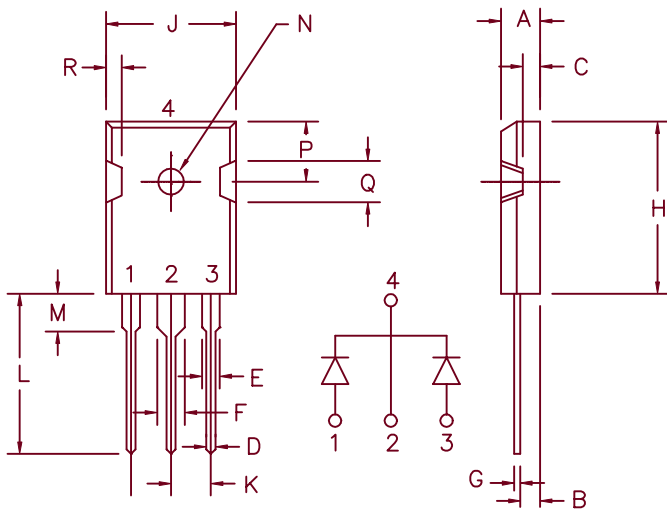


# 50Amp Schottky Barrier Rectifier FST5035 – FST5050



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

FST5035  
FST5040  
FST5045  
FST5050

Repetitive Peak Reverse Voltage

35V  
40V  
45V  
50V

Transient Peak Reverse Voltage

35V  
40V  
45V  
50V

- Guard ring for reverse protection
- Low power loss, high efficiency
- High surge capacity
- 175°C Junction Temperature
- VRRM 35 to 50 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  
 $V_{FM}$  .50 Volts  
 $V_{FM}$  .67 Volts  
 $I_{RM}$  15 mA  
 $I_{RM}$  500  $\mu$ A  
 $C_j$  1400 pF

$T_C = 142^\circ\text{C}$ , Square wave,  $R_{\theta JC} = 1.0^\circ\text{C/W}$   
 $T_C = 142^\circ\text{C}$ , 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.  
Weight

TSTG  
 $T_J$   
 $R_{\theta JC}$   
 $R_{\theta JC}$

$-55^\circ\text{C}$  to  $+175^\circ\text{C}$   
 $-55^\circ\text{C}$  to  $+175^\circ\text{C}$   
 $2.0^\circ\text{C/W}$   
 $1.0^\circ\text{C/W}$   
.22 ounces (6.36 grams) typical

# FST5035 — FST5050

Figure 1  
Typical Forward Characteristics — Per Leg

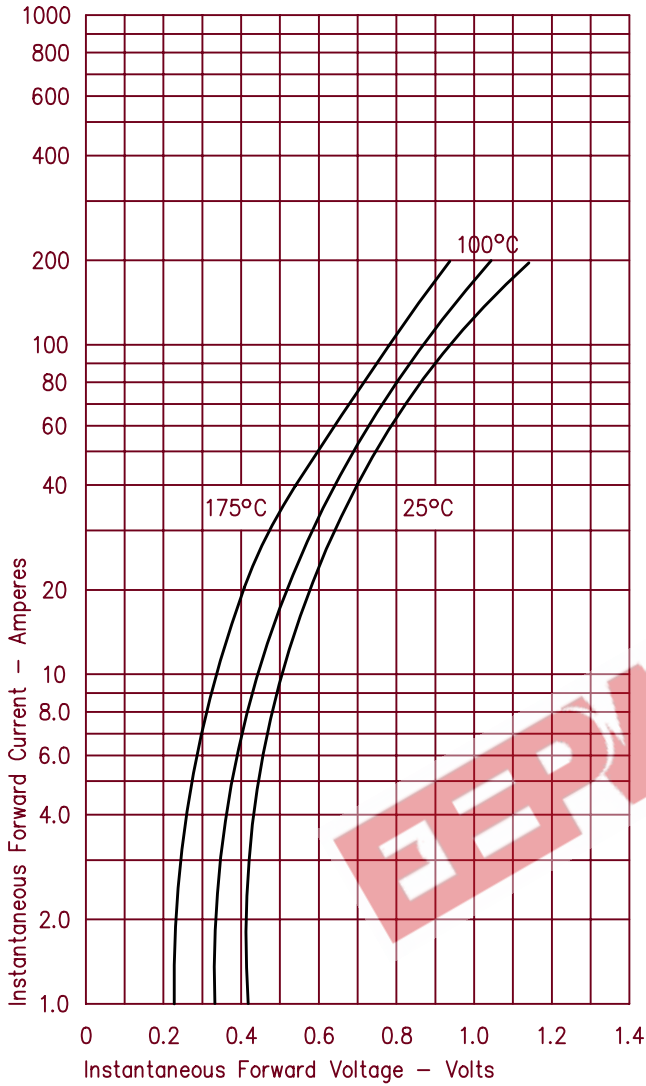


Figure 3  
Typical Junction Capacitance — Per Leg

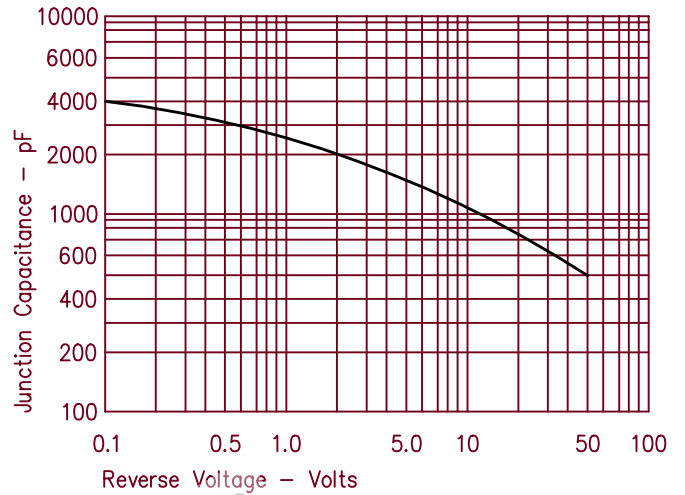


Figure 4  
Forward Current Derating — Per Leg

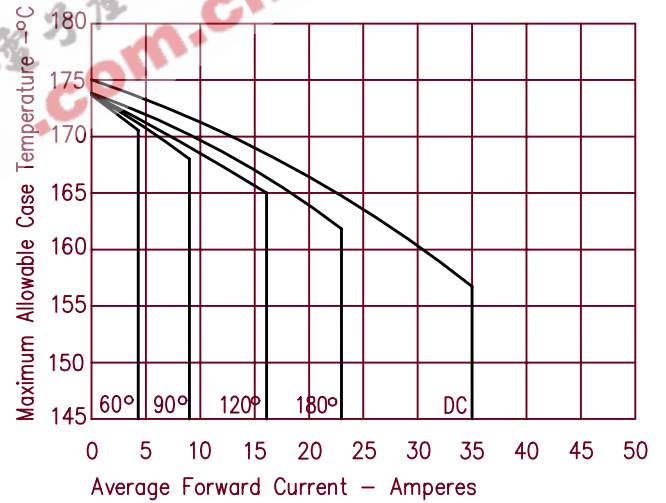


Figure 2  
Typical Reverse Characteristics — Per Leg

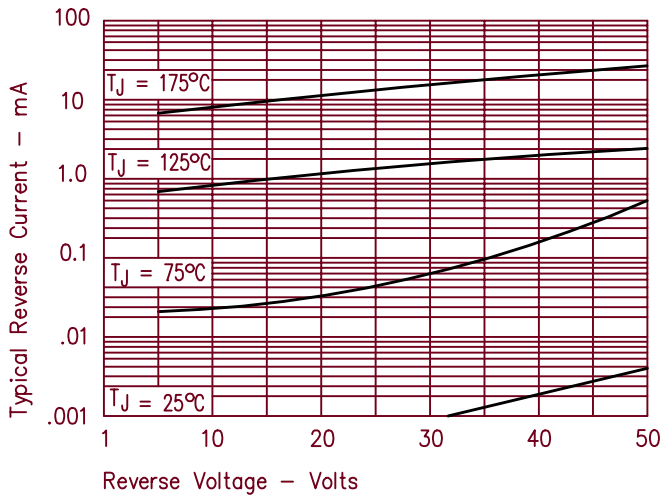


Figure 5  
Maximum Forward Power Dissipation — Per Leg

