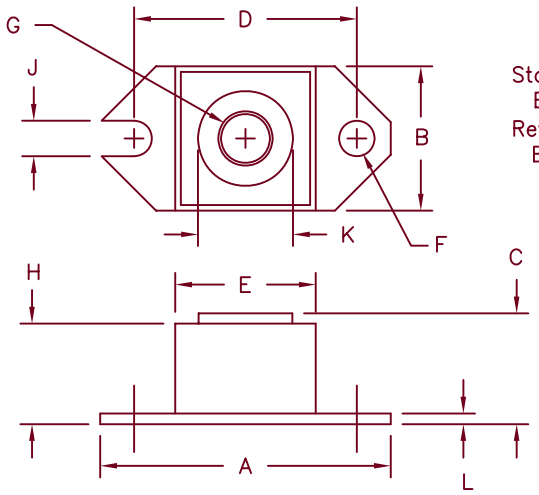
120 Amp Schottky OR'ing Rectifier
HS12510–HS12515



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	.545	.555	13.84	14.10	
J	.156	.160	3.96	4.06	
K	.495	.505	12.57	12.83	Dia.
L	.120	.130	3.05	3.30	

HALF–PAK

Microsemi Catalog Number	Industry Part Number	Working Peak Reverse Voltage	Repetitive Peak Reverse Voltage
HS12510*		10V	10V
HS12515*	125NQ015	15V	15V

* Add suffix R for Reverse Polarity

- Schottky Barrier Rectifier
- Guard Ring Protection
- Low Forward Voltage
- 125°C Junction Temperature
- V_{RRM} 10–15 Volts
- Reverse Energy Tested

Electrical Characteristics

Average forward current	$I_{F(AV)}$ 120 Amps	T_C = 93°C, square wave, $R_{\theta JC}$ = 0.4°C/W
Maximum surge current	I_{FSM} 2000 Amps	8.3ms, half sine, T_J = 125°C
Maximum repetitive reverse current	$I_{R(OV)}$ 2 Amps	f = 1 KHZ, 1 μs square wave, T_J = 25°C
Max peak forward voltage	V_{FM} 0.45 Volts	I_{FM} = 120A: T_J = 25°C*
Max peak reverse current	I_{RM} 1 Amp	V_{RRM}, T_J = 125°C*
Max peak reverse current	I_{RM} 8mA	V_{RRM}, T_J = 25°C
Typical junction capacitance	C_J 9500pF	V_R = 5.0V, T_C = 25°C, f = 1MHz

*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 125°C
Max thermal resistance	$R_{\theta JC}$	0.4°C/W junction to case
Typical thermal resistance (greased)	$R_{\theta CS}$	0.12°C/W case to sink
Mounting Base Torque		15–25 inch pounds
Terminal Torque		20–40 inch pounds
Weight		1.1 ounces (32 grams) typical

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05–10–07 Rev. 3

HS12510–HS12515

Figure 1
Typical Forward Characteristics

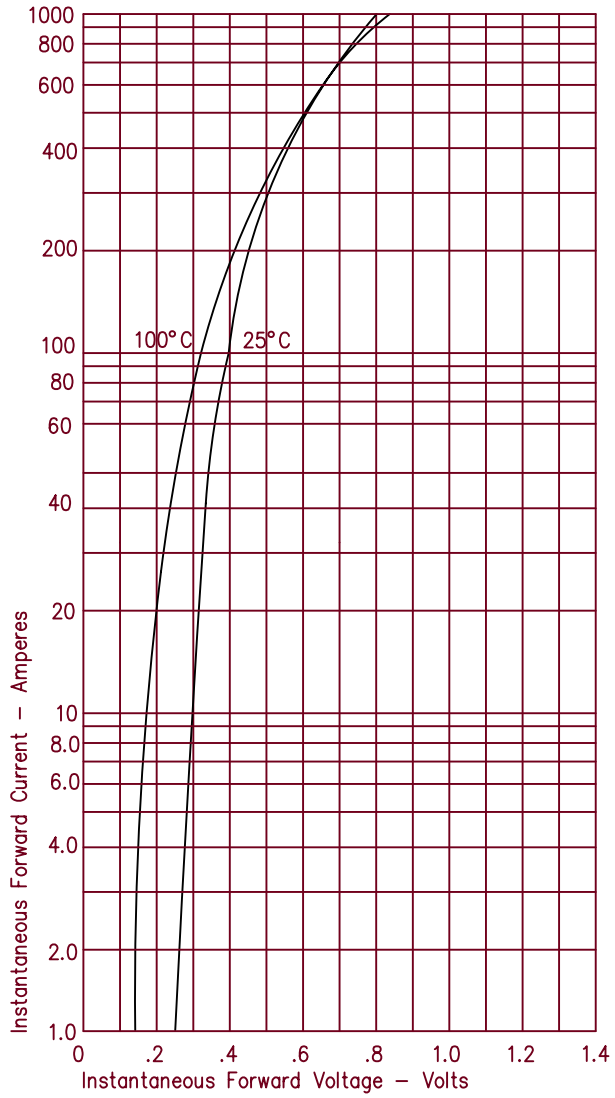

Figure 2
Typical Reverse Characteristics

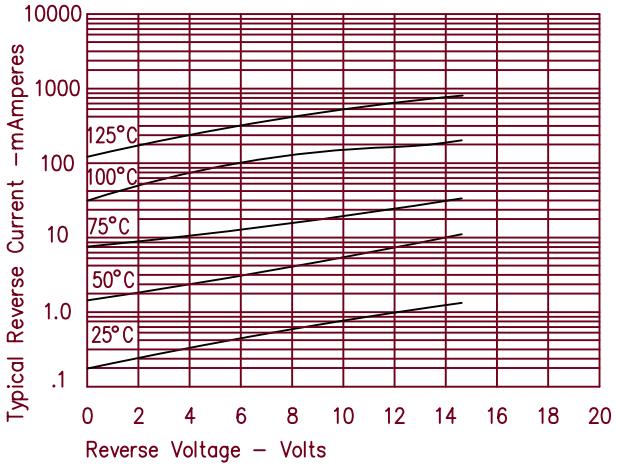

Figure 3
Typical Junction Capacitance

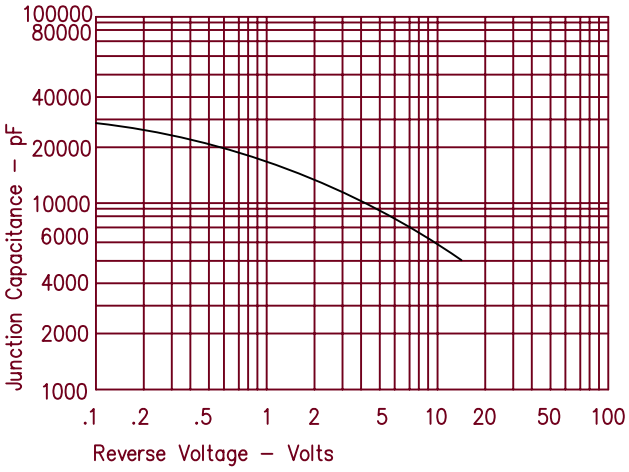

Figure 4
Forward Current Derating

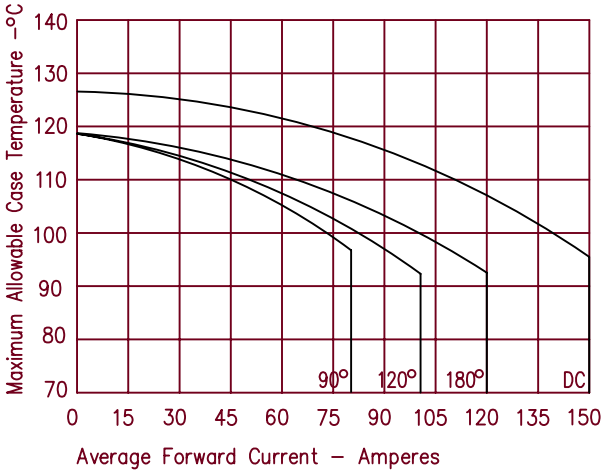

Figure 5
Maximum Forward Power Dissipation