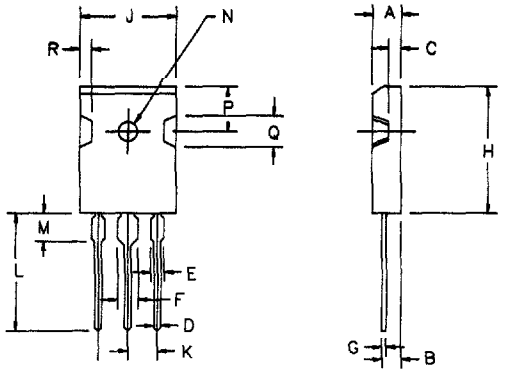
50Amp Schottky Barrier Rectifier
FST5020 – FST5050



PLASTIC TO3P

Dim.	Inches		Millimeter		
	Minimum	Maximum	Minimum	Maximum	Notes
A	.185	.209	4.70	5.30	
B	.110	.125	2.79	3.18	
C	.059	.098	1.50	2.50	
D	.040	.055	1.00	1.40	
E	.079	.094	2.00	2.40	
F	.118	.133	3.00	3.40	
G	.016	.031	.400	.800	
H	.860	.883	21.8	22.4	
J	.627	.650	15.9	16.5	
K	.215	—	5.45	—	
L	.795	.810	20.2	20.6	
M	.157	.180	4.00	4.60	
N	.118	.133	3.00	3.40	Dia.
P	.268	.300	6.80	7.62	
Q	.175	.210	4.44	5.30	
R	.068	.080	1.72	2.03	

Microsemi Catalog Number	Repetitive Peak Reverse Voltage	Transient Peak Reverse Voltage
FST5020	20V	20V
FST5030	30V	30V
FST5040	40V	40V
FST5045	45V	45V
FST5050	50V	50V

- Guard ring for reverse protection
- Low power loss, high efficiency
- High surge capacity
- For use in low voltage, high frequency inverter, free wheeling and protection application

Electrical Characteristics

Average Forward Current per pkg.	$I_{F(AV)}$ 50 Amps	T_C = 142°C, Square wave, $R_{\theta JC}$ = 1.0°C/W
Average Forward Current per leg	$I_{F(AV)}$ 25 Amps	T_C = 142°C, Square wave, $R_{\theta JC}$ = 2.0°C/W
Maximum Surge Current per leg	I_{FSM} 700 Amps	8.3ms, half sine, T_J = 175°C
Max. Peak Forward Voltage per leg	V_{FM} .50 Volts	I_{FM} = 25A, T_J = 175°C*
Max. Peak Forward Voltage per leg	V_{FM} .67 Volts	I_{FM} = 25A, T_J = 25°C*
Max. Peak Reverse Current per leg	I_{RM} 15 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	C_J 1400 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}	−40°C to +175°C
Operating junction temp range	T_J	−40°C to +175°C
Max thermal resistance per leg	$R_{\theta JC}$	2.0°C/W
Max thermal resistance per pkg.	$R_{\theta JC}$	1.0°C/W
Typical thermal resistance per leg	$R_{\theta JC}$	1.1°C/W
Typical Weight		.22 ounces (6.36 grams) typical

Microsemi Corp.
Colorado

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FAX: 303-466-3775

FST5020 – FST5050

C

Figure 1
Typical Forward Characteristics – Per Leg

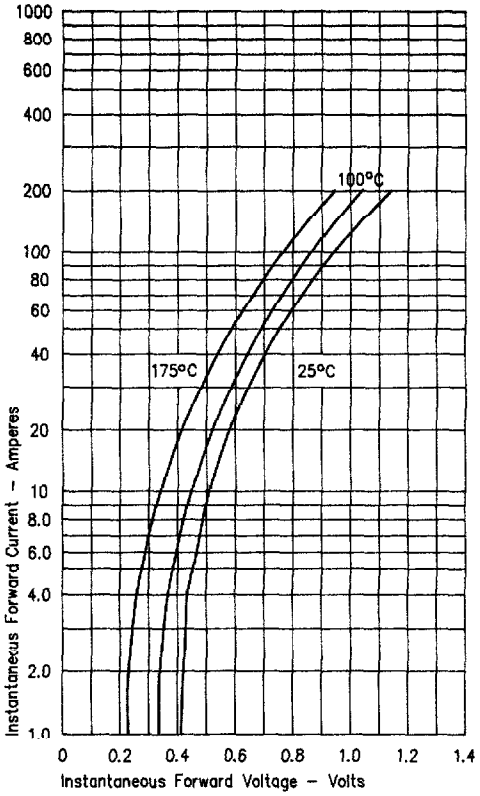

Figure 2
Typical Reverse Characteristics – Per Leg

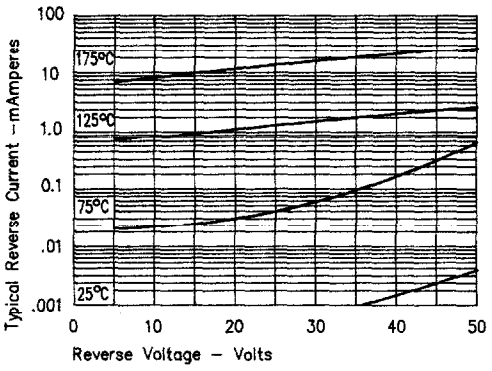

Figure 3
Typical Junction Capacitance – Per Leg

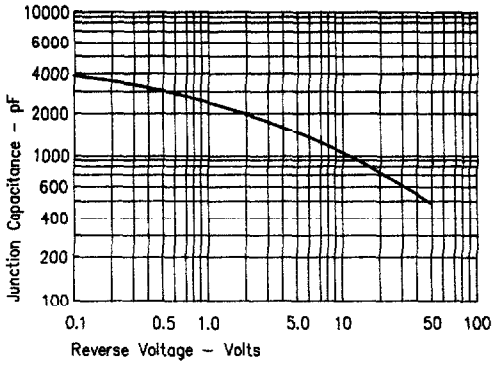

Figure 4
Forward Current Derating – Per Leg

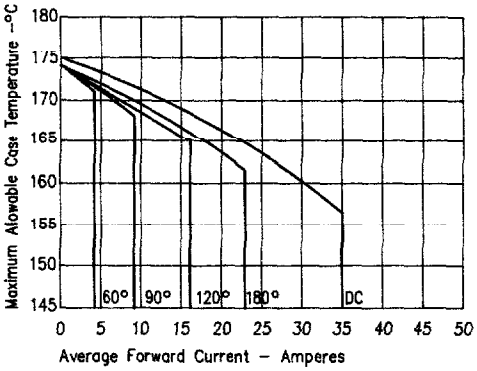

Figure 5
Maximum Forward Power Dissipation – Per Leg