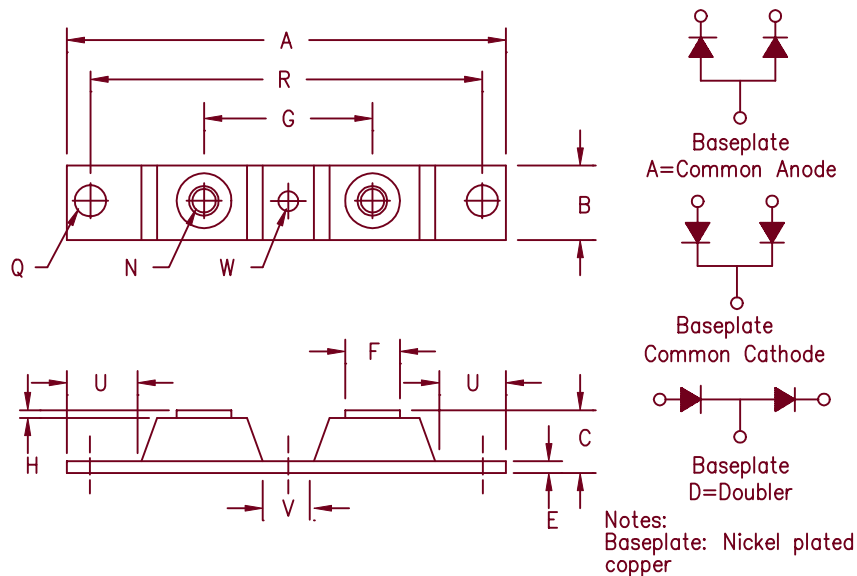


# Schottky PowerMod

## CPT60050 — CPT60060



| Dim. Inches |           | Millimeters |       | Notes       |
|-------------|-----------|-------------|-------|-------------|
| Min.        | Max.      | Min.        | Max.  |             |
| A           | ---       | 3.630       | ---   | 92.20       |
| B           | 0.700     | 0.800       | 17.78 | 20.32       |
| C           | ---       | 0.680       | ---   | 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           | 0.010     | ---         | 0.25  | ---         |
| N           | ---       | ---         | ---   | 1/4-20 Dia. |
| 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 | Working Peak Reverse Voltage | Repetitive Peak Reverse Voltage |
|--------------------------|------------------------------|---------------------------------|
| CPT60050*                | 50V                          | 50V                             |
| CPT60060*                | 60V                          | 60V                             |

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

- Schottky Barrier Rectifier
- Guard Ring Protection
- 600 Amperes/50 to 60 Volts
- 175°C Junction Temperature
- Reverse Energy Tested

### Electrical Characteristics

|                                            |                     |                                                                     |
|--------------------------------------------|---------------------|---------------------------------------------------------------------|
| Average forward current per pkg            | $I_F(AV)$ 600 Amps  | $T_C = 136^\circ C$ , Square wave, $R_{\theta JC} = 0.10^\circ C/W$ |
| Average forward current per leg            | $I_F(AV)$ 300 Amps  | $T_C = 136^\circ C$ , Square wave, $R_{\theta JC} = 0.20^\circ C/W$ |
| Maximum surge current per leg              | $I_{FSM}$ 6000 Amps | 8.3ms, half sine, $T_J = 175^\circ C$                               |
| Maximum repetitive reverse current per leg | $I_R(OV)$ 2 Amps    | $f = 1$ KHZ, $25^\circ C$ , $1 \mu sec$ square wave                 |
| Max peak forward voltage per leg           | $V_{FM}$ 0.72 Volts | $I_{FM} = 300A$ ; $T_J = 25^\circ C$                                |
| Max peak forward voltage per leg           | $V_{FM}$ 0.58 Volts | $I_{FM} = 300A$ ; $T_J = 175^\circ C$                               |
| Max peak reverse current per leg           | $I_{RM}$ 75 mA      | $V_{RRM}$ , $T_J = 125^\circ C$ *                                   |
| Max peak reverse current per leg           | $I_{RM}$ 8.0 mA     | $V_{RRM}$ , $T_J = 25^\circ C$                                      |
| Typical junction capacitance per leg       | $C_J$ 11,100 pF     | $V_R = 5.0V$ , $T_C = 25^\circ C$                                   |

\*Pulse test: Pulse width 300  $\mu sec$ , Duty cycle 2%

### Thermal and Mechanical Characteristics

|                                      |                 |                                   |
|--------------------------------------|-----------------|-----------------------------------|
| Storage temp range                   | $T_{STG}$       | $-55^\circ C$ to $175^\circ C$    |
| Operating junction temp range        | $T_J$           | $-55^\circ C$ to $175^\circ C$    |
| Max thermal resistance per leg       | $R_{\theta JC}$ | $0.20^\circ C/W$ Junction to case |
| Max thermal resistance per pkg       | $R_{\theta JC}$ | $0.10^\circ C/W$ Junction to case |
| Typical thermal resistance (greased) | $R_{\theta CS}$ | $0.08^\circ C/W$ 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     |

# CPT60050 — CPT60060

Figure 1  
Typical Forward Characteristics — Per Leg

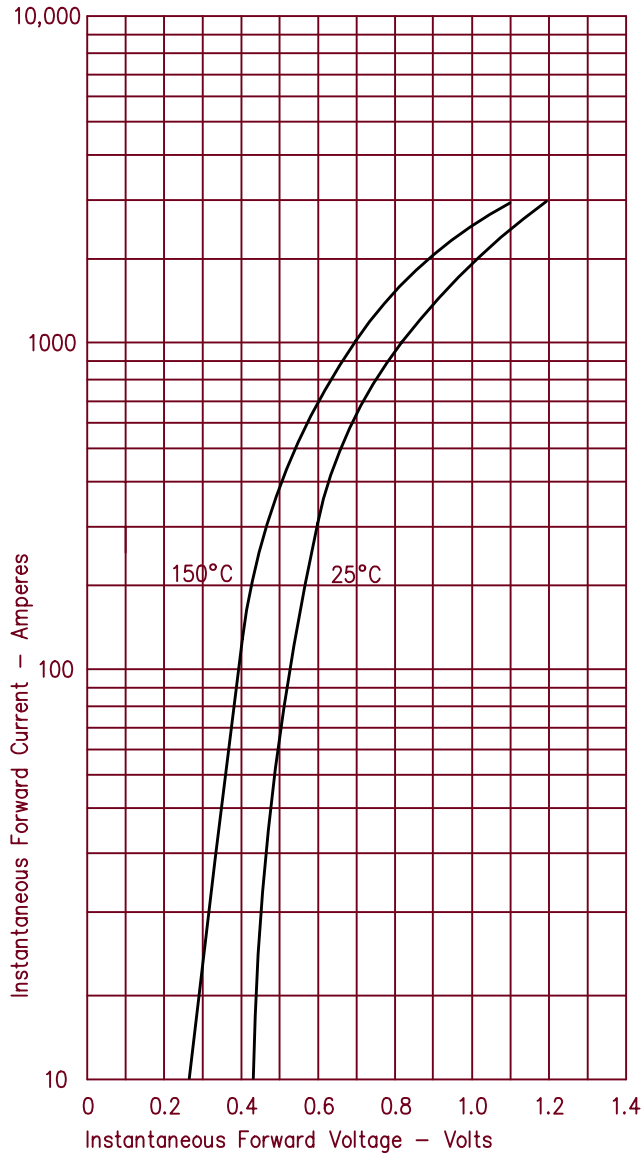


Figure 2  
Typical Reverse Characteristics — Per Leg

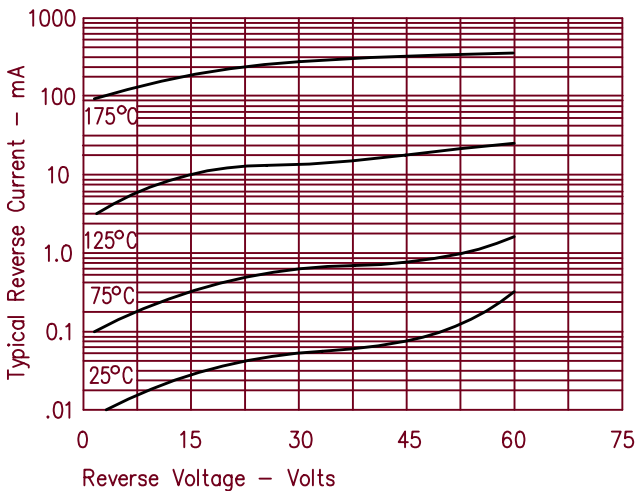


Figure 3  
Typical Junction Capacitance — Per Leg

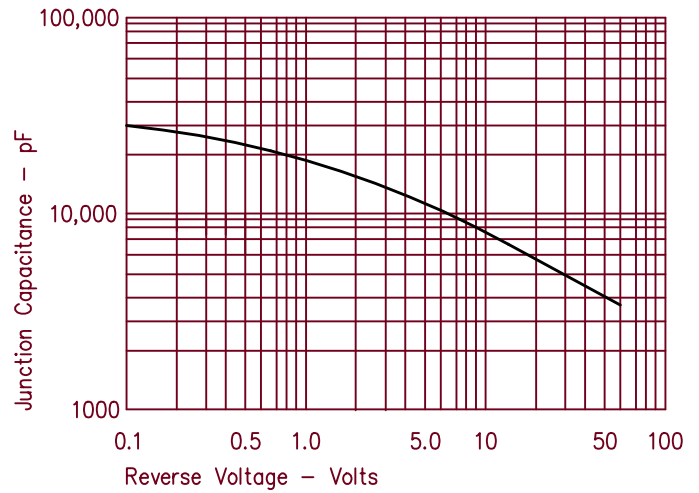


Figure 4  
Forward Current Derating — Per Leg

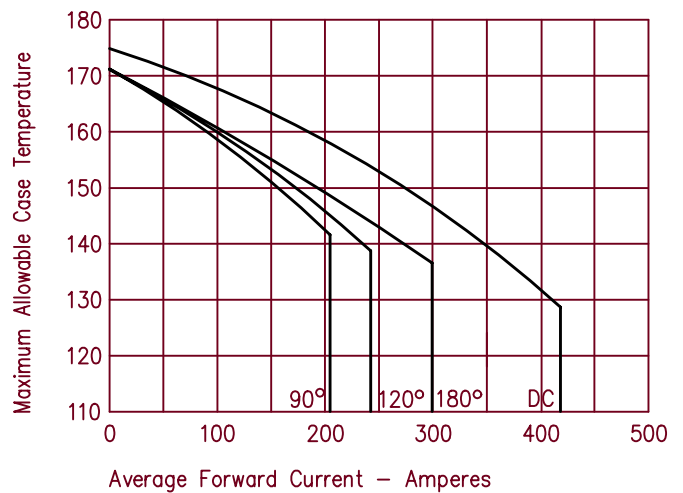


Figure 5  
Maximum Forward Power Dissipation — Per Leg

