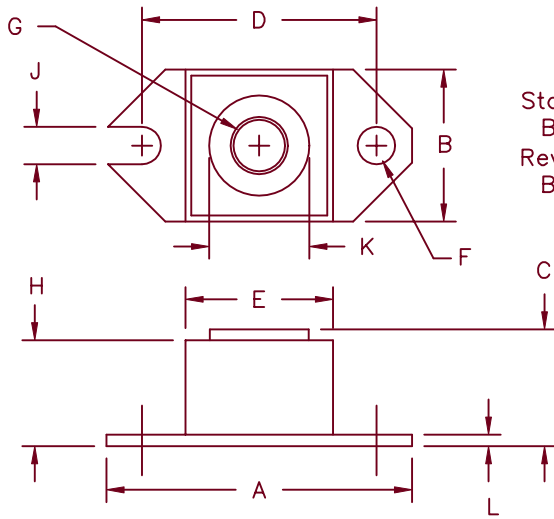


120 Amp Schottky Rectifier

HS12380—HS123100



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

Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	1.52	1.56	38.86	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	.570	.580	14.49	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	
HS12380*	123NQ080 MBR12080	80V	80V	<ul style="list-style-type: none"> • Schottky Barrier Rectifier • Guard Ring Protection • 120 Amperes/80 to 100 Volts • 175°C Junction Temperature • Reverse Energy Tested
HS12390*		90V	90V	
HS123100*	123NQ100 MBR120100	100V	100V	

*Add Suffix R for Reverse Polarity

Electrical Characteristics

Average forward current	$I_F(AV)$ 120 Amps	$T_C = 112^\circ C$, Square wave, $R_{\theta JC} = 0.40^\circ C/W$
Maximum surge current	I_{FSM} 2000 Amps	8.3ms, half sine, $T_J = 175^\circ C$
Maximum repetitive reverse current	$I_R(OV)$ 2 Amps	$f = 1$ KHZ, $25^\circ C$, 1 μsec square wave
Max peak forward voltage	V_{FM} .76 Volts	$I_{FM} = 120A$: $T_J = 125^\circ C^*$
Max peak forward voltage	V_{FM} 0.91 Volts	$I_{FM} = 120A$: $T_J = 25^\circ C^*$
Max peak reverse current	I_{RM} 75 mA	V_{RRM} , $T_J = 125^\circ C^*$
Max peak reverse current	I_{RM} 3.0 mA	V_{RRM} , $T_J = 25^\circ C$
Typical junction capacitance	C_J 3000 pF	$V_R = 5.0V$, $T_C = 25^\circ C$

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

Thermal and Mechanical Characteristics

Storage temp range	T_{STG}	$-55^\circ C$ to $175^\circ C$
Operating junction temp range	T_J	$-55^\circ C$ to $175^\circ C$
Max thermal resistance per leg	$R_{\theta JC}$	$0.40^\circ C/W$ Junction to case
Typical thermal resistance (greased)	$R_{\theta CS}$	$0.12^\circ C/W$ Case to sink
Terminal Torque		35-40 inch pounds
Mounting Base Torque		20-25 inch pounds
Weight		1.1 ounces (32 grams) typical

HS12380 – HS123100

Figure 1
Typical Forward Characteristics

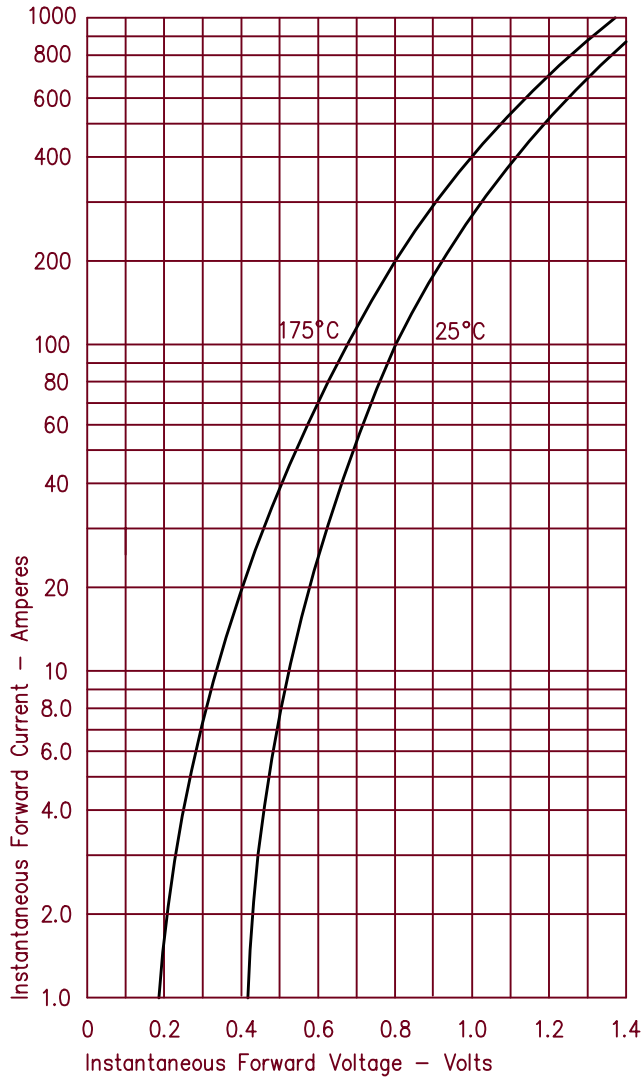


Figure 3
Typical Junction Capacitance

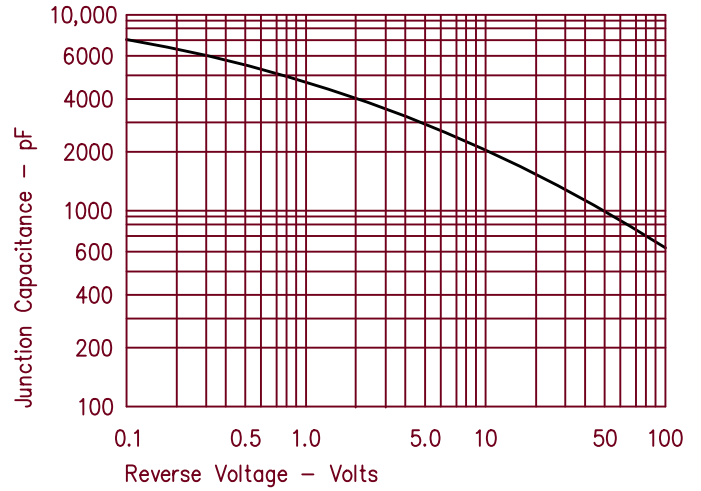


Figure 4
Forward Current Derating

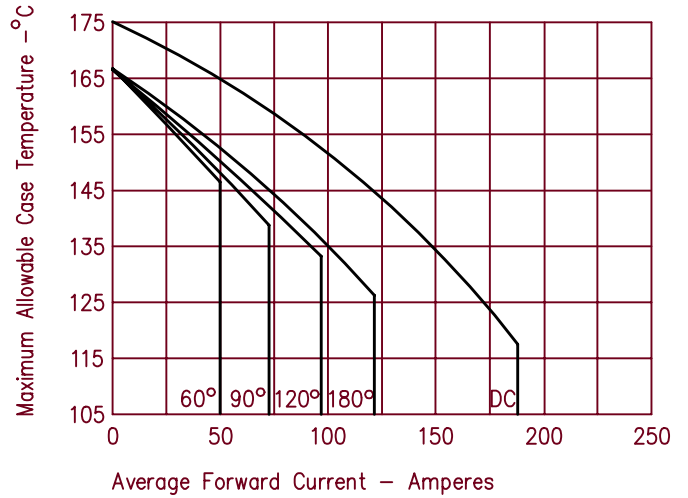


Figure 2
Typical Reverse Characteristics

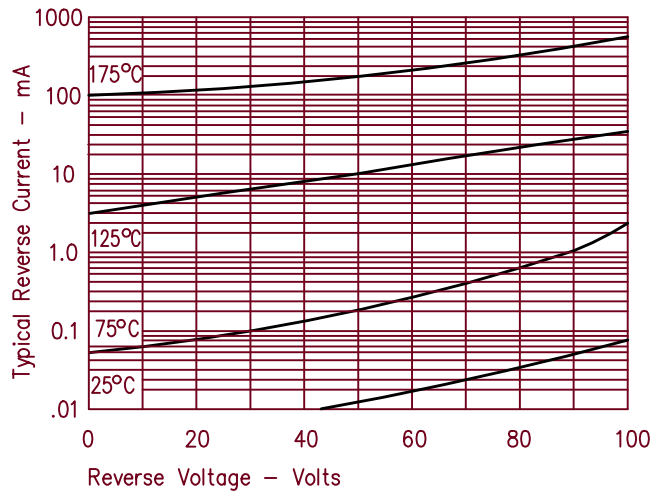


Figure 5
Maximum Forward Power Dissipation

