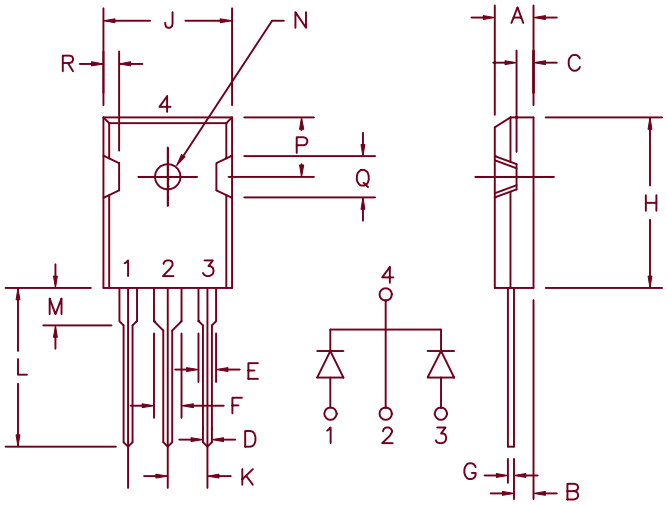
40 Amp Schottky OR'ing Rectifier

FST4015



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	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
FST4015	40L15CW MBR40L15CW	15V	15V

- Schottky barrier rectifier
- V_f @ 20A, 125°C = 0.29V
- High surge capacity
- 125°C Junction temperature
- Guard ring reverse protection

Electrical Characteristics

Average Forward Current per leg	$I_{F(AV)}$ 20 Amps	T_C = 105°C
Average Forward Current per pkg	$I_{F(AV)}$ 40 Amps	T_C = 105°C
Maximum Surge Current per leg	I_{FSM} 300 Amps	8.3ms, half sine
Max. Repetitive Reverse Current	$I_{R(OV)}$ 2 Amps	f=1KHZ, 25°C, 1μs square wave
Max. Peak Forward Voltage per leg	V_{FM} .40 Volts	I_{FM} = 20A, T_J = 25°C*
Typ. Peak Forward Voltage per leg	V_{FM} .29 Volts	I_{FM} = 20A, T_J = 125°C*
Max. Peak Reverse Current per leg	I_{RM} 8 mA	V_{RRM}, T_J = 25°C
Typ. Peak Reverse Current per leg	I_{RM} 320 mA	V_{RRM}, T_J = 100°C*
Typ. Peak Reverse Current per leg	I_{RM} 175 mA	V_R = 5V, T_J = 100°C*
Typical Junction Capacitance per leg	C_J 1550 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 150°C
Operating junction temp range	T_J	-55°C to 125°C
Max. thermal resistance per leg	$R_{\Theta JC}$	1.5°C/W Junction to case
Max. thermal resistance per pkg	$R_{\Theta JC}$	0.75°C/WJunction to case
Mounting torque		5-10 inch pounds (#6 screw)
Weight		.22 ounces (6.36 grams) typical

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9-16-03 Rev. 2

FST4015

Figure 1
Typical Forward Characteristics – Per Leg

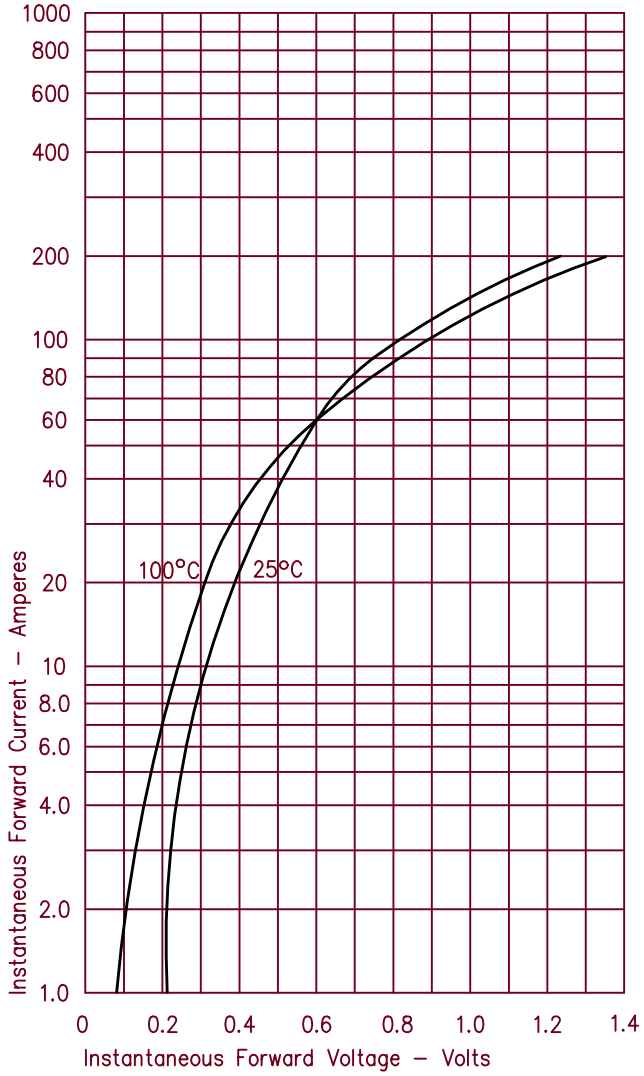

Figure 2
Typical Reverse Characteristics – Per Leg

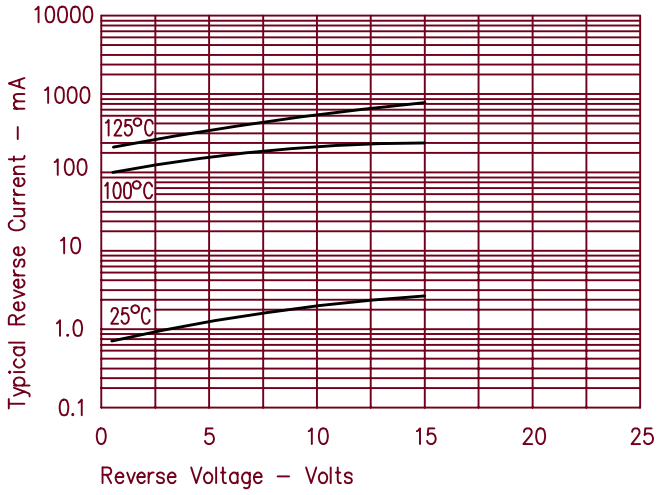

Figure 3
Typical Junction Capacitance – Per Leg

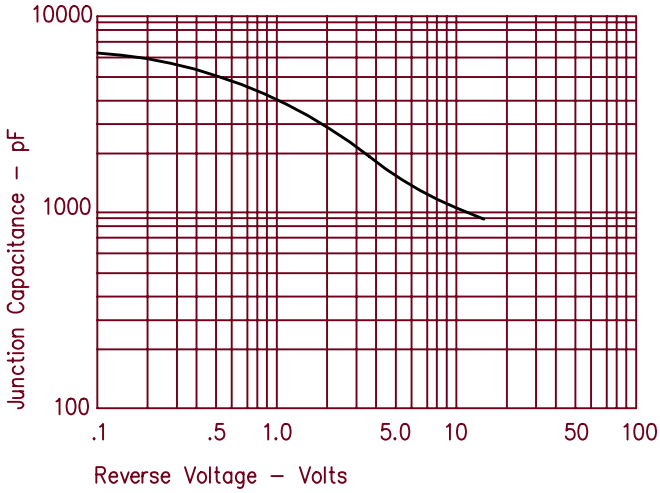

Figure 4
Forward Current Derating – Per Leg

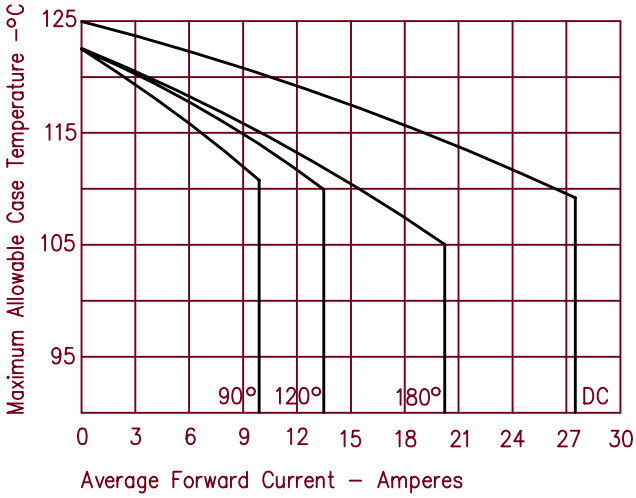

Figure 5
Maximum Forward Power Dissipation – Per Leg