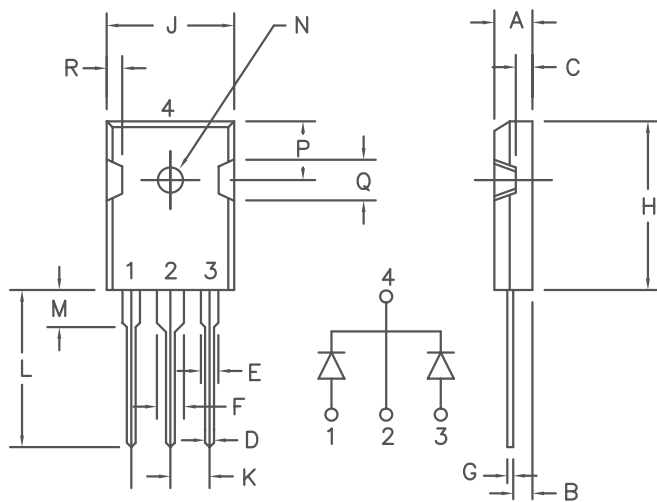


# 30Amp Schottky Barrier Rectifier FST30120 — FST30150



Similar to TO-247AD

| Dim. | Inches  |         | Millimeter |         | Notes |
|------|---------|---------|------------|---------|-------|
|      | Minimum | Maximum | Minimum    | Maximum |       |
| A    | .185    | .209    | 4.70       | 5.31    |       |
| B    | .087    | .102    | 2.21       | 2.59    |       |
| C    | .059    | .098    | 1.50       | 2.49    |       |
| D    | .040    | .055    | 1.02       | 1.40    |       |
| E    | .079    | .094    | 2.01       | 2.39    |       |
| F    | .118    | .133    | 3.00       | 3.38    |       |
| G    | .016    | .031    | .410       | 0.78    |       |
| H    | .819    | .883    | 20.80      | 22.4    |       |
| J    | .627    | .650    | 15.93      | 16.5    |       |
| K    | .215    | —       | 5.46       | —       | Typ.  |
| L    | .790    | .810    | 20.07      | 20.6    |       |
| M    | .157    | .180    | 3.99       | 4.57    |       |
| N    | .139    | .144    | 3.53       | 3.66    | Dia.  |
| P    | .255    | .300    | 6.48       | 7.62    |       |
| Q    | .170    | .210    | 4.32       | 5.33    |       |
| R    | .080    | .110    | 2.03       | 2.79    |       |

| Microsemi Catalog Number | Industry Part Number | Repetitive Peak Reverse Voltage | Transient Peak Reverse Voltage |
|--------------------------|----------------------|---------------------------------|--------------------------------|
| FST30120                 |                      | 120V                            | 120V                           |
| FST30150                 | 30CPQ150             | 150V                            | 150V                           |

- Schottky Barrier Rectifier
- Guard ring for reverse protection
- Low power loss, high efficiency
- High surge capacity
- $V_{RRM}$  120 to 150 Volts

## Electrical Characteristics

|                                      |                      |                                                                    |
|--------------------------------------|----------------------|--------------------------------------------------------------------|
| Average Forward Current per pkg.     | $I_F(AV)$ 30Amps     | $T_C = 153^\circ C$ , square wave, $R_{\theta JC} = 0.9^\circ C/W$ |
| Average Forward Current per leg      | $I_F(AV)$ 15Amps     | $T_C = 153^\circ C$ , square wave, $R_{\theta JC} = 1.8^\circ C/W$ |
| Maximum Surge Current per leg        | $I_{FSM}$ 350 Amps   | 8.3ms, half sine, $T_J = 175^\circ C$                              |
| Typical Peak Forward Voltage per leg | $V_{FM}$ 0.68 Volts  | $I_{FM} = 15A$ , $T_J = 125^\circ C^*$                             |
| Max. Peak Forward Voltage per leg    | $V_{FM}$ 0.85 Volts  | $I_{FM} = 15A$ , $T_J = 25^\circ C^*$                              |
| Max. Peak Reverse Current per leg    | $I_{RM}$ 1.0 mA      | $V_{RRM}$ , $T_J = 125^\circ C^*$                                  |
| Max. Peak Reverse Current per leg    | $I_{RM}$ 250 $\mu A$ | $V_{RRM}$ , $T_J = 25^\circ C$                                     |
| Typical Junction Capacitance per leg | $C_J$ 350 pF         | $V_R = 5.0V$ , $T_J = 25^\circ C$                                  |

\*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  | $R_{\theta JC}$ | $1.8^\circ C/W$                     |
| Max thermal resistance per pkg. | $R_{\theta JC}$ | $0.9^\circ C/W$                     |
| Mounting Torque                 |                 | 10 inch pounds maximum (4–40 screw) |
| Weight                          |                 | .22 ounces (6.36 grams) typical     |

# FST30120–FST30150

Figure 1  
Typical Forward Characteristics – Per Leg

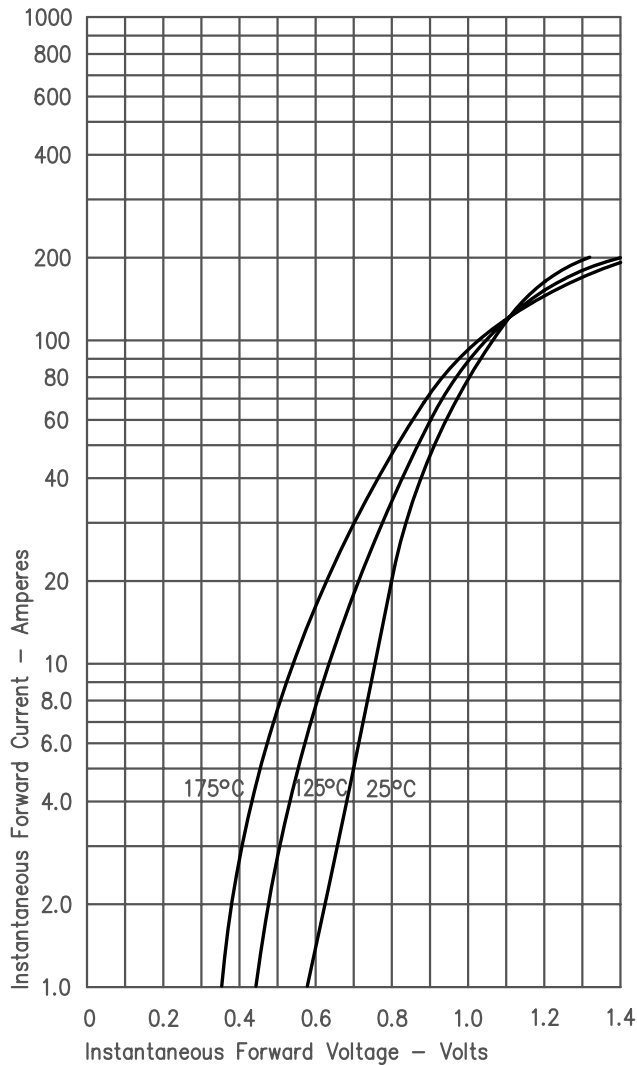


Figure 3  
Typical Junction Capacitance – Per Leg

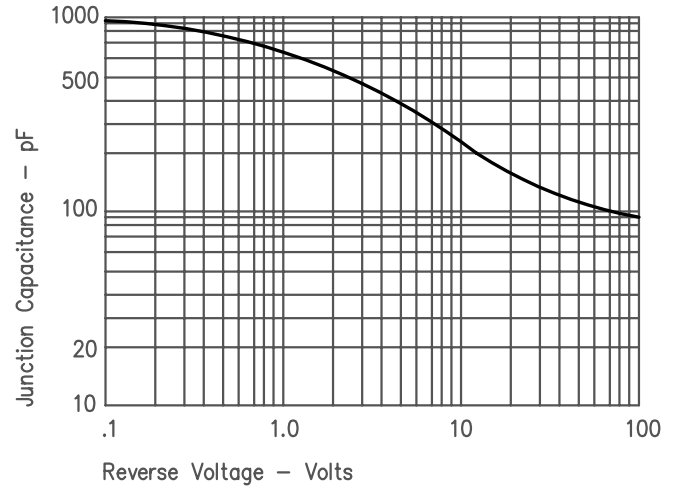


Figure 4  
Forward Current Derating – Per Leg

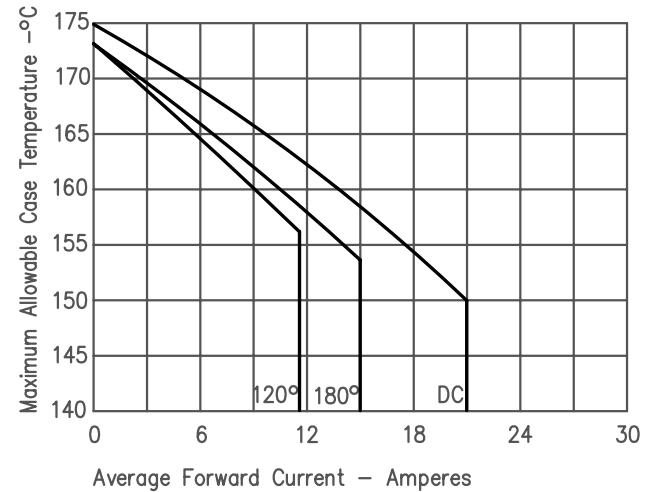


Figure 2  
Typical Reverse Characteristics – Per Leg

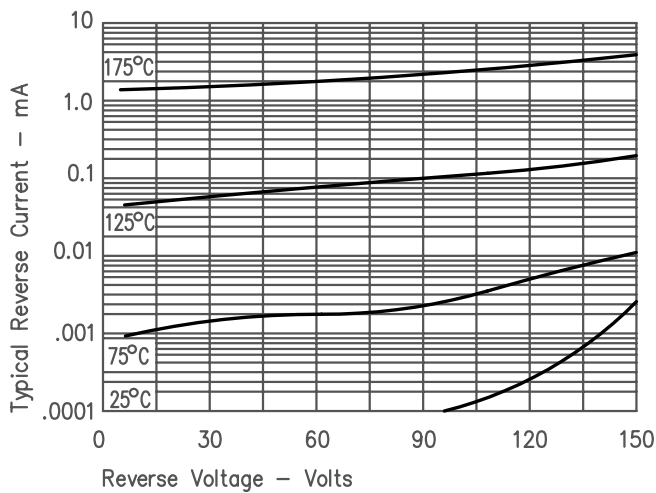


Figure 5  
Maximum Forward Power Dissipation – Per Leg

