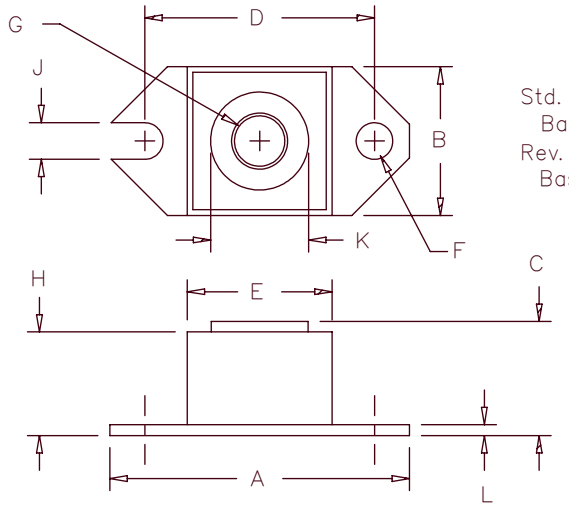
180 Amp Schottky OR'ing Rectifier

HS18515



Std. Polarity
Base is cathode
Rev. Polarity
Base is anode

Dim.	Inches		Millimeter		
	Minimum	Maximum	Minimum	Maximum	Notes
A	1.52	1.56	38.61	39.62	
B	.725	.775	18.42	19.69	
C	.605	.625	15.37	15.88	
D	1.182	1.192	30.02	30.28	
E	.745	.755	18.92	19.18	Sq.
F	.152	.160	3.86	4.06	Dia.
G		1/4–20	UNC–2B		
H	.525	.580	13.34	14.73	
J	.156	.160	3.96	4.06	
K	.495	.505	12.57	12.83	Dia.
L	.120	.130	3.05	3.30	

Microsemi Catalog Number	Industry Part Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
HS18515*	185NQ015	15V	15V

*Add Suffix R for Reverse Polarity

- Schottky Barrier Rectifier
- Guard ring protection
- Optimized for Or'ing applications
- 125°C Operation (Vr<5V)
- 0.29V Vf@180A, 100°C
- ROHS Compliant

Electrical Characteristics

Average forward current	$I_{F(AV)}$ 180 Amps	T_C = 80°C, Vr = 5V
Average forward current	$I_{F(AV)}$ 180 Amps	T_C = 71°C, Vr = 15V
Maximum surge current	I_{FSM} 2500 Amp	8.3 ms, half sine T_J = 100°C
Max repetitive reverse current	$I_{R(OV)}$ 2 Amps	f = 1 KHz, 25°C, 1µsec square wave
Max peak forward voltage	V_{FM} 0.36 Volts	I_{FM} = 180A; T_J = 25°C*
Max peak forward voltage	V_{FM} 0.29 Volts	I_{FM} = 180A; T_J = 100°C*
Max peak reverse current	I_{RM} 2700mA	V_R = 5.0V, T_J = 100°C*
Max peak reverse current	I_{RM} 5000mA	V_{RRM}, T_J = 100°C*
Max peak reverse current	I_{RM} 50mA	V_R = 5.0V, T_J = 25°C
Max peak reverse current	I_{RM} 100mA	V_{RRM}, T_J = 25°C
Typical junction capacitance	C_J 14,300pF	V_R = 5.0V, T_J = 25°C

*Pulse test: Pulse width 300µs, Duty cycle 2%

Thermal and Mechanical Characteristics

Storage temp range	T_{STG}	−55°C to 150°C
Operating temperature range (Vr<5V)	T_J	−55°C to 125°C
Maximum thermal resistance	$R_{\theta JC}$	0.3°C/W
Typical thermal resistance (greased)	$R_{\theta CS}$	0.12°C/W Case to sink
Terminal torque		35–40 inch pounds
Mounting torque		20–25 inch pounds
Weight		1.0 ounces (25.3 grams) typical

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Figure 1
Typical Forward Characteristics

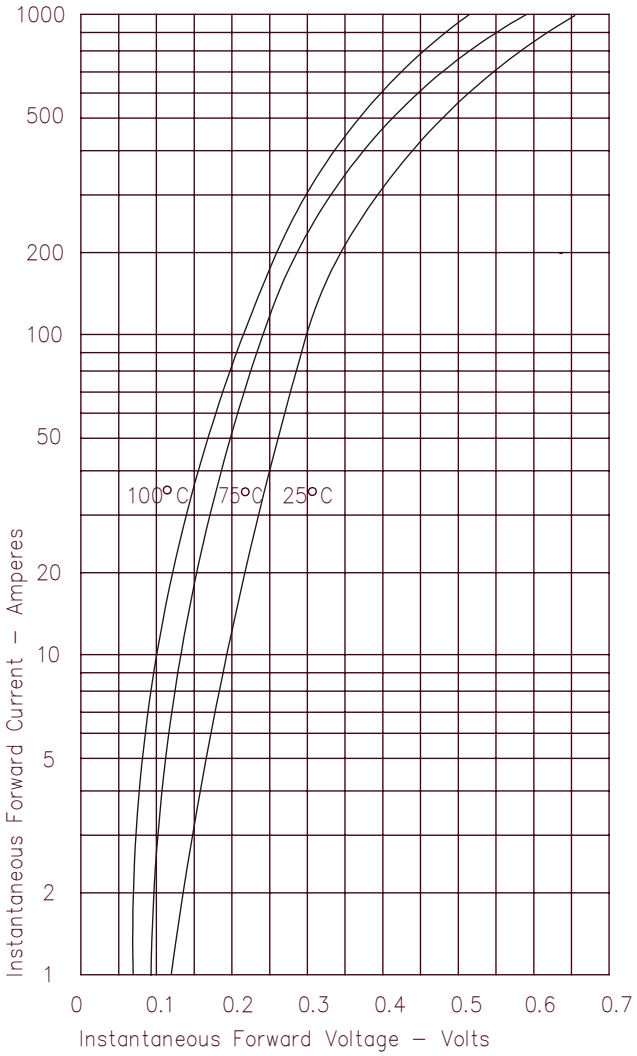

Figure 2
Typical Reverse Characteristics

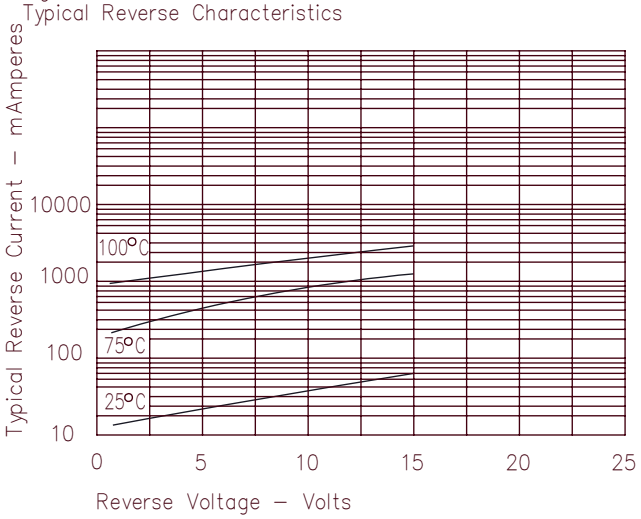

Figure 3
Typical Junction Capacitance

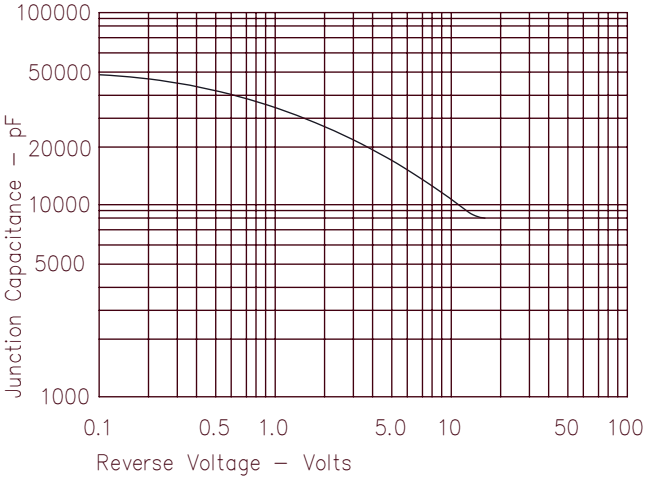

Figure 4
Forward Current Derating

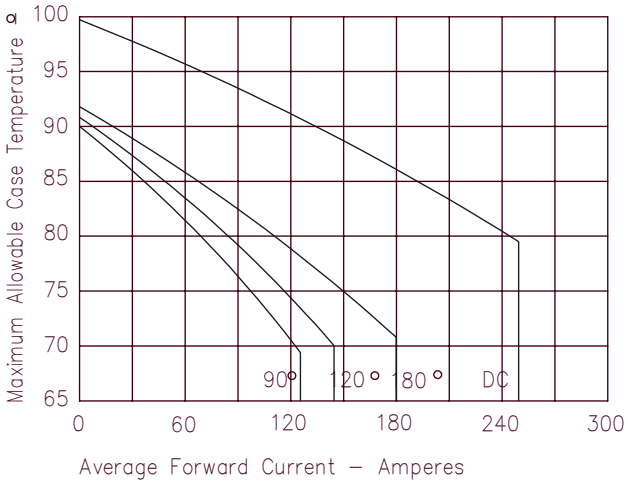

Figure 5
Maximum Forward Power Dissipation