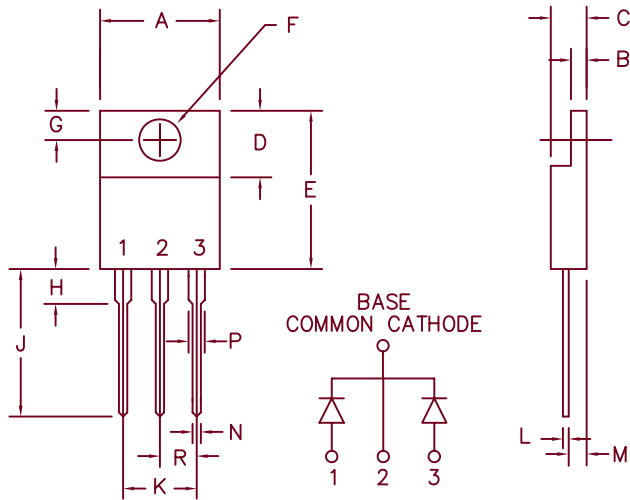


# 20 Amp Schottky Barrier Rectifiers FST2080 — FST20100



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
FST2080	16CTQ080 MBR1580CT, MBR2080CT	80V	80V
FST2090	USD2090CT MBR2090CT	90V	90V
FST20100	16CTQ0100 MBR16100CT, MBR20100CT MBR15100CT, MBR20100CTP MBR20H100CTP	100V	100V

- Schottky barrier rectifier
- Guard ring for reverse protection
- Low power loss, high efficiency
- High surge capacity
- $V_{RRM}$  80 to 100 Volts

## Electrical Characteristics

Average Forward Current per pkg.	$I_{F(AV)}$ 20 Amps	$T_C = 147^\circ\text{C}$ , Square wave, $R_{\theta JC} = 1.2^\circ\text{C/W}$
Average Forward Current per leg	$I_{F(AV)}$ 10 Amps	$T_C = 147^\circ\text{C}$ , Square wave, $R_{\theta JC} = 2.4^\circ\text{C/W}$
Maximum Surge Current per leg	$I_{FSM}$ 225 Amps	8.3ms, half sine, $T_J = 175^\circ\text{C}$
Max. Peak Forward Voltage per leg	$V_{FM}$ .66 Volts	$I_{FM} = 10\text{A}$ , $T_J = 175^\circ\text{C}^*$
Max. Peak Forward Voltage per leg	$V_{FM}$ .85 Volts	$I_{FM} = 10\text{A}$ , $T_J = 25^\circ\text{C}^*$
Max. Peak Reverse Current per leg	$I_{RM}$ 10 mA	$V_{RRM}$ , $T_J = 125^\circ\text{C}^*$
Max. Peak Reverse Current per leg	$I_{RM}$ 250 $\mu\text{A}$	$V_{RRM}$ , $T_J = 25^\circ\text{C}$
Typical Junction Capacitance	$C_J$ 440 pF	$V_R = 5.0\text{V}$ , $T_J = 25^\circ\text{C}$

\*Pulse test: Pulse width 300 usec. Duty cycle 2%

## Thermal and Mechanical Characteristics

Storage temp range	TSTG	-55°C to + 175°C
Operating junction temp range	$T_J$	-55°C to + 175°C
Max thermal resistance per leg	$R_{\theta JC}$	2.4°C/W Junction to case
Max thermal resistance per pkg.	$R_{\theta JC}$	1.2°C/W Junction to case
Typical thermal resistance (greased)	$R_{\theta CS}$	0.5°C/W Case to sink
Mounting torque		15 inch pounds maximum (6-32 screw)
Weight		.08 ounces (2.3 grams) typical

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05-17-07 Rev. 5

# FST2080 – FST20100

Figure 1  
Typical Forward Characteristics – Per Leg

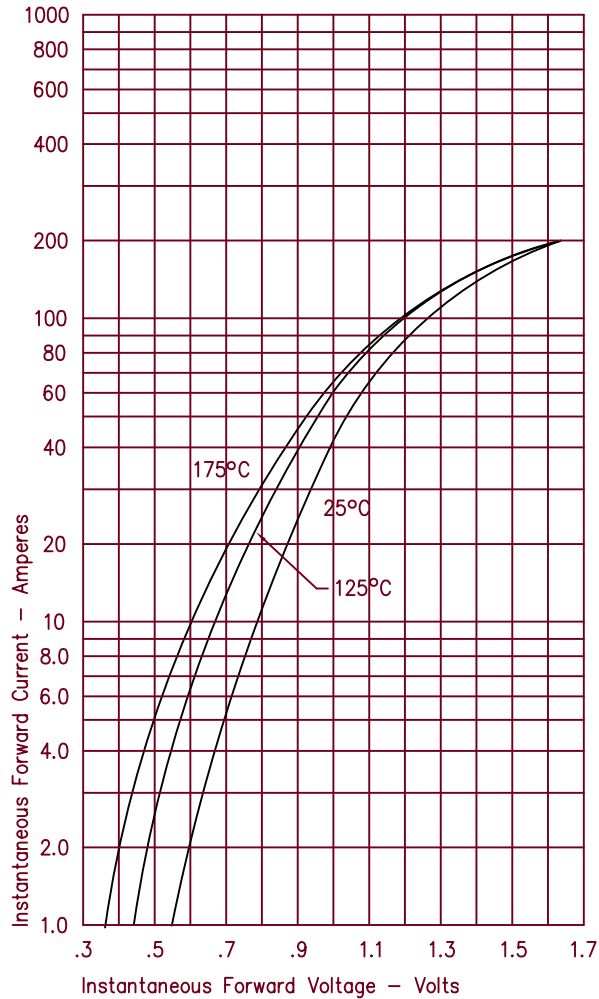


Figure 3  
Typical Junction Capacitance – Per Leg

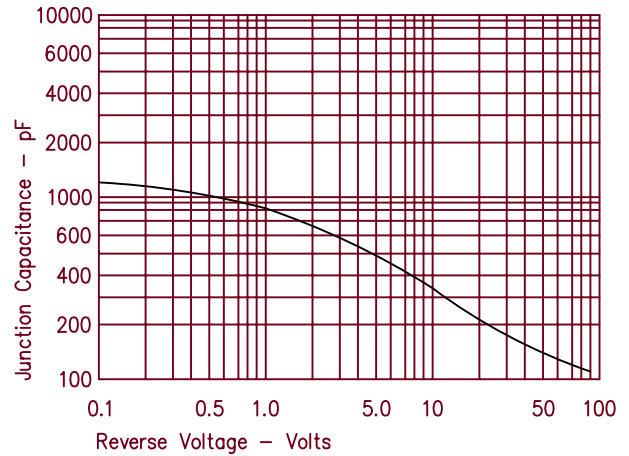


Figure 4  
Forward Current Derating – Per Leg

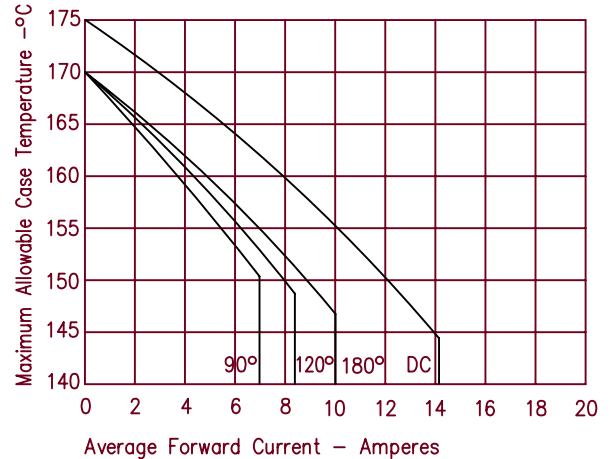


Figure 2  
Typical Reverse Characteristics – Per Leg

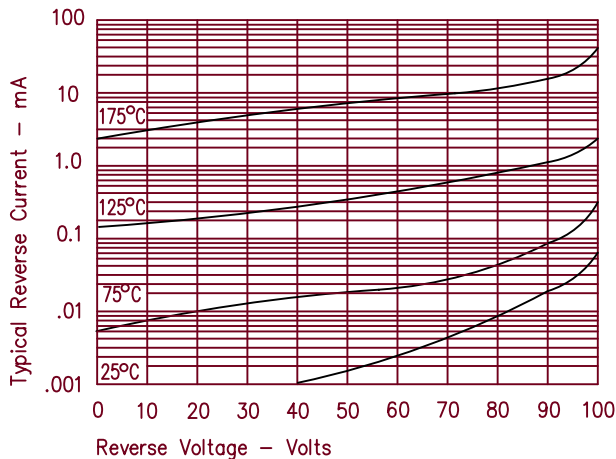


Figure 5  
Maximum Forward Power Dissipation – Per Leg

