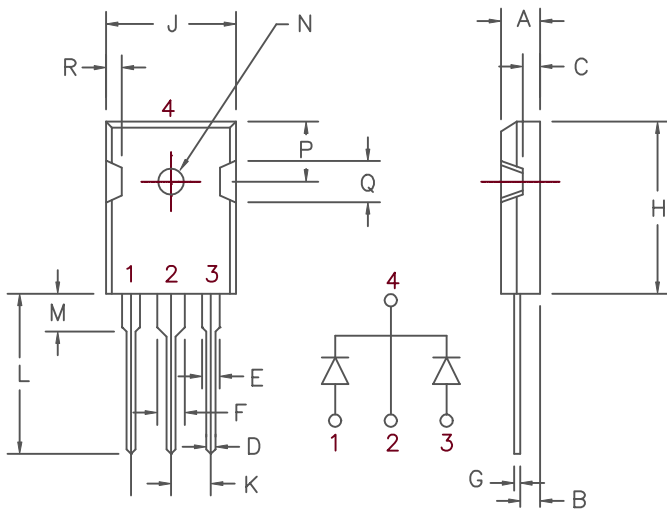


# 50Amp Schottky Barrier Rectifier FST5080 — FST50100



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.	$I_F(AV)$ 50 Amps	$T_C = 129^\circ C$ , Square wave, $R_{\theta JC} = 1.0^\circ C/W$
Average Forward Current per leg	$I_F(AV)$ 25 Amps	$T_C = 129^\circ C$ , Square wave, $R_{\theta JC} = 2.0^\circ C/W$
Maximum Surge Current per leg	$I_{FSM}$ 400 Amps	8.3ms, half sine, $T_J = 175^\circ C$
Max. Peak Forward Voltage per leg	$V_{FM}$ .62 Volts	$I_{FM} = 25A$ , $T_J = 175^\circ C^*$
Max. Peak Forward Voltage per leg	$V_{FM}$ .85 Volts	$I_{FM} = 25A$ , $T_J = 25^\circ C^*$
Max. Peak Reverse Current per leg	$I_{RM}$ 15 mA	$V_{RRM}$ , $T_J = 125^\circ C^*$
Max. Peak Reverse Current per leg	$I_{RM}$ 500 $\mu A$	$V_{RRM}$ , $T_J = 25^\circ C$
Typical Junction Capacitance per leg	$C_J$ 920 pF	$V_R = 5.0V$ , $T_J = 25^\circ C$

\*Pulse test: Pulse width 300 usec. 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	$R_{\theta JC}$	$2.0^\circ C/W$
Max thermal resistance per pkg.	$R_{\theta JC}$	$1.0^\circ C/W$
Mounting Torque		5–10 inch pounds (#6 screw)
Weight		.22 ounces (6.36 grams) typical

# FST5080 — FST50100

Figure 1  
Typical Forward Characteristics – Per Leg

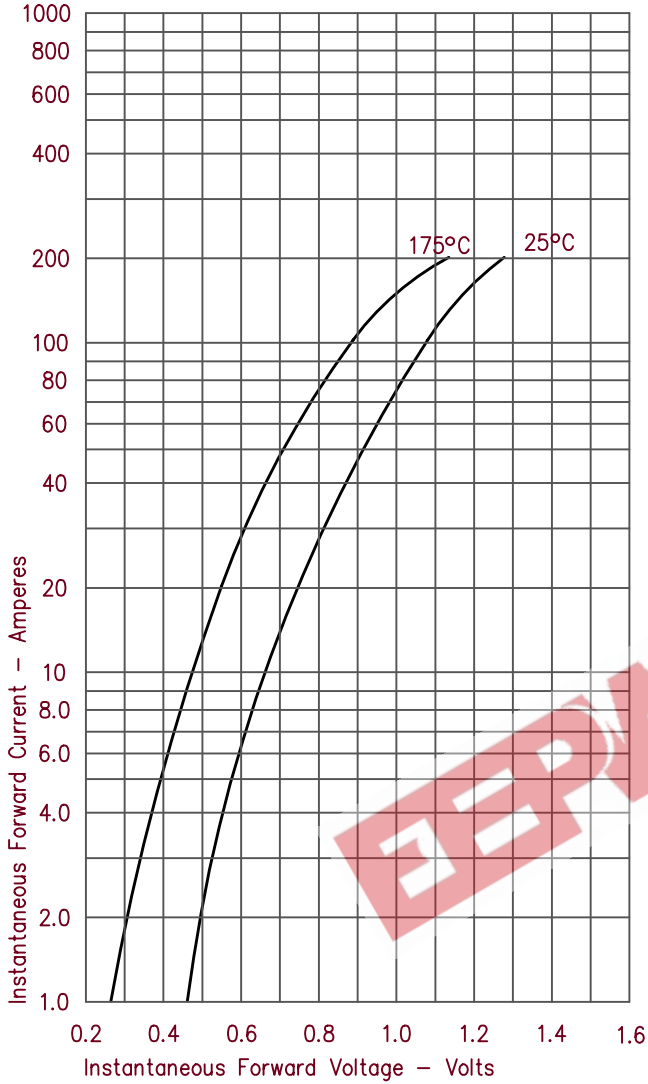


Figure 3  
Typical Junction Capacitance – Per Leg

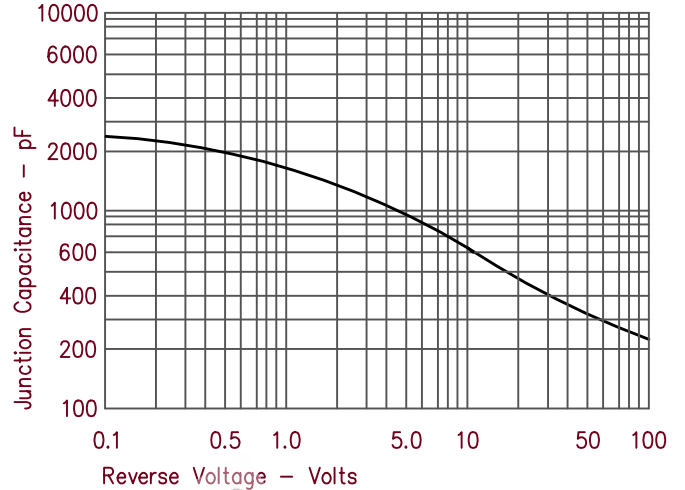


Figure 4  
Forward Current Derating – Per Leg

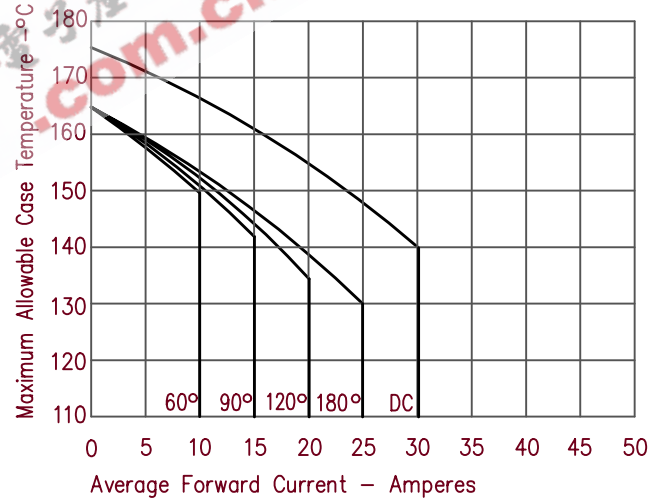


Figure 2  
Typical Reverse Characteristics – Per Leg

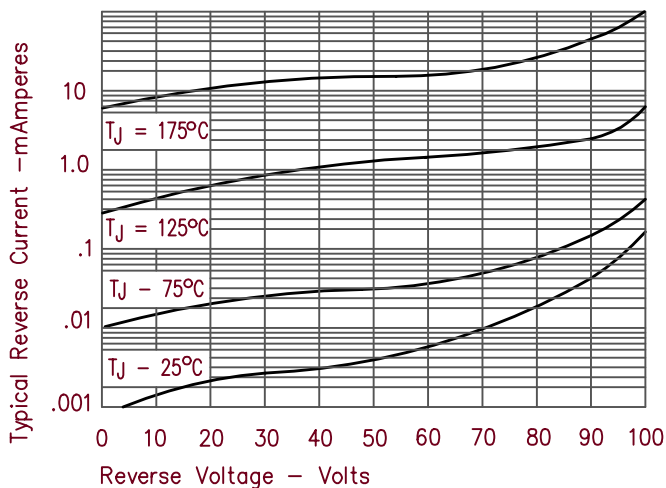


Figure 5  
Maximum Forward Power Dissipation – Per Leg

