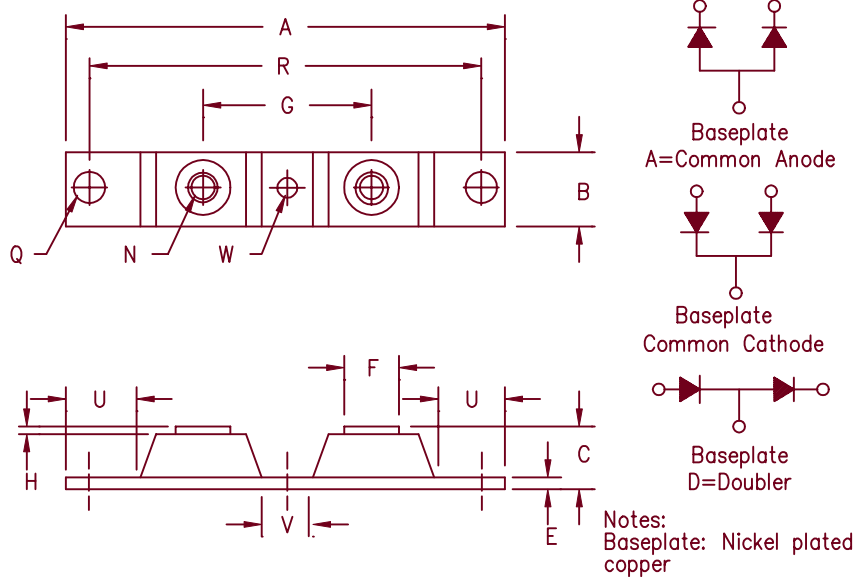


Schottky PowerMod

CPT20130 — CPT20145



| 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 | --- | --- | --- | --- | 1/4-28 |
| 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 |
|--------------------------|--------------------------------------|------------------------------|---------------------------------|
| CPT20130* | MBR20030CT | 30V | 30V |
| CPT20135* | 200CNQ035 224CNQ035 MBR20035CT | 35V | 35V |
| CPT20140* | 200CNQ040 224CNQ040 MBR20040CT | 40V | 40V |
| CPT20145* | 200CNQ045 224CNQ045 MBR20045CT | 45V | 45V |

*Add Suffix A for Common Anode, D for Doubler

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

| Electrical Characteristics | | |
|--|----------------------|---|
| Average forward current per pkg | $I_{F(AV)}$ 200 Amps | $T_C = 99^\circ\text{C}$, Square wave, $R_{\theta JC} = .20^\circ\text{C/W}$ |
| Average forward current per leg | $I_{F(AV)}$ 100 Amps | $T_C = 99^\circ\text{C}$, Square wave, $R_{\theta JC} = .40^\circ\text{C/W}$ |
| Maximum surge current per leg | I_{FSM} 2000 Amps | 8.3ms, half sine, $T_J = 125^\circ\text{C}$ |
| Maximum repetitive reverse current per leg | $I_{R(OV)}$ 2 Amps | $f = 1 \text{ KHZ}$, 25°C |
| Max peak forward voltage per leg | V_{FM} 0.68 Volts | $I_{FM} = 200\text{A}$: $T_J = 25^\circ\text{C}$ * |
| Max peak forward voltage per leg | V_{FM} 0.64 Volts | $I_{FM} = 200\text{A}$: $T_J = 125^\circ\text{C}$ * |
| Max peak reverse current per leg | I_{RM} 1100mA | V_{RRM} , $T_J = 125^\circ\text{C}$ * |
| Max peak reverse current per leg | I_{RM} 4.0mA | V_{RRM} , $T_J = 25^\circ\text{C}$ |
| Typical junction capacitance | C_J 5500pF | $V_R = 5.0\text{V}$, $T_C = 25^\circ\text{C}$ |

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

| Thermal and Mechanical Characteristics | | |
|--|-----------------|--|
| Storage temp range | T_{STG} | -55°C to 150°C |
| Operating junction temp range | T_J | -55°C to 150°C |
| Max thermal resistance per leg | $R_{\theta JC}$ | 0.40°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) | | 8-10 inch pounds |
| center hole must be torqued first | | |
| Weight | | 2.8 ounces (75 grams) typical |

CPT20130 – CPT20145

Figure 1
Maximum Forward Characteristics – Per Leg

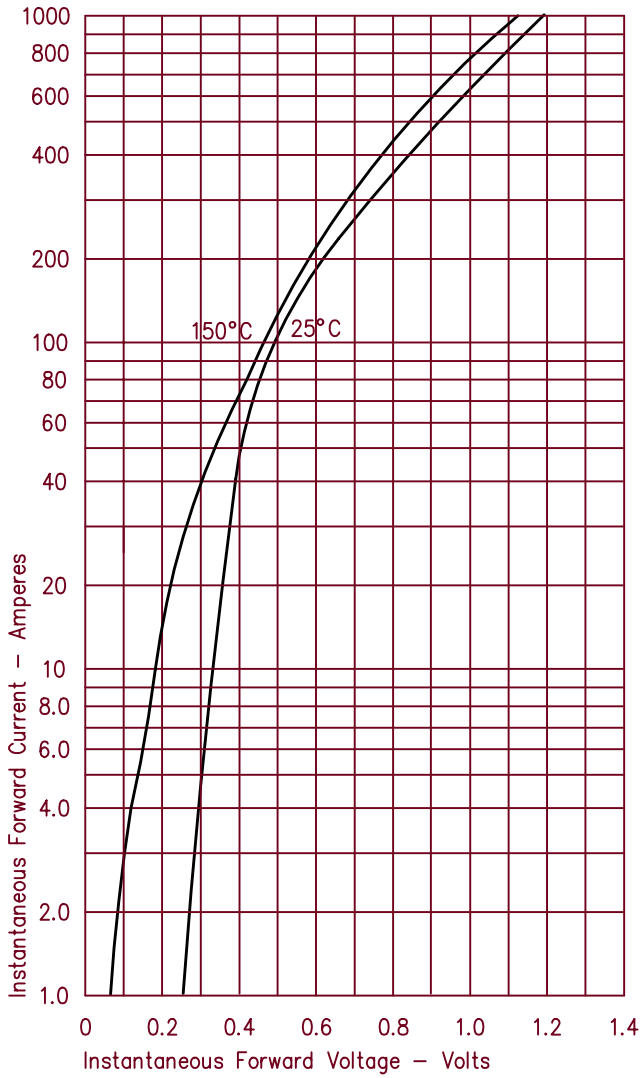


Figure 3
Typical Junction Capacitance – Per Leg

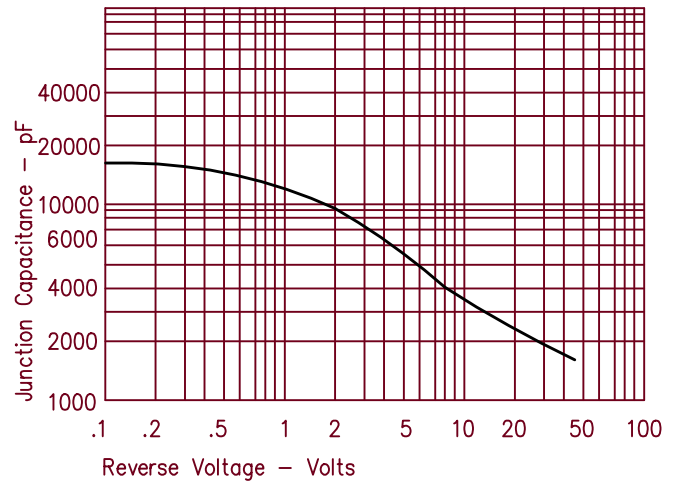


Figure 4
Forward Current Derating – Per Leg

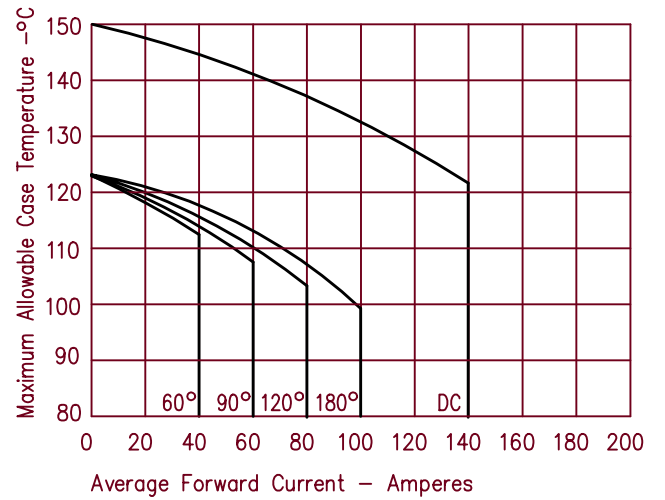


Figure 2
Typical Reverse Characteristics – Per Leg

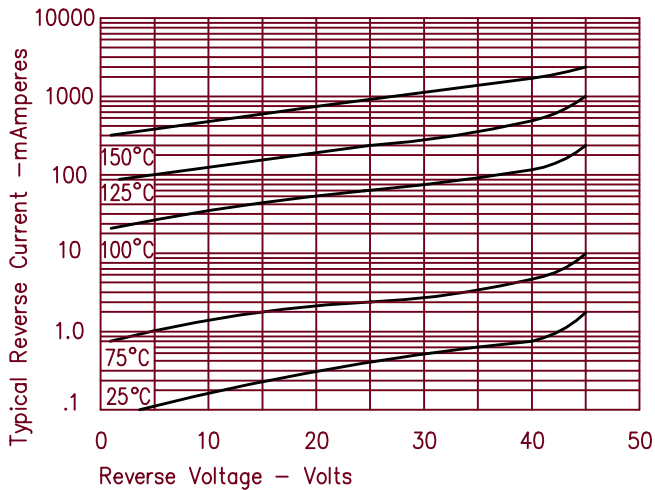
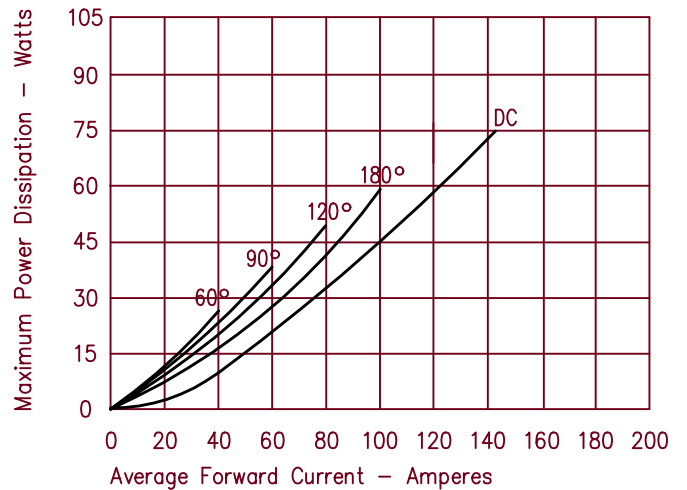


Figure 5
Maximum Forward Power Dissipation – Per Leg



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