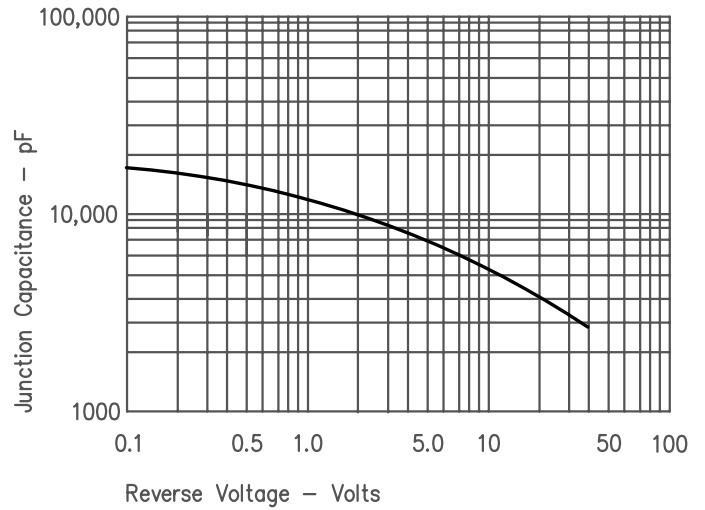


Figure 4  
Forward Current Derating — Per Leg

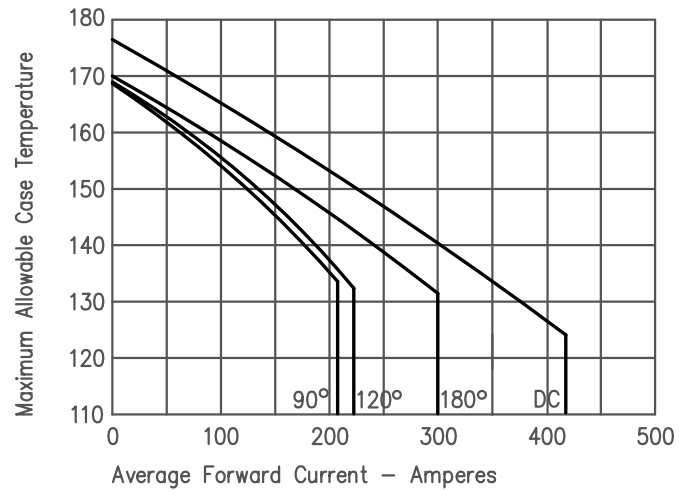


Figure 2  
Typical Reverse Characteristics — Per Leg

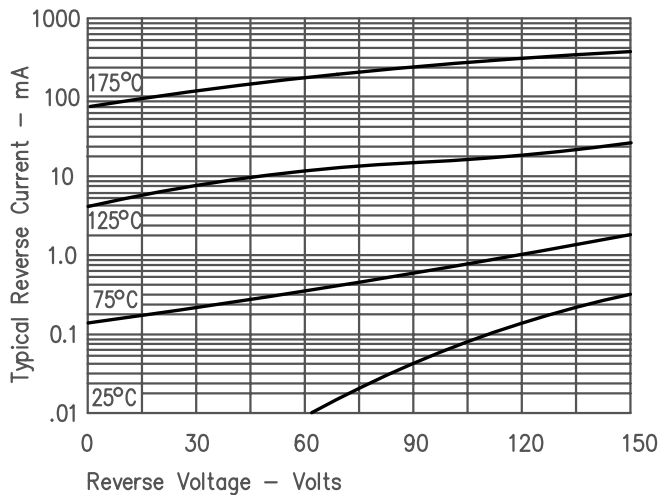


Figure 5  
Maximum Forward Power Dissipation — Per Leg

