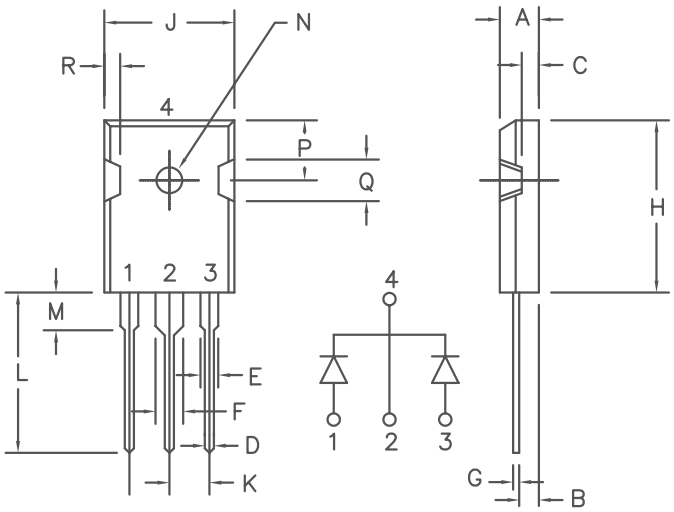
50 Amp Schottky Rectifier

FST50150



Similar to TO–247AD

Dim.	Inches		Millimeter		
	Minimum	Maximum	Minimum	Maximum	Notes
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	Industry Part Number	Repetitive Peak Reverse Voltage	Transient Peak Reverse Voltage
FST50150		150V	150V

- Schottky barrier rectifier
- Guard ring for reverse protection
- Low power loss
- 175°C Junction Temperature
- V_{RRM} 150 Volts

Electrical Characteristics

Average forward current per pkg.	$I_{F(AV)}$ 50 Amps	T_C = 154°C, square wave, $R_{\theta JC}$ = 0.5°C/W
Average forward current per leg	$I_{F(AV)}$ 25 Amps	T_C = 154°C, square wave, $R_{\theta JC}$ = 1.0°C/W
Maximum surge current	I_{FSM} 400 Amps	8.3ms, half sine, T_J = 175°C
Max. repetitive reverse current	$I_{R(OV)}$ 2 Amps	f = 1KHZ, 25°C, 1us square wave
Max. peak forward voltage per leg	V_{FM} .83 Volts	I_{FM} = 25A, T_J = 25°C*
Max. peak forward voltage per leg	V_{FM} .68 Volts	I_{FM} = 25A, T_J = 125°C*
Max. peak reverse current per leg	I_{RM} 3 mA	V_{RRM}, T_J = 125°C*
Max. peak reverse current per leg	I_{RM} 500 µA	V_{RRM}, T_J = 25°C
Typical junction capacitance per leg	C_J 720 pF	V_R = 5.0V, T_J = 25°C

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

Thermal and Mechanical Characteristics

Storage temp range	T_{STG}	−55°C to +175°C
Operating junction temp range	T_J	−55°C to +175°C
Max thermal resistance per leg	$R_{\theta JC}$	1.0°C/W
Max thermal resistance per pkg.	$R_{\theta JC}$	0.5°C/W
Mounting Torque		5–10 inch pounds (#6 screw)
Weight		.22 ounces (6.36 grams) typical

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1–28–05 Rev. 1

FST50150

Figure 1
Typical Forward Characteristics – Per Leg

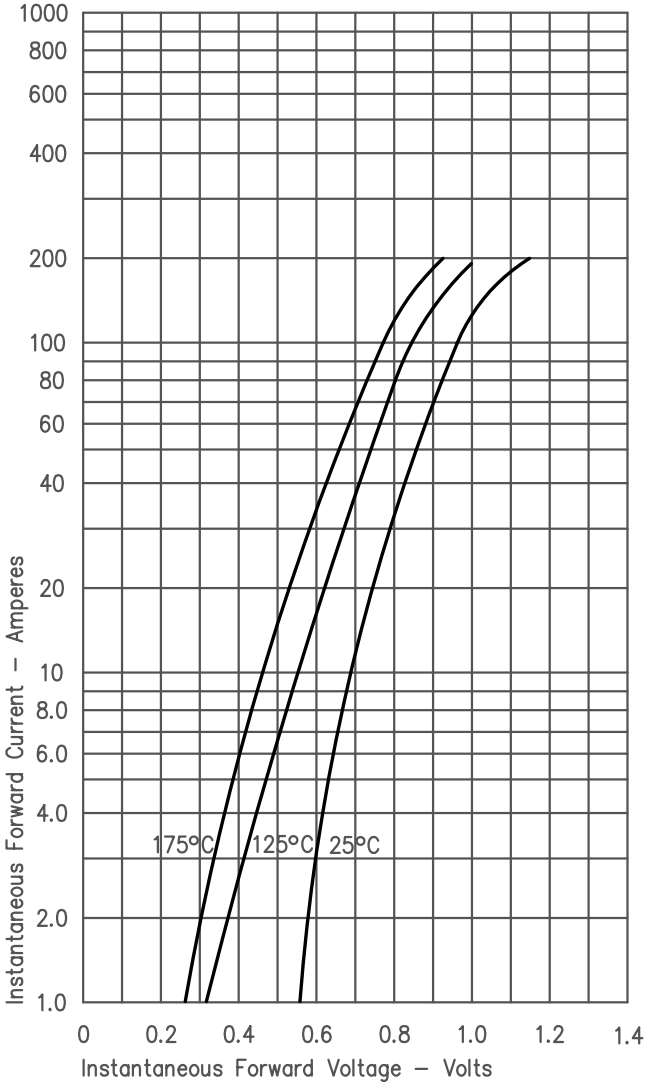

Figure 2
Typical Reverse Characteristics – Per Leg

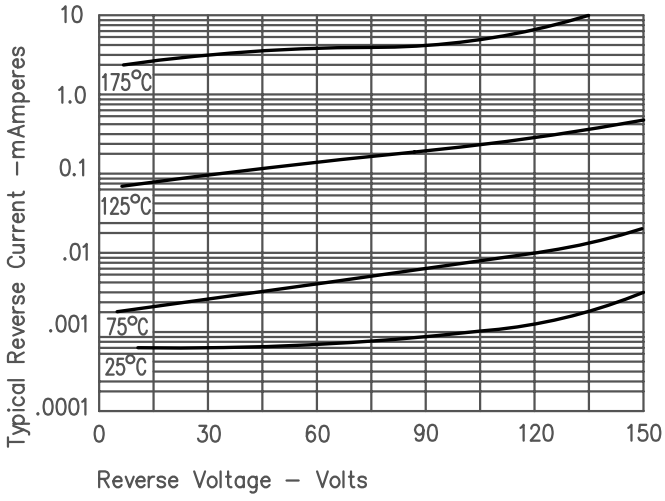

Figure 3
Typical Junction Capacitance – Per Leg

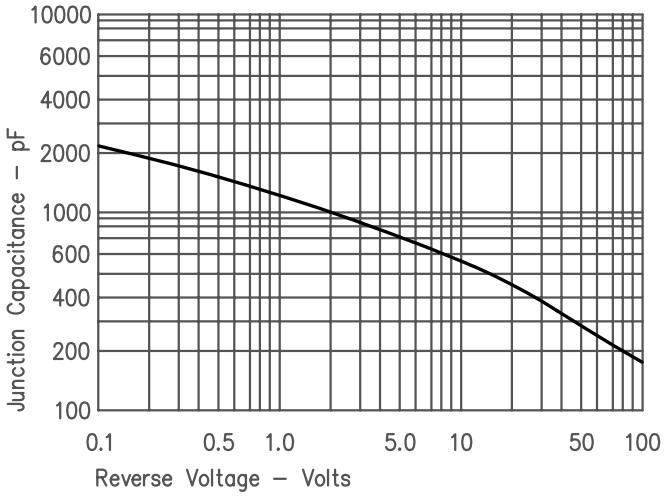

Figure 4
Forward Current Derating – Per Leg

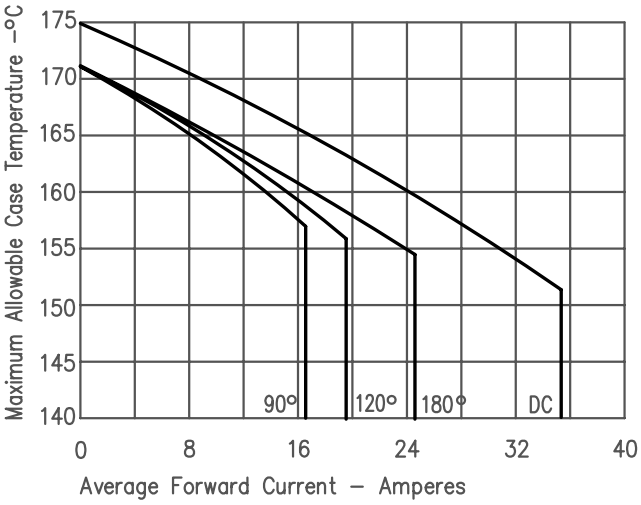

Figure 5
Maximum Forward Power Dissipation – Per Leg