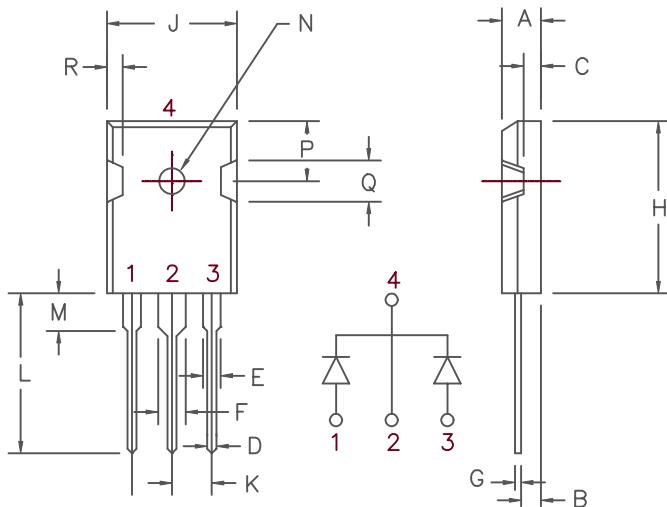


# 50Amp Schottky Barrier Rectifier

## FST5080 – FST50100



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	
P	.255	.300	6.48	7.62	
Q	.170	.210	4.32	5.33	
R	.080	.110	2.03	2.79	

Microsemi Catalog Number

FST5080  
FST5090  
FST50100

Repetitive Peak Reverse Voltage

80V  
90V  
100V

Transient Peak Reverse Voltage

80V  
90V  
100V

- Guard ring for reverse protection
- Low power loss, high efficiency
- High surge capacity
- 175°C Junction Temperature
- V<sub>RRM</sub> 80 to 100 Volts

### Electrical Characteristics

Average Forward Current per pkg.

I<sub>F(AV)</sub> 50 Amps

T<sub>C</sub> = 129°C, Square wave, R<sub>θJC</sub> = 1.0°C/W

Average Forward Current per leg

I<sub>F(AV)</sub> 25 Amps

T<sub>C</sub> = 129°C, Square wave, R<sub>θJC</sub> = 2.0°C/W

Maximum Surge Current per leg

I<sub>FSM</sub> 400 Amps

8.3ms, half sine, T<sub>J</sub> = 175°C

Max. Peak Forward Voltage per leg

V<sub>FM</sub> .62 Volts

I<sub>FM</sub> = 25A, T<sub>J</sub> = 175°C\*

Max. Peak Forward Voltage per leg

V<sub>FM</sub> .85 Volts

I<sub>FM</sub> = 25A, T<sub>J</sub> = 25°C\*

Max. Peak Reverse Current per leg

I<sub>RM</sub> 15 mA

V<sub>RRM</sub>, T<sub>J</sub> = 125°C\*

Max. Peak Reverse Current per leg

I<sub>RM</sub> 500 μA

V<sub>RRM</sub>, T<sub>J</sub> = 25°C

Typical Junction Capacitance per leg

C<sub>J</sub> 920 pF

V<sub>R</sub> = 5.0V, T<sub>J</sub> = 25°C

\*Pulse test: Pulse width 300 usec. Duty Cycle 2%

### Thermal and Mechanical Characteristics

Storage temp range

T<sub>STG</sub>

-55°C to +175°C

Operating junction temp range

T<sub>J</sub>

-55°C to +175°C

Max thermal resistance per leg

R<sub>θJC</sub>

2.0°C/W

Max thermal resistance per pkg.

R<sub>θJC</sub>

1.0°C/W

Mounting Torque

5–10 inch pounds (#6 screw)

Weight

.22 ounces (6.36 grams) typical

# FST5080 - FST50100

Figure 1  
Typical Forward Characteristics – Per Leg

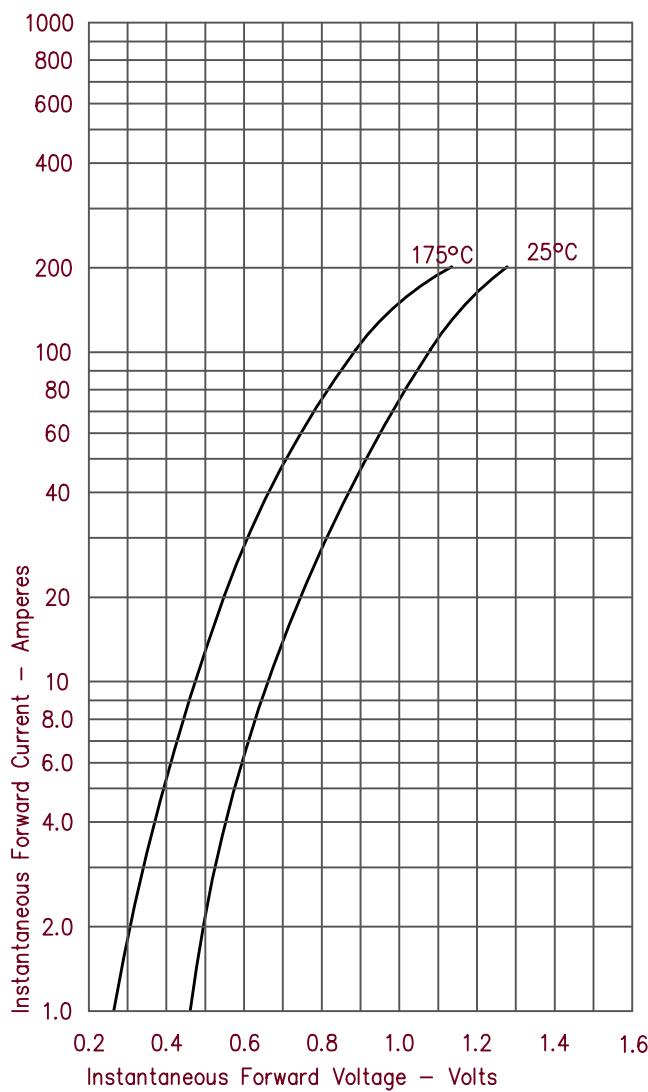


Figure 2  
Typical Reverse Characteristics – Per Leg

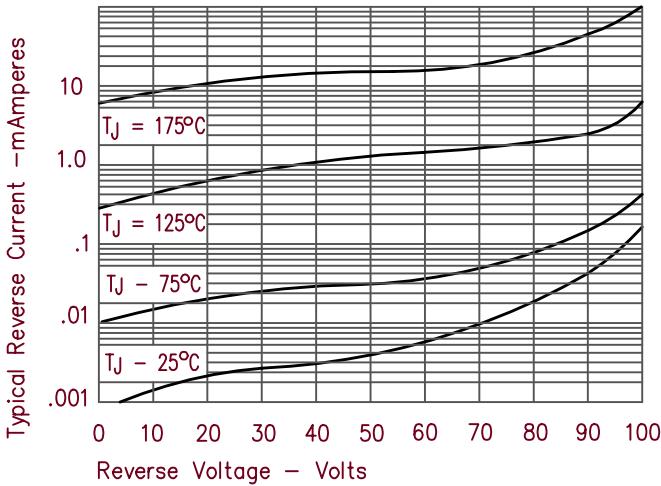


Figure 3  
Typical Junction Capacitance – Per Leg

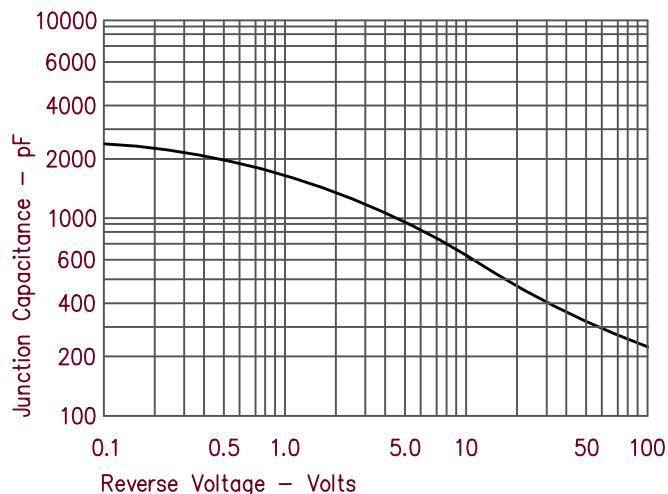


Figure 4  
Forward Current Derating – Per Leg

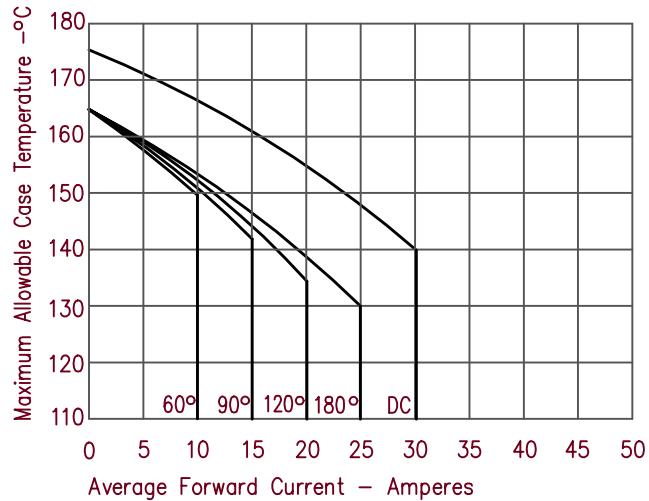


Figure 5  
Maximum Forward Power Dissipation – Per Leg

