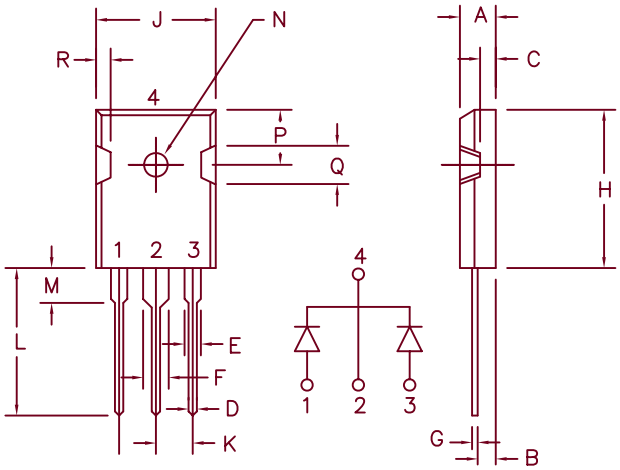
30Amp Schottky Barrier Rectifier

FST3040 – FST3050



Similar to TO–247AD

Dim.	Inches		Millimeter		
	Minimum	Maximum	Minimum	Maximum	Notes
A	.185	.209	4.70	5.31	
B	.087	.102	2.21	2.59	
C	.059	.098	1.50	2.49	
D	.040	.055	1.02	1.40	
E	.079	.094	2.01	2.39	
F	.118	.133	3.00	3.38	
G	.016	.031	.410	0.78	
H	.819	.883	20.80	22.4	
J	.627	.650	15.93	16.5	
K	.215	—	5.46	—	Typ.
L	.790	.810	20.07	20.6	
M	.157	.180	3.99	4.57	
N	.139	.144	3.53	3.66	Dia.
P	.255	.300	6.48	7.62	
Q	.170	.210	4.32	5.33	
R	.080	.110	2.03	2.79	

Microsemi Catalog Number	Industry Part Number	Repetitive Peak Reverse Voltage	Transient Peak Reverse Voltage
	30CPQ035 MBR3035WT	35V	35V
FST3040	30CPQ040 MBR3040WT	40V	40V
FST3045	30CPQ045 MBR3045WT	45V	45V
FST3050	30CPQ050	50V	50V

- Schottky Barrier Rectifier
- Guard ring for reverse protection
- Low power loss, high efficiency
- High surge capacity
- V_{RRM} 35 to 50 Volts

Electrical Characteristics

Average Forward Current per pkg.	$I_{F(AV)}$ 30Amps	T_C = 157°C, Square wave, $R_{\theta JC}$ = 0.9°C/W
Average Forward Current per leg	$I_{F(AV)}$ 15Amps	T_C = 157°C, Square wave, $R_{\theta JC}$ = 1.8°C/W
Maximum Surge Current per leg	I_{FSM} 350 Amps	8.3ms, half sine, T_J = 175°C
Max. Peak Forward Voltage per leg	V_{FM} .50 Volts	I_{FM} = 15A, T_J = 175°C*
Max. Peak Forward Voltage per leg	V_{FM} .66 Volts	I_{FM} = 15A, 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 per leg	C_J 890pF	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	$R_{\theta JC}$	1.8°C/W
Max thermal resistance per pkg.	$R_{\theta JC}$	0.9°C/W
Mounting Torque		10 inch pounds maximum (4–40 screw)
Weight		.22 ounces (6.36 grams) typical

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05–17–07 Rev. 4

FST3040 – FST3050

Figure 1
Typical Forward Characteristics – Per Leg

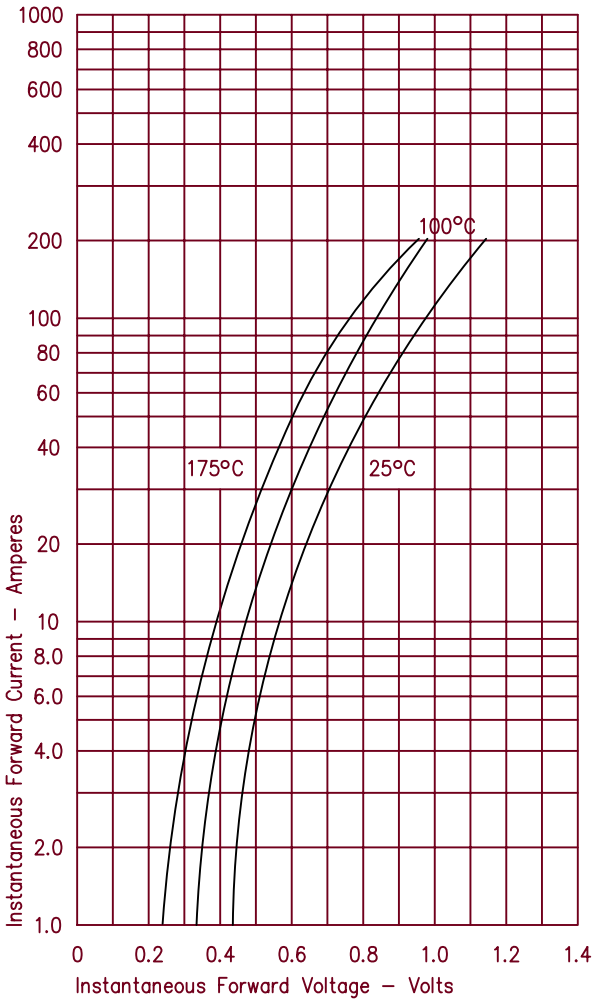


Figure 2
Typical Reverse Characteristics – Per Leg

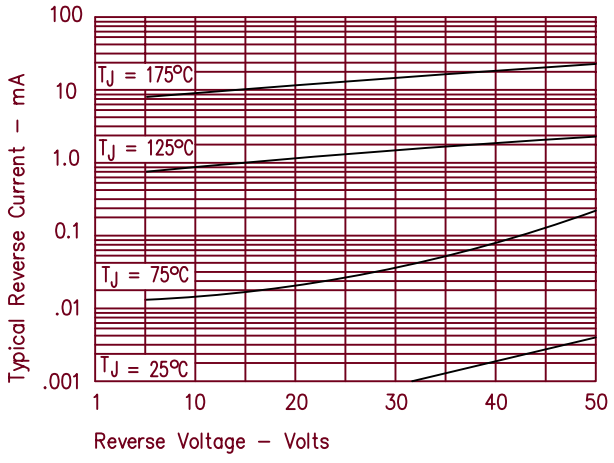


Figure 3
Typical Junction Capacitance – Per Leg

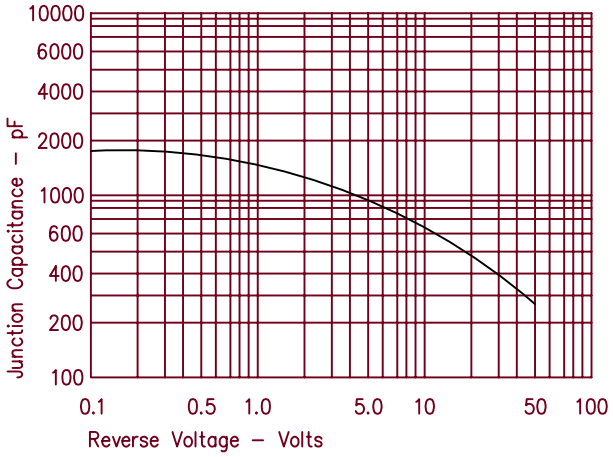


Figure 4
Forward Current Derating – Per Leg

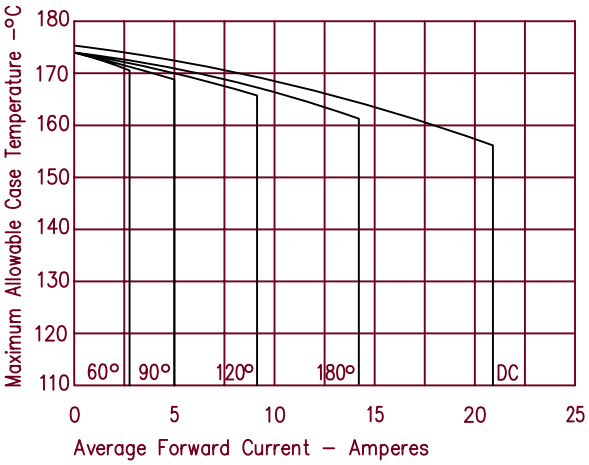
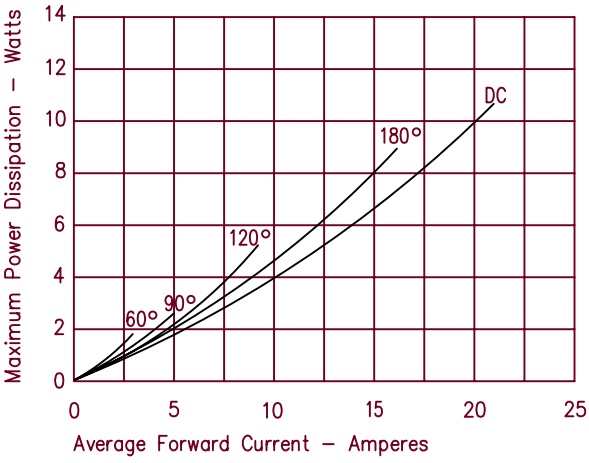


Figure 5
Maximum Forward Power Dissipation – Per Leg



05–17–07 Rev. 4