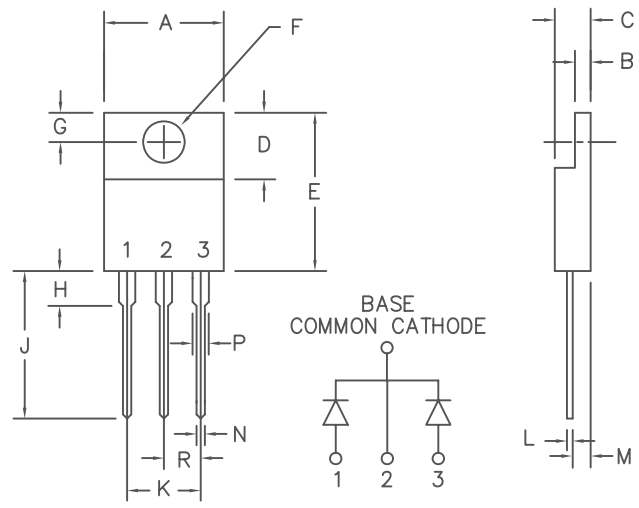


# 30 Amp Schottky Rectifiers FST31180 — FST31200



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
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
FST31180		180V	180V
FST31200		200V	200V

- Schottky barrier rectifier
- Guard ring for reverse protection
- Reverse energy tested
- High surge capacity
- $V_{RRM}$  180 to 200 Volts

### Electrical Characteristics

Average Forward Current per pkg.	$I_{F(AV)}$ 30 Amps	$T_C = 150^\circ\text{C}$ , Square wave, $R_{\theta JC} = 1.0^\circ\text{C/W}$
Average Forward Current per leg	$I_{F(AV)}$ 15 Amps	$T_C = 150^\circ\text{C}$ , Square wave, $R_{\theta JC} = 2.0^\circ\text{C/W}$
Maximum Surge Current per leg	$I_{FSM}$ 250 Amps	8.3ms, half sine, $T_J = 175^\circ\text{C}$
Typ. Peak Forward Voltage per leg	$V_{FM}$ 0.62 Volts	$I_{FM} = 15\text{A}$ , $T_J = 175^\circ\text{C}^*$
Max. Peak Forward Voltage per leg	$V_{FM}$ 0.83 Volts	$I_{FM} = 15\text{A}$ , $T_J = 25^\circ\text{C}^*$
Typ. Peak Reverse Current per leg	$I_{RM}$ 400 $\mu\text{A}$	$V_{RRM}$ , $T_J = 125^\circ\text{C}^*$
Max. Peak Reverse Current per leg	$I_{RM}$ 100 $\mu\text{A}$	$V_{RRM}$ , $T_J = 25^\circ\text{C}$
Typical junction capacitance	$C_J$ 295pF	$V_R = 5.0\text{V}$ , $T_J = 25^\circ\text{C}$

\*Pulse test: Pulse width 300  $\mu\text{sec}$ . Duty cycle 2%

### Thermal and Mechanical Characteristics

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

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[www.microsemi.com](http://www.microsemi.com)

05-18-07 Rev. 3

# FST31180 — FST31200

Figure 1  
Typical Forward Characteristics – Per Leg

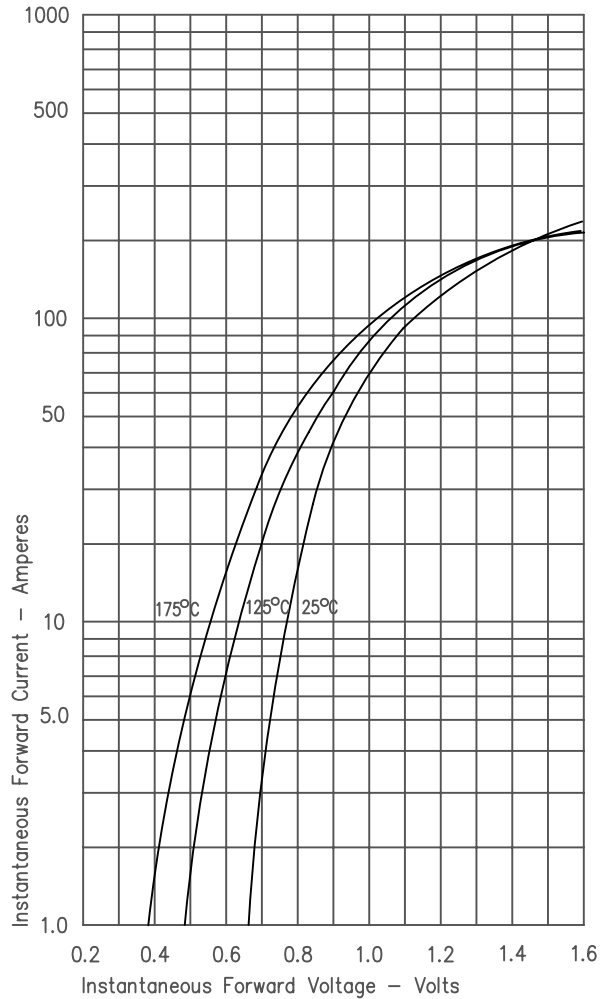


Figure 3  
Typical Junction Capacitance – Per Leg

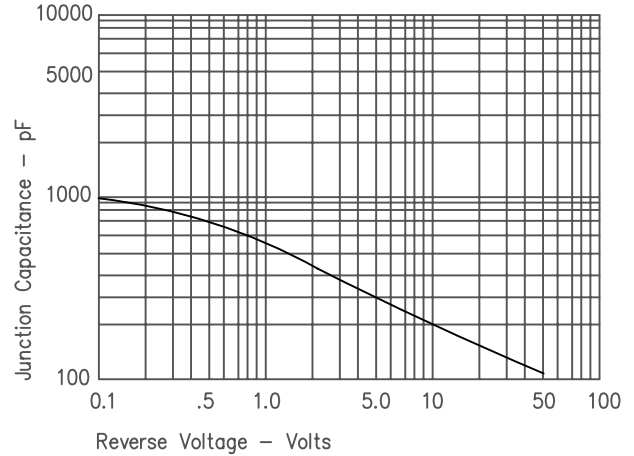


Figure 4  
Forward Current Derating – Per Leg

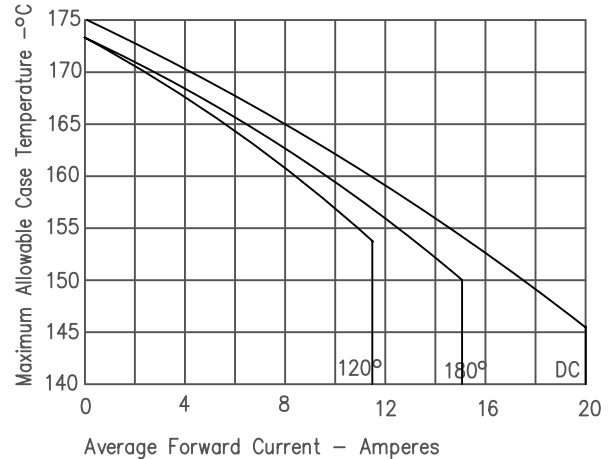


Figure 2  
Typical Reverse Characteristics – Per Leg

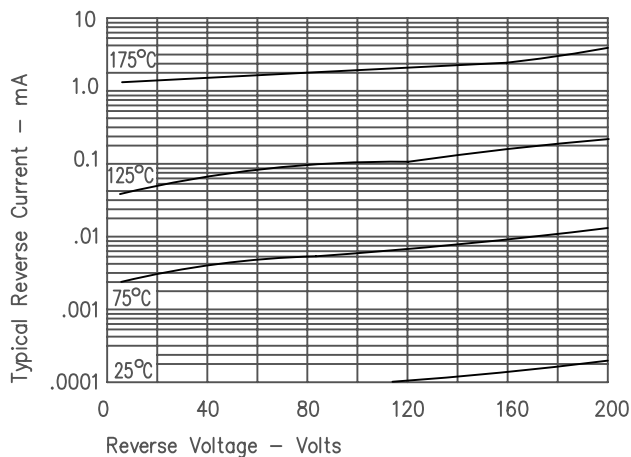


Figure 5  
Maximum Forward Power Dissipation – Per Leg

