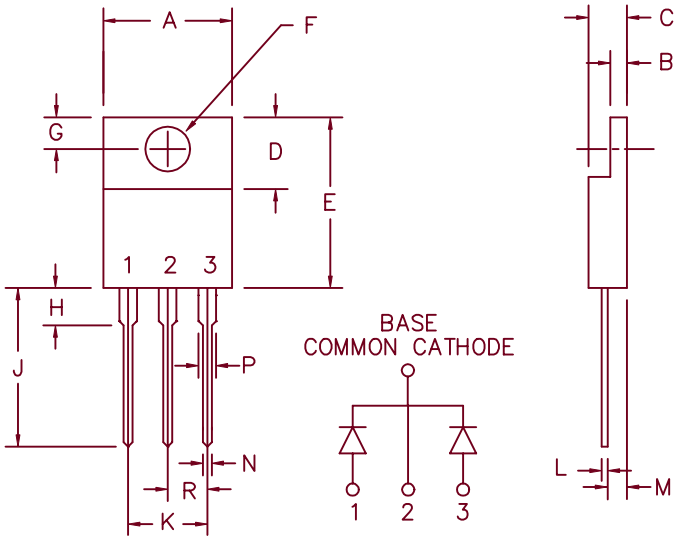
30 Amp Schottky Rectifiers

FST31120–FST31150



Dim.	Inches		Millimeter		
	Minimum	Maximum	Minimum	Maximum	Notes
A	.390	.415	9.91	10.54	
B	.045	.055	1.14	1.40	
C	.180	.190	4.57	4.83	
D	.245	.260	6.22	6.60	
E	.550	.650	13.97	16.51	
F	.139	.161	3.53	4.09	Dia.
G	.100	.135	2.54	3.43	
H	---	.250	---	6.35	
J	.500	.580	12.70	14.73	
K	.190	.210	4.83	5.33	
L	.014	.022	.357	.559	
M	.080	.115	2.03	2.92	
N	.015	.040	.380	1.02	
P	.045	.070	1.14	1.78	
R	.090	.110	2.29	2.79	

PLASTIC TO-220AB

Microsemi Catalog Number	Industry Part Number	Repetitive Peak Reverse Voltage	Transient Peak Reverse Voltage
FST31120		120V	120V
FST31130		130V	130V
FST31150	MBR30H150CT	150V	150V

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

Electrical Characteristics

Average Forward Current per pkg.	$I_{F(AV)}$ 30 Amps	T_C = 153°C, Square wave, $R_{\theta JC}$ = 1.0°C/W
Average Forward Current per leg	$I_{F(AV)}$ 15 Amps	T_C = 153°C, Square wave, $R_{\theta JC}$ = 2.0°C/W
Maximum Surge Current per leg	I_{FSM} 250 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} 0.85 Volts	I_{FM} = 15A, T_J = 25°C*
Max. Peak Forward Voltage per leg	V_{FM} 0.72 Volts	I_{FM} = 15A, T_J = 125°C*
Max. Peak Reverse Current per leg	I_{RM} 1 mA	V_{RRM}, T_J = 125°C*
Max. Peak Reverse Current per leg	I_{RM} 250 μA	V_{RRM}, T_J = 25°C
Typical junction capacitance per leg	C_J 350 pF	V_R = 5.0V, T_J = 25°C

*Pulse test: Pulse width 300 μsec. Duty cycle 2%

Thermal and Mechanical Characteristics

Storage temp range	TSTG	-55°C to + 175°C
Operating junction temp range	TJ	-55°C to + 175°C
Max thermal resistance per leg	$R_{\theta JC}$	2.0°C/W Junction to case
Max thermal resistance per pkg.	$R_{\theta JC}$	1.0°C/W Junction to case
Mounting torque		15 inch pounds maximum (6-32 screw)
Weight		.06 ounces (1.8 grams) typical

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11-19-03 Rev. 0

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Figure 1
Typical Forward Characteristics – Per Leg

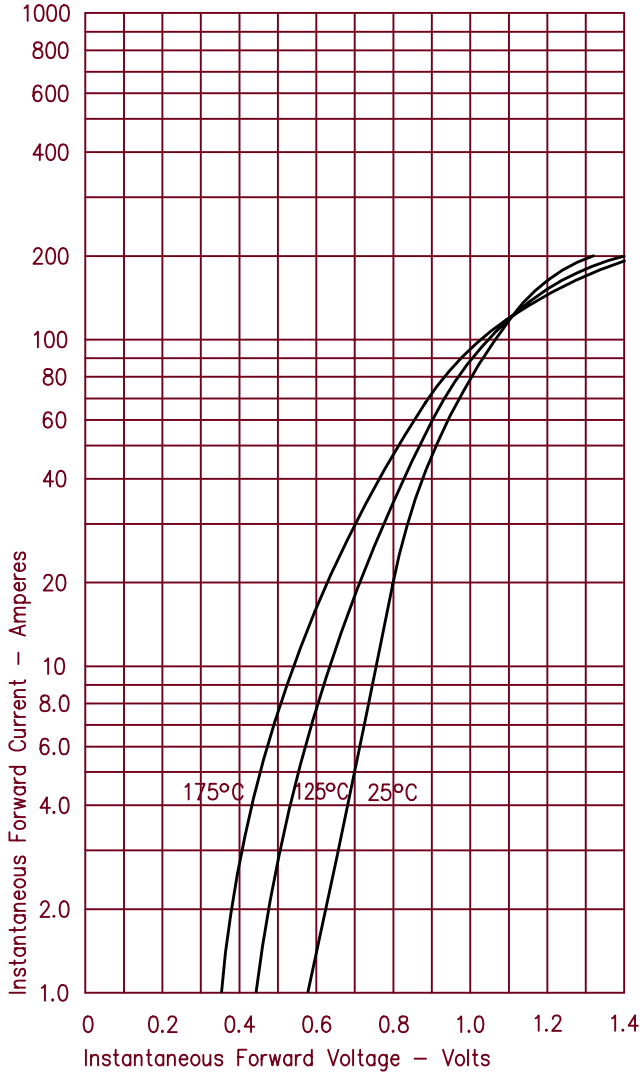

Figure 2
Typical Reverse Characteristics – Per Leg

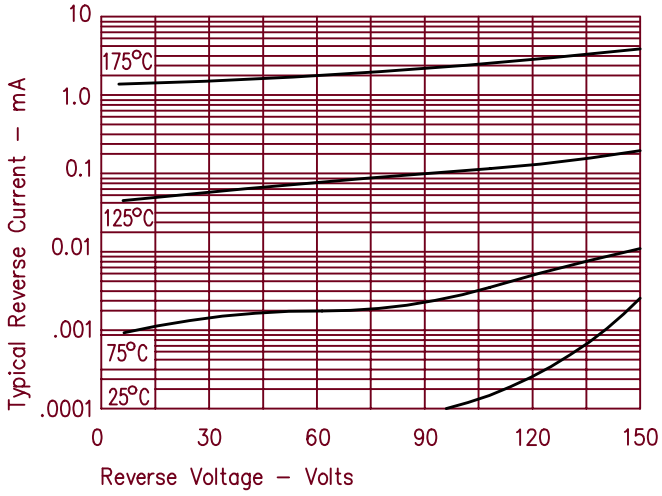

Figure 3
Typical Junction Capacitance – Per Leg

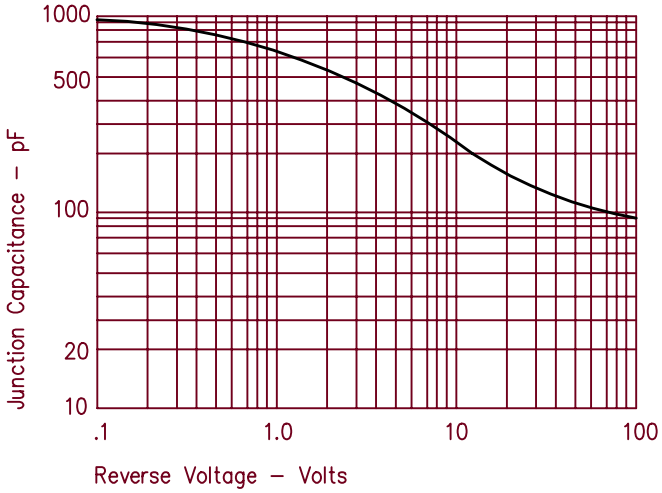

Figure 4
Forward Current Derating – Per Leg

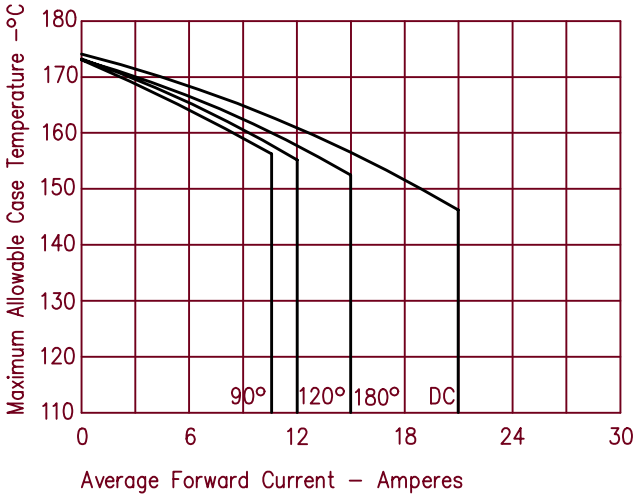

Figure 5
Maximum Forward Power Dissipation – Per Leg