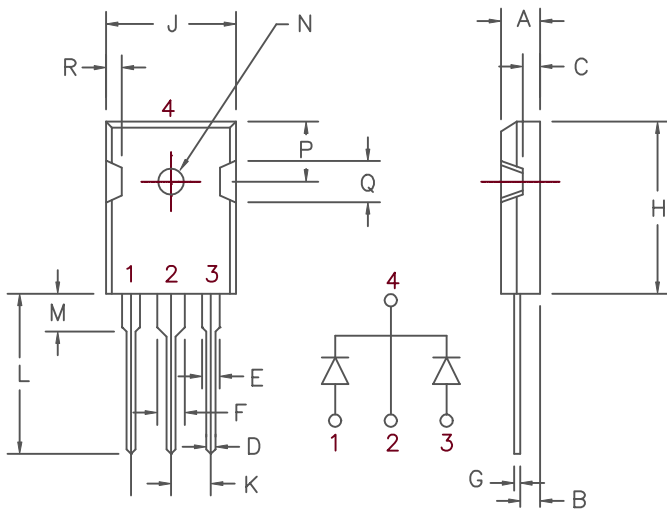


# 50Amp Schottky Barrier Rectifier FST5080 — FST50100



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

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
- VRRM 80 to 100 Volts

## Electrical Characteristics

Average Forward Current per pkg.  
Average Forward Current per leg  
Maximum Surge Current per leg  
Max. Peak Forward Voltage per leg  
Max. Peak Forward Voltage per leg  
Max. Peak Reverse Current per leg  
Max. Peak Reverse Current per leg  
Typical Junction Capacitance per leg

$I_F(AV)$  50 Amps  
 $I_F(AV)$  25 Amps  
 $I_{FSM}$  400 Amps  
 $V_{FM}$  .62 Volts  
 $V_{FM}$  .85 Volts  
 $I_{RM}$  15 mA  
 $I_{RM}$  500  $\mu$ A  
 $C_J$  920 pF

$T_C = 129^\circ\text{C}$ , Square wave,  $R_{\theta JC} = 1.0^\circ\text{C/W}$   
 $T_C = 129^\circ\text{C}$ , Square wave,  $R_{\theta JC} = 2.0^\circ\text{C/W}$   
8.3ms, half sine,  $T_J = 175^\circ\text{C}$   
 $I_{FM} = 25\text{A}$ ,  $T_J = 175^\circ\text{C}^*$   
 $I_{FM} = 25\text{A}$ ,  $T_J = 25^\circ\text{C}^*$   
 $V_{RRM}$ ,  $T_J = 125^\circ\text{C}^*$   
 $V_{RRM}$ ,  $T_J = 25^\circ\text{C}$   
 $V_R = 5.0\text{V}$ ,  $T_J = 25^\circ\text{C}$

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

## Thermal and Mechanical Characteristics

Storage temp range  
Operating junction temp range  
Max thermal resistance per leg  
Max thermal resistance per pkg.  
Mounting Torque  
Weight

$T_{STG}$   
 $T_J$   
 $R_{\theta LC}$   
 $R_{\theta JC}$

$-55^\circ\text{C}$  to  $+175^\circ\text{C}$   
 $-55^\circ\text{C}$  to  $+175^\circ\text{C}$   
 $2.0^\circ\text{C/W}$   
 $1.0^\circ\text{C/W}$   
5–10 inch pounds (#6 screw)  
.22 ounces (6.36 grams) typical

# FST5080 — FST50100

Figure 1  
Typical Forward Characteristics – Per Leg

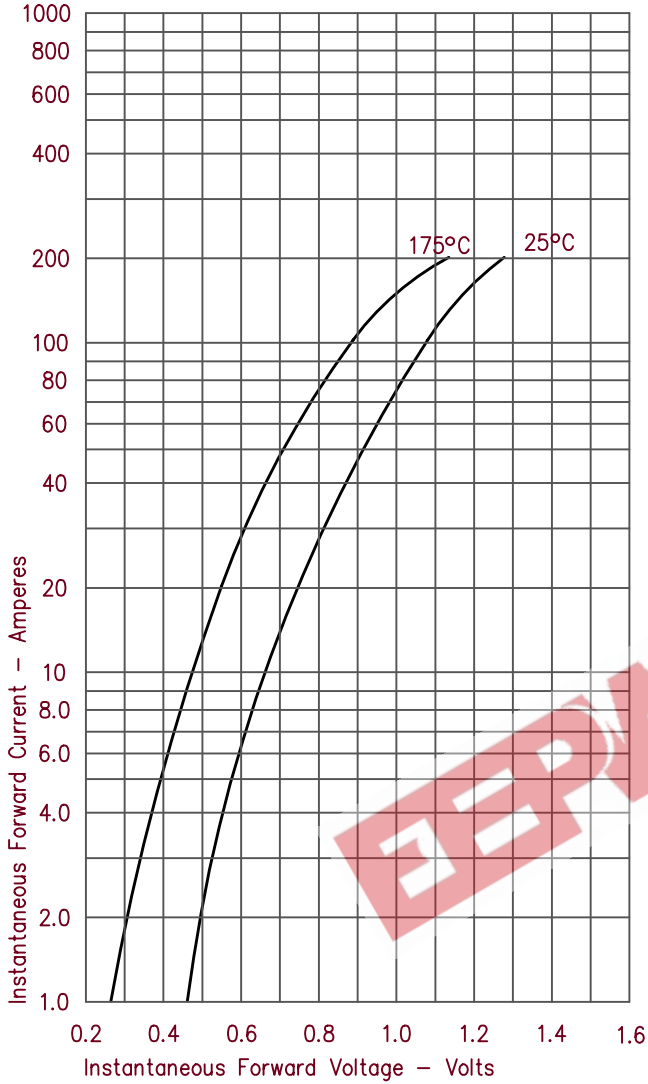


Figure 3  
Typical Junction Capacitance – Per Leg

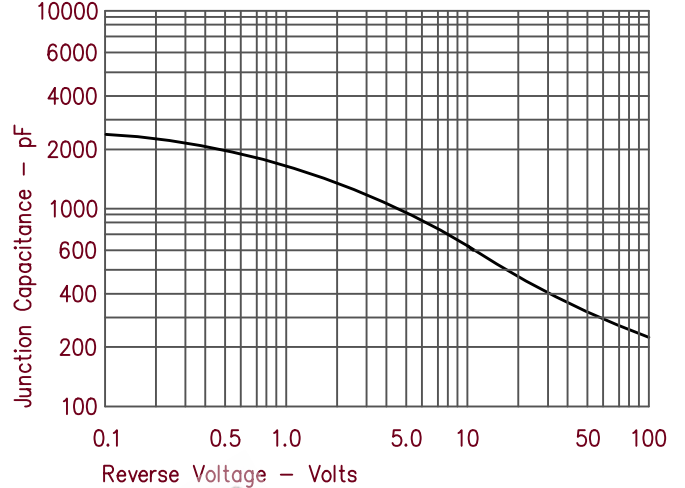


Figure 4  
Forward Current Derating – Per Leg

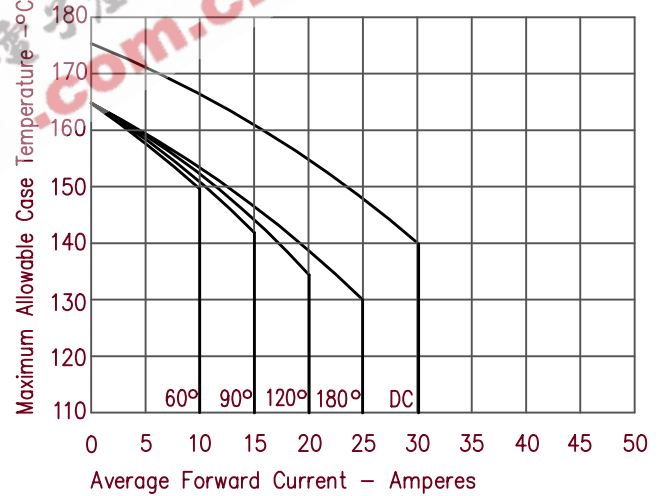


Figure 2  
Typical Reverse Characteristics – Per Leg

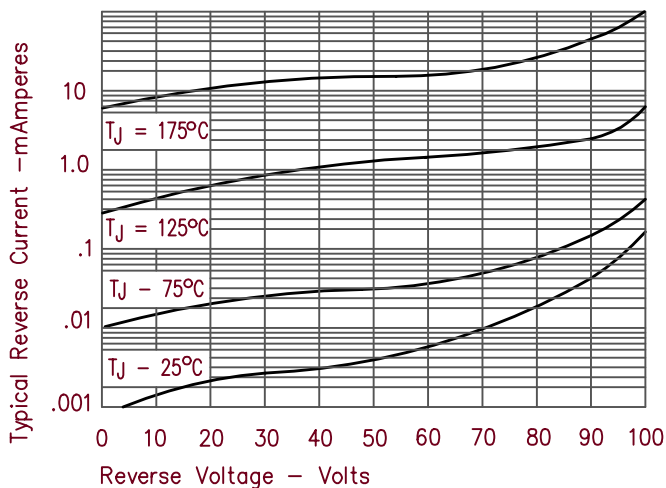


Figure 5  
Maximum Forward Power Dissipation – Per Leg

