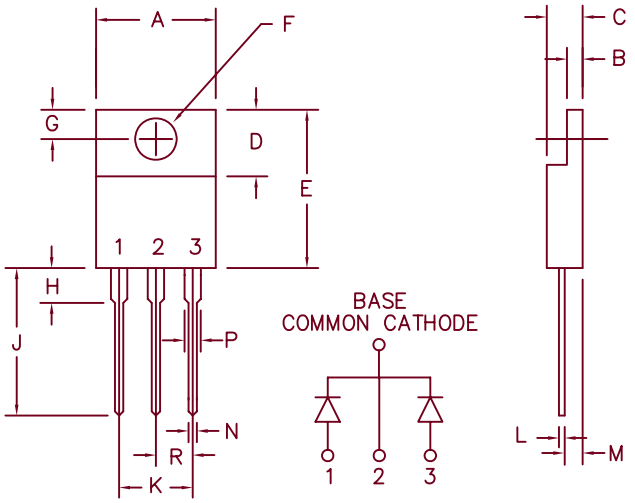
20 Amp Schottky Barrier Rectifiers

FST2035 – FST2045



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
FST2035	12CTQ035,15CTQ035 20CTQ035 MBR1535CT,MBR2035CT	35V	35V
FST2040	12CTQ040,15CTQ040 20CTQ040 MBR1540CT,MBR2040CT	40V	40V
FST2045	12CTQ045,15CTQ045 20CTQ045 MBR1545CT,MBR2045CT MBR1545CTP,MBR2045CTP	45V	45V

- Schottky barrier rectifier
- Guard ring for reverse protection
- Low power loss, high efficiency
- High surge capacity
- V_{RRM} 35 to 45 Volts

Electrical Characteristics

Average Forward Current per pkg.	$I_{F(AV)}$ 20 Amps	T_C = 160°C, Square wave, $R_{\theta JC}$ = 1.2°C/W
Average Forward Current per leg	$I_{F(AV)}$ 10 Amps	T_C = 160°C, Square wave, $R_{\theta JC}$ = 2.4°C/W
Maximum Surge Current per leg	I_{FSM} 225 Amps	8.3ms, half sine, T_J = 175°C
Max. Peak Forward Voltage per leg	V_{FM} .48 Volts	I_{FM} = 10A, T_J = 175°C*
Max. Peak Forward Voltage per leg	V_{FM} .65 Volts	I_{FM} = 10A, T_J = 25°C*
Max. Peak Reverse Current per leg	I_{RM} 10 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	C_J 660 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	T_{STG}	-55°C to 175°C
Operating junction temp range	T_J	-55°C to 175°C
Max thermal resistance per leg	$R_{\theta JC}$	2.4°C/W
Max thermal resistance per pkg.	$R_{\theta JC}$	1.2°C/W
Mounting torque		15 inch pounds maximum (6-32 screw)
Weight		.08 ounces (2.3 grams) typical

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Figure 1
Typical Forward Characteristics – Per Leg

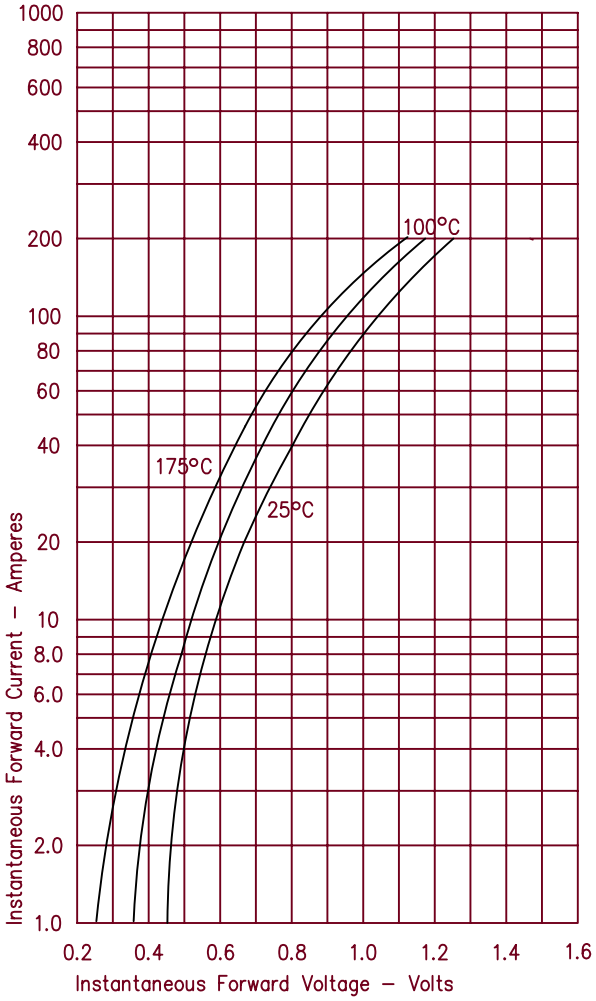


Figure 2
Typical Reverse Characteristics – Per Leg

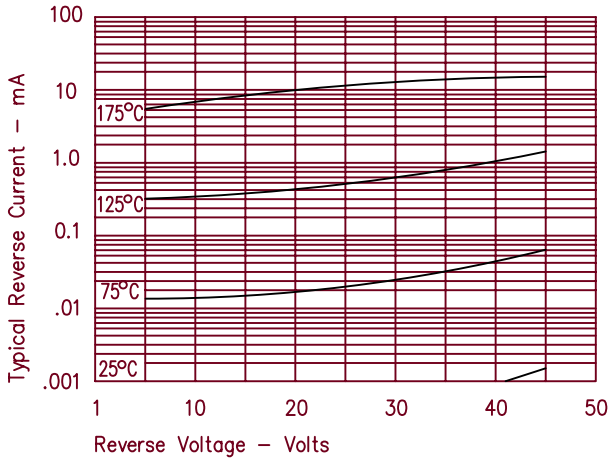


Figure 3
Typical Junction Capacitance – Per Leg

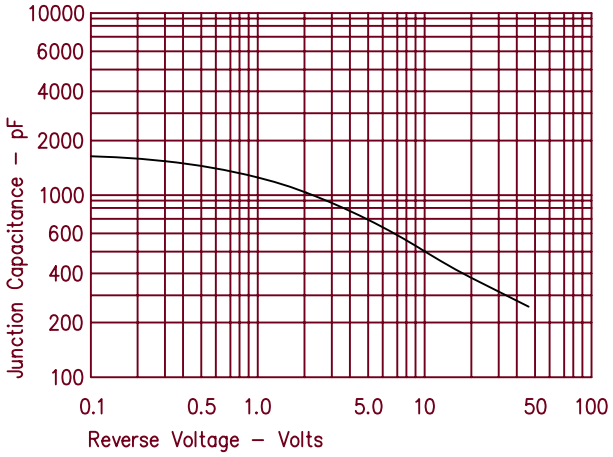


Figure 4
Forward Current Derating – Per Leg

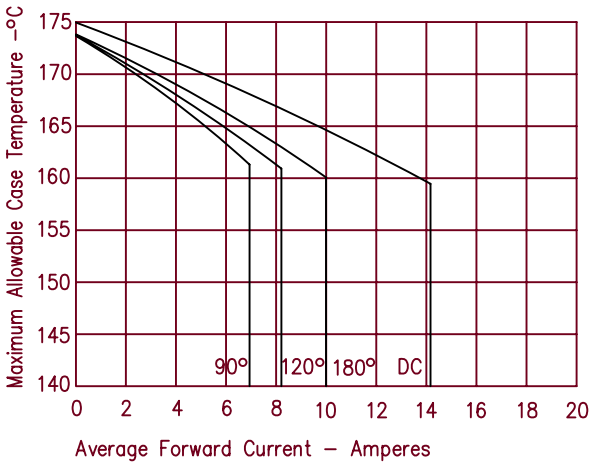
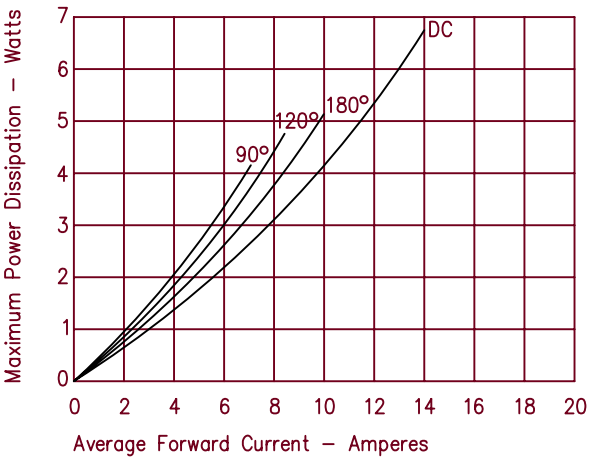


Figure 5
Maximum Forward Power Dissipation – Per Leg



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