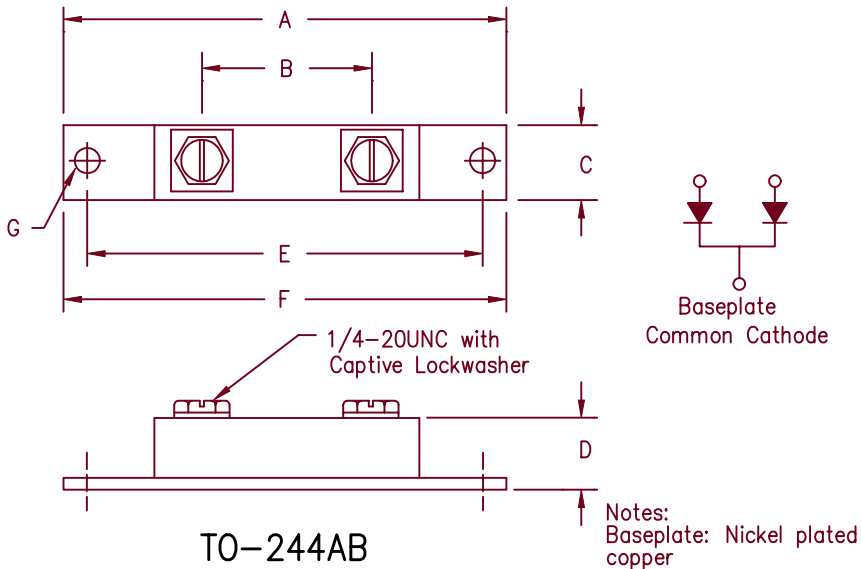


# Schottky PowerMod 1N6459 — 1N6460



| Dim. | Inches |       | Millimeters |       | Notes |
|------|--------|-------|-------------|-------|-------|
|      | Min.   | Max.  | Min.        | Max.  |       |
| A    | ---    | 2.450 | ---         | 62.23 |       |
| B    | 1.350  | 1.400 | 34.29       | 35.56 |       |
| C    | 0.700  | 0.800 | 17.78       | 20.32 |       |
| D    | ---    | 0.625 | ---         | 15.88 |       |
| E    | 3.140  | 3.160 | 79.76       | 80.26 |       |
| F    | ---    | 3.650 | ---         | 92.71 |       |
| G    | 0.280  | 0.300 | 7.140       | 7.670 | Dia.  |

| Microsemi Catalog Number | Working Peak Reverse Voltage | Repetitive Peak Reverse Voltage |
|--------------------------|------------------------------|---------------------------------|
| 1N6459                   | 40V                          | 40V                             |
| 1N6460                   | 50V                          | 50V                             |

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

- Schottky Barrier Rectifier
- Guard Ring Protection
- Common Cathode Center Tap
- 200 Amperes/40 to 50 Volts
- 175°C Junction Temperature
- Reverse Energy Tested

## Electrical Characteristics

|  |                      |   |
|--|----------------------|---|
| Average forward current per pkg            | $I_{F(AV)}$ 200 Amps | $T_C = 143^\circ\text{C}$ , Square wave, $R_{\theta JC} = 0.25^\circ\text{C/W}$ |
| Average forward current per leg            | $I_{F(AV)}$ 100 Amps | $T_C = 143^\circ\text{C}$ , Square wave, $R_{\theta JC} = 0.50^\circ\text{C/W}$ |
| 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   | $f = 1 \text{ KHZ}$ , $25^\circ\text{C}$ , 1 usec square wave                   |
| Max peak forward voltage per leg           | $V_{FM}$ 0.80 Volts  | $I_{FM} = 200\text{A}$ : $T_J = 25^\circ\text{C}^*$                             |
| Max peak forward voltage per leg           | $V_{FM}$ 0.60 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       | $C_J$ 4600 pF        | $V_R = 5.0\text{V}$ , $T_C = 25^\circ\text{C}$                                  |

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

## Thermal and Mechanical Characteristics

|                                      |                 |  |
|--------------------------------------|-----------------|--|
| Storage temp range                   | $T_{STG}$       | $-55^\circ\text{C}$ to $175^\circ\text{C}$ |
| Operating junction temp range        | $T_J$           | $-55^\circ\text{C}$ to $175^\circ\text{C}$ |
| Max thermal resistance per pkg       | $R_{\theta JC}$ | $0.25^\circ\text{C/W}$ Junction to case    |
| Max thermal resistance per leg       | $R_{\theta JC}$ | $0.5^\circ\text{C/W}$ Junction to case     |
| Typical thermal resistance (greased) | $R_{\theta CS}$ | $0.08^\circ\text{C/W}$ Case to sink        |
| Terminal Torque                      |                 | 35-50 inch pounds                          |
| Mounting Base Torque                 |                 | 30-40 inch pounds                          |
| Weight                               |                 | 3.4 ounces (95 grams) typical              |

# 1N6459 — 1N6460

Figure 1  
Typical Forward Characteristics — Per Leg

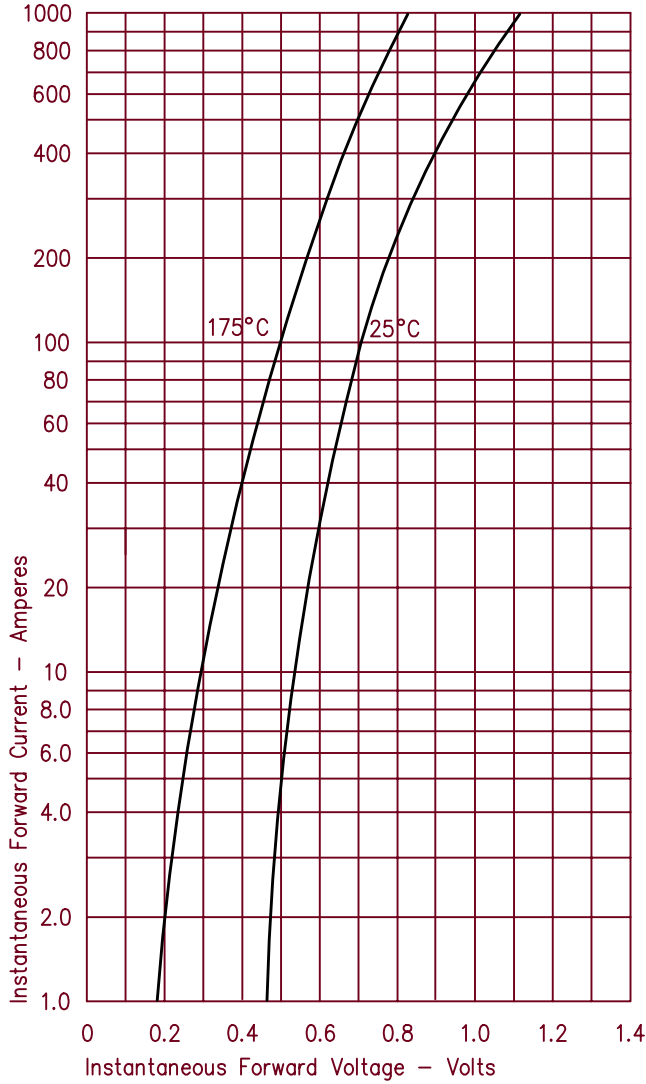


Figure 3  
Typical Junction Capacitance — Per Leg

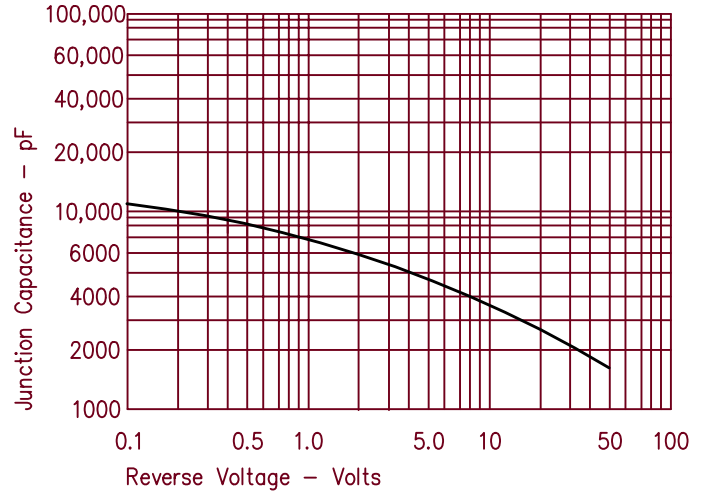


Figure 4  
Forward Current Derating — Per Leg

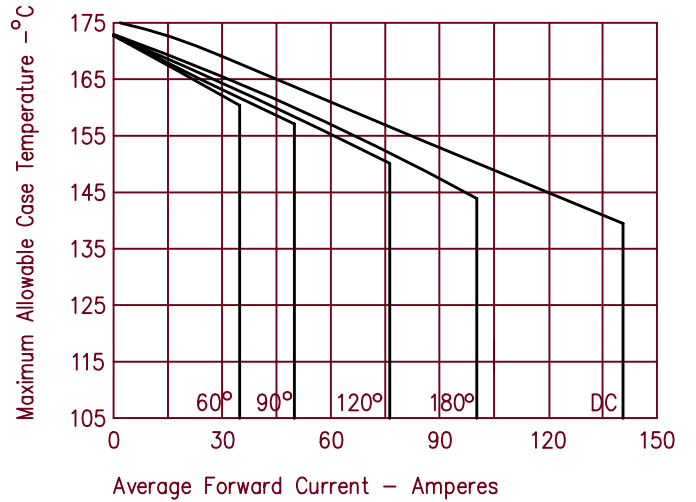


Figure 2  
Typical Reverse Characteristics — Per Leg

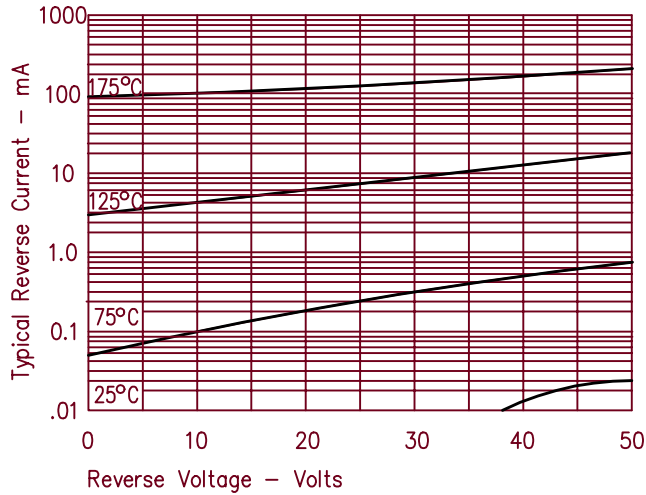


Figure 5  
Maximum Forward Power Dissipation — Per Leg

