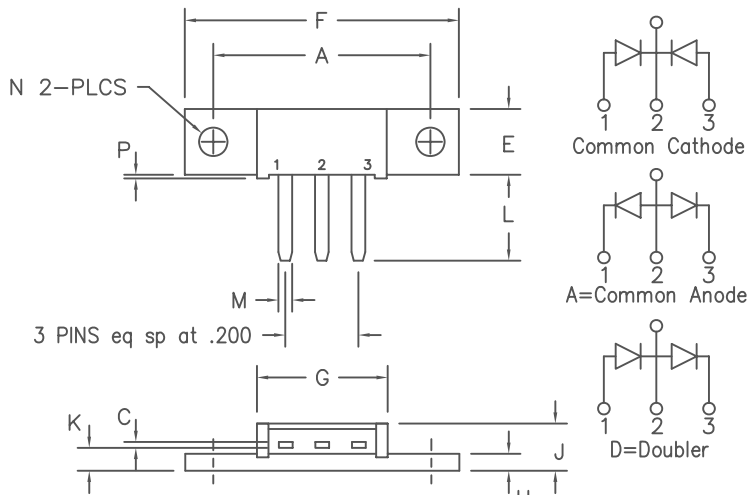


# 80 Amp Schottky OR'ing Rectifier FST8515



Note: Baseplate Common with Pin 2

| Dim. | Inches  |         | Millimeter |         | Notes |
|------|---------|---------|------------|---------|-------|
|      | Minimum | Maximum | Minimum    | Maximum |       |
| A    | 1.180   | 1.195   | 29.97      | 30.35   |       |
| C    | .027    | .037    | 0.69       | 0.94    |       |
| E    | .350    | .370    | 8.89       | 9.40    |       |
| F    | 1.490   | 1.510   | 37.85      | 38.35   |       |
| G    | .695    | .715    | 17.65      | 18.16   |       |
| H    | .088    | .098    | 2.24       | 2.49    |       |
| J    | .240    | .260    | 6.10       | 6.60    |       |
| K    | .115    | .135    | 2.92       | 3.43    |       |
| L    | .460    | .480    | 11.68      | 12.19   |       |
| M    | .065    | .085    | 1.65       | 2.16    |       |
| N    | .151    | .161    | 3.84       | 4.09    | Dia.  |
| P    | .015    | .025    | 0.38       | 0.64    |       |

| Microsemi Catalog Number | Industry Part Number | Working Peak Reverse Voltage | Repetitive Peak Reverse Voltage |
|--------------------------|----------------------|------------------------------|---------------------------------|
| FST8515*                 | 85CNQ015, A          | 15V                          | 15V                             |

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

- Schottky Barrier Rectifier
- 0.28V Vf@40A per leg, 100°C
- Optimized for OR'ing applications
- Guard ring reverse protection
- 125°C Operation (Vr<5V)

## Electrical Characteristics

|                                      |                            |  |
|--------------------------------------|----------------------------|--|
| Average forward current per pkg      | I <sub>F(AV)</sub> 80 Amps | T <sub>C</sub> = 84°C, V <sub>R</sub> = 5V     |
| Average forward current per pkg      | I <sub>F(AV)</sub> 80 Amps | T <sub>C</sub> = 78°C, V <sub>R</sub> = 15V    |
| Average forward current per leg      | I <sub>F(AV)</sub> 40 Amps | T <sub>C</sub> = 84°C, V <sub>R</sub> = 5V     |
| Average forward current per leg      | I <sub>F(AV)</sub> 40 Amps | T <sub>C</sub> = 78°C, V <sub>R</sub> = 15V    |
| Maximum surge current per leg        | I <sub>FSM</sub> 800 Amps  | 8.3 ms, half sine, T <sub>J</sub> = 100°C      |
| Max repetitive peak reverse current  | I <sub>R(OV)</sub> 2 Amps  | f = 1 KHZ, 25°C, 1 μsec square wave            |
| Max peak forward voltage per leg     | V <sub>FM</sub> 0.35 Volts | I <sub>FM</sub> = 40A: T <sub>J</sub> = 25°C*  |
| Max peak forward voltage per leg     | V <sub>FM</sub> 0.28 Volts | I <sub>FM</sub> = 40A: T <sub>J</sub> = 100°C* |
| Max peak reverse current per leg     | I <sub>RM</sub> 750 mA     | V <sub>R</sub> = 5V, T <sub>J</sub> = 100°C*   |
| Max peak reverse current per leg     | I <sub>RM</sub> 1500 mA    | V <sub>RRM</sub> , T <sub>J</sub> = 100°C*     |
| Max peak reverse current per leg     | I <sub>RM</sub> 12 mA      | V <sub>R</sub> = 5V, T <sub>J</sub> = 25°C     |
| Max peak reverse current per leg     | I <sub>RM</sub> 20 mA      | V <sub>RRM</sub> , T <sub>J</sub> = 25°C       |
| Typical junction capacitance per leg | C <sub>J</sub> 5600 pF     | V <sub>R</sub> = 5.0V, T <sub>J</sub> = 25°C   |

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

## Thermal and Mechanical Characteristics

|                                      |                  |                               |
|--------------------------------------|------------------|-------------------------------|
| Storage temp range                   | T <sub>STG</sub> | -55°C to 150°C                |
| Operating junction temp range        | T <sub>J</sub>   | -55°C to 125°C                |
| Max thermal resistance per leg       | R <sub>θJC</sub> | 1.0°C/W Junction to case      |
| Max thermal resistance per pkg       | R <sub>θJC</sub> | 0.5°C/W Junction to case      |
| Typical thermal resistance (greased) | R <sub>θCS</sub> | 0.3°C/W Case to sink          |
| Mounting Base Torque                 |                  | 10 inch pounds maximum        |
| Weight                               |                  | 0.3 ounce (8.4 grams) typical |

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05-30-07 Rev. 2

# FST8515

Figure 1  
Typical Forward Characteristics – Per Leg

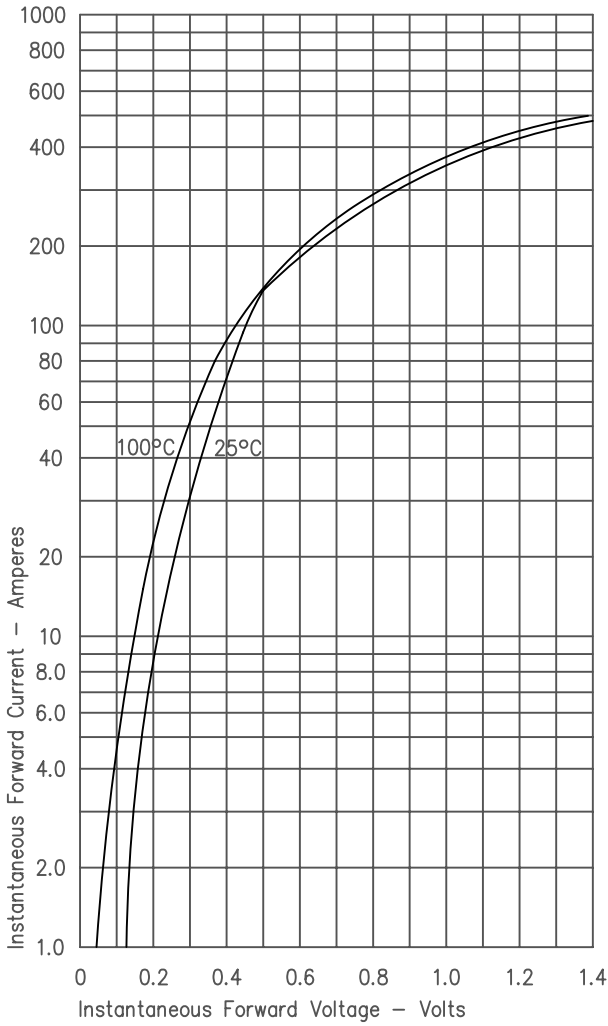


Figure 3  
Typical Junction Capacitance – Per Leg

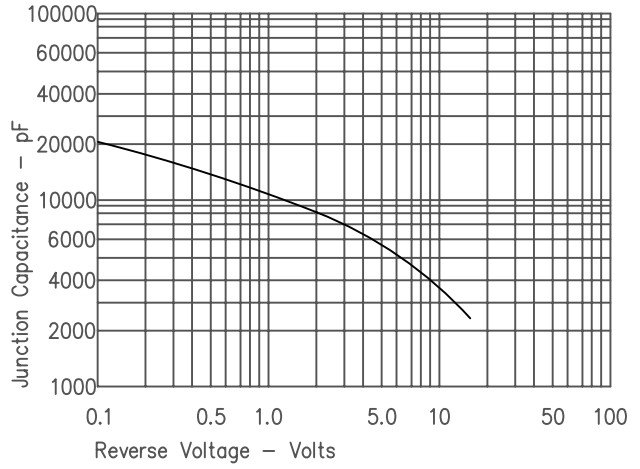


Figure 4  
Forward Current Derating – Per Leg

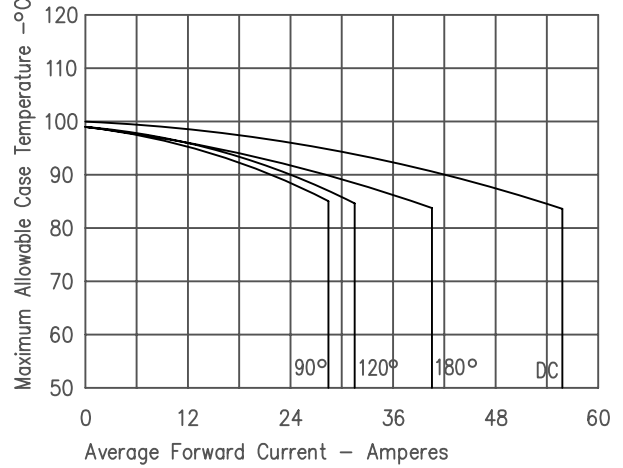


Figure 2  
Typical Reverse Characteristics – Per Leg

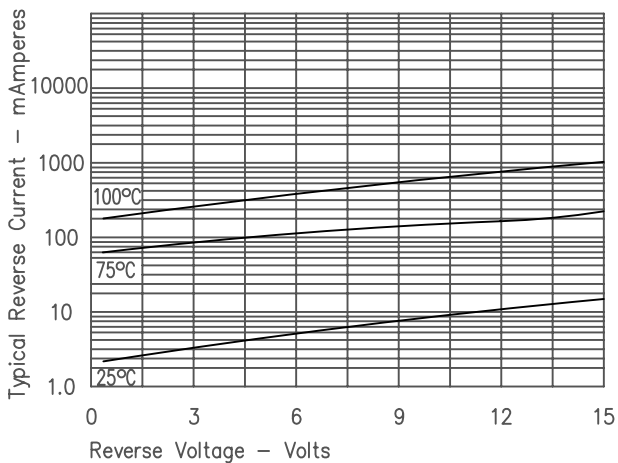


Figure 5  
Maximum Forward Power Dissipation – Per Leg

