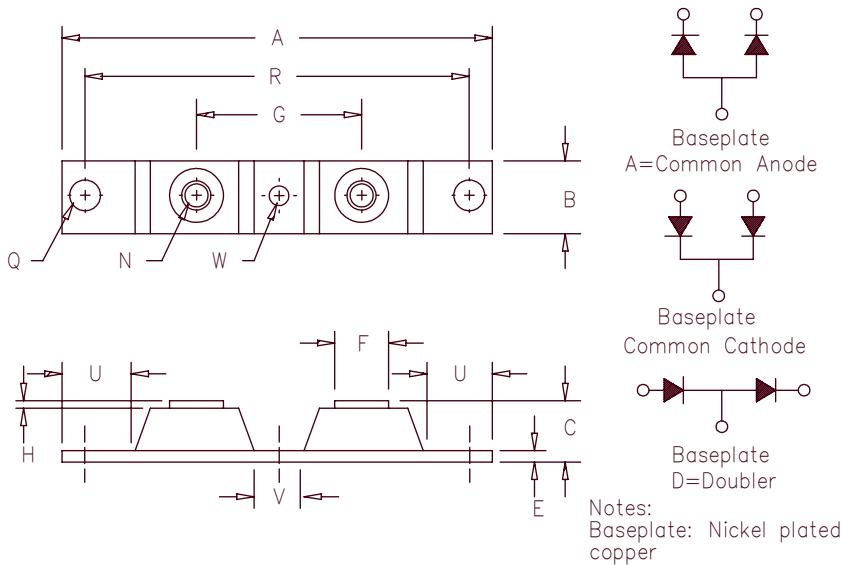


Schottky PowerMod

CPT30080–CPT300100



| Dim. | Inches | | Millimeters | | Notes |
|------|-----------|-------|-------------|-------|--------|
| | Min. | Max. | Min. | Max. | |
| 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 |
|--------------------------|---------------------------|------------------------------|---------------------------------|
| CPT30080* | 303CNQ080 MBR30080CT | 80V | 80V |
| CPT30090* | | 90V | 90V |
| CPT300100* | 303CNQ0100 MBR300100CT | 100V | 100V |

*Add Suffix A for Common Anode, D for Doubler

- Schottky Barrier Rectifier
- Guard Ring Protection
- 300 Amperes/80 to 100 Volts
- 175°C Junction Temperature
- Reverse Energy Tested
- ROHS Compliant

Electrical Characteristics

| | | |
|--|----------------------|---|
| Average forward current per pkg | $I_{F(AV)}$ 300 Amps | $T_C = 112^\circ\text{C}$, Square wave, $R_{\theta JC} = 0.20^\circ\text{C/W}$ |
| Average forward current per leg | $I_{F(AV)}$ 150 Amps | $T_C = 112^\circ\text{C}$, Square wave, $R_{\theta JC} = 0.40^\circ\text{C/W}$ |
| Maximum surge current per leg | I_{FSM} 2000 Amps | 8.3ms, half sine, $T_J = 175^\circ\text{C}$ |
| Maximum repetitive reverse current per leg | $I_R(OV)$ 2 Amps | $f = 1\text{ KHZ}$, 25°C , $1\mu\text{sec}$ square wave |
| Max peak forward voltage per leg | V_{FM} 0.98 Volts | $I_{FM} = 200\text{A}; T_J = 25^\circ\text{C}^*$ |
| Max peak forward voltage per leg | V_{FM} .86 Volts | $I_{FM} = 200\text{A}; T_J = 175^\circ\text{C}^*$ |
| Max peak reverse current per leg | I_{RM} 75 mA | $V_{RRM}, T_J = 125^\circ\text{C}^*$ |
| Max peak reverse current per leg | I_{RM} 4.0 mA | $V_{RRM}, T_J = 25^\circ\text{C}$ |
| Typical junction capacitance per leg | C_J 3000 pF | $V_R = 5.0\text{V}, T_C = 25^\circ\text{C}$ |

*Pulse test: Pulse width 300μsec, 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 | $R_{\theta JC}$ | 0.40°C/W Junction to case |
| Max thermal resistance per pkg | $R_{\theta JC}$ | 0.20°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 (75 grams) typical |

CPT30080-CPT300100

Figure 1
Typical Forward Characteristics - Per Leg

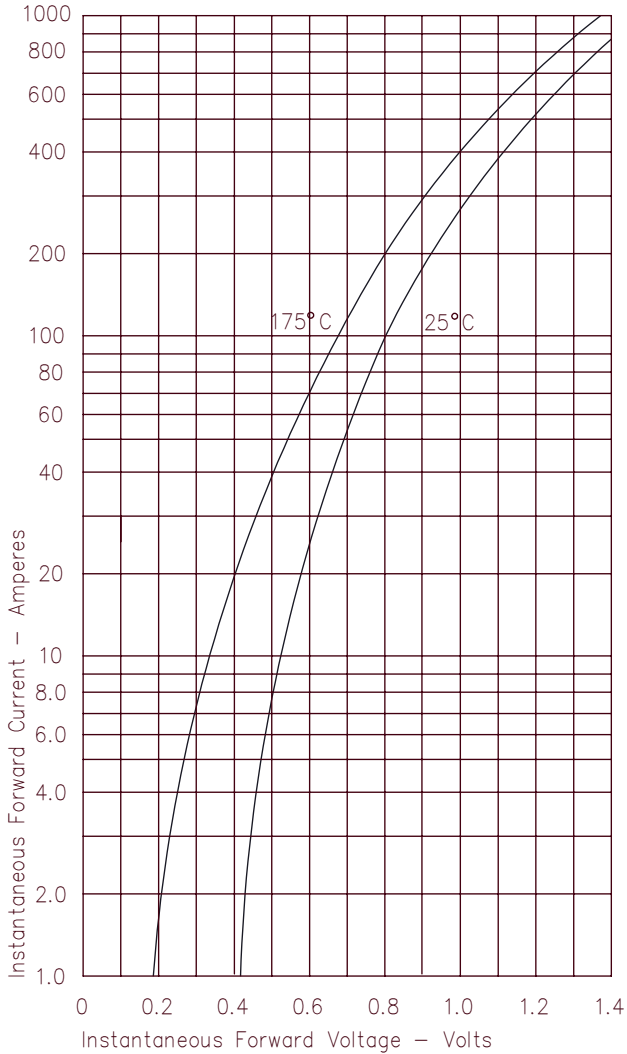


Figure 3
Typical Junction Capacitance - Per Leg

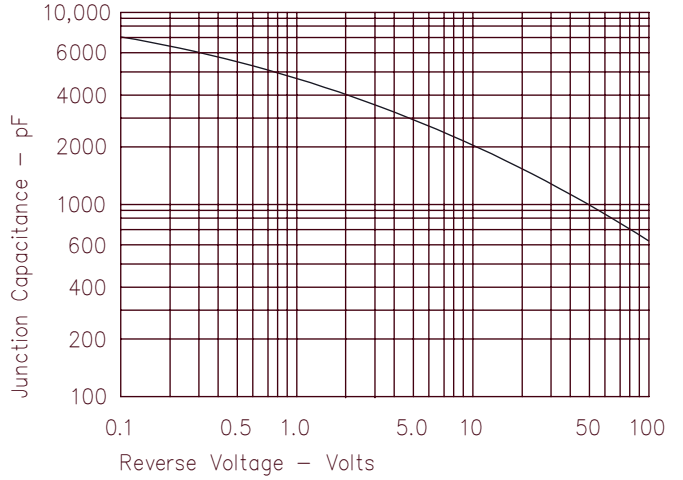


Figure 4
Forward Current Derating - Per Leg

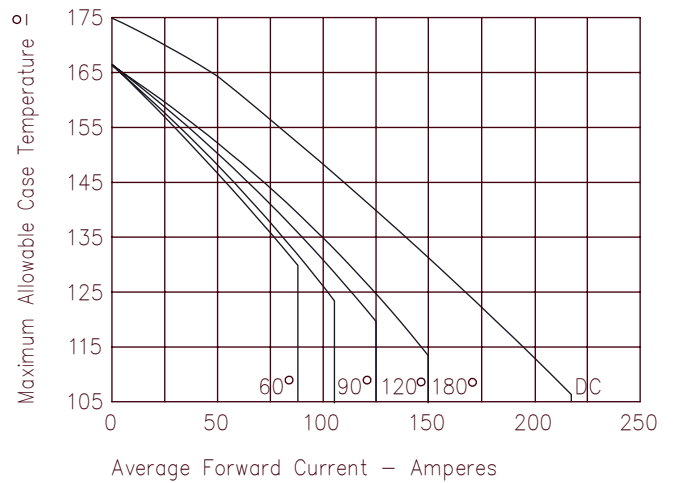


Figure 2
Typical Reverse Characteristics - Per Leg

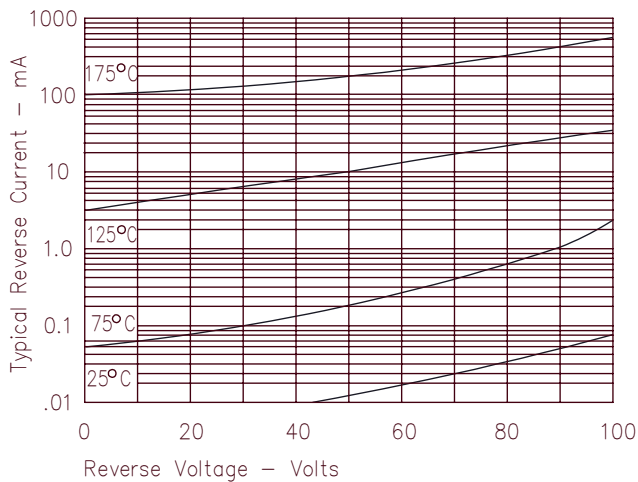


Figure 5
Maximum Forward Power Dissipation - Per Leg

