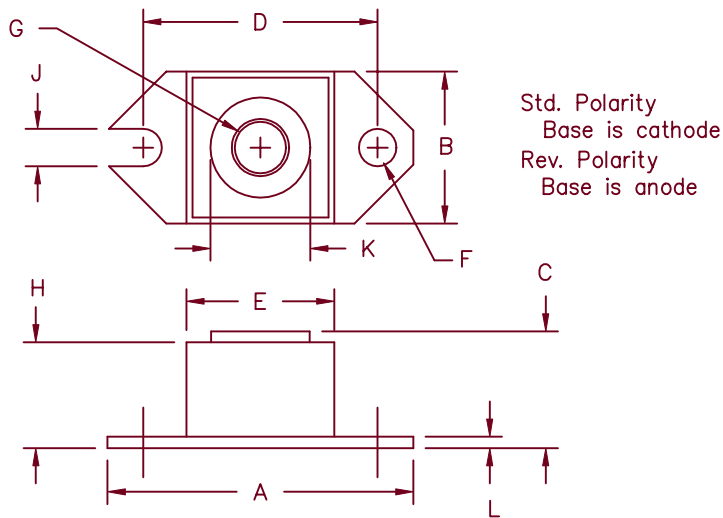


# 120 Amp Schottky Rectifier HS12035 — HS12045



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
HS12035*	120NQ035 124NQ035 MBR12035	35V	35V
HS12040*	120NQ040 124NQ040 MBR12040	40V	40V
HS12045*	120NQ045 124NQ045 MBR12045	45V	45V

\* Add Suffix R for Reverse Polarity

- Schottky Barrier Rectifier
- Guard Ring Protection
- 120 Amperes/45 Volts
- 150°C Junction Temperature
- Reverse Energy Tested
- VRRM 35 – 45 Volts

## Electrical Characteristics

Average forward current	I <sub>F(AV)</sub> 120 Amps	T <sub>C</sub> = 100°C, Square wave, R <sub>θJC</sub> = .40°C/W
Maximum surge current	I <sub>FSM</sub> 2000 Amps	8.3ms, half sine, T <sub>J</sub> = 125°C
Maximum repetitive reverse current	I <sub>R(OV)</sub> 2 Amps	f = 1 KHZ, 25°C
Max peak forward voltage	V <sub>FM</sub> 0.49 Volts	I <sub>FM</sub> = 120A: T <sub>J</sub> = 125°C*
Max peak forward voltage	V <sub>FM</sub> 0.55 Volts	I <sub>FM</sub> = 120A: T <sub>J</sub> = 25°C*
Max peak reverse current	I <sub>RM</sub> 2A	V <sub>RRM</sub> , T <sub>J</sub> = 125°C*
Max peak reverse current	I <sub>RM</sub> 5mA	V <sub>RRM</sub> , T <sub>J</sub> = 25°C
Typical junction capacitance	C <sub>J</sub> 5500pF	V <sub>R</sub> = 5.0V, T <sub>C</sub> = 25°C

\*Pulse test: Pulse width 300 usec, Duty cycle 2%

## Thermal and Mechanical Characteristics

Storage temp range	T <sub>STG</sub>	-55°C to 150°C
Operating junction temp range	T <sub>J</sub>	-55°C to 150°C
Max thermal resistance	R <sub>θJC</sub>	0.40°C/W Junction to case
Typical thermal resistance (greased)	R <sub>θCS</sub>	0.12°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

# HS12035 – HS12045

Figure 1  
Typical Forward Characteristics

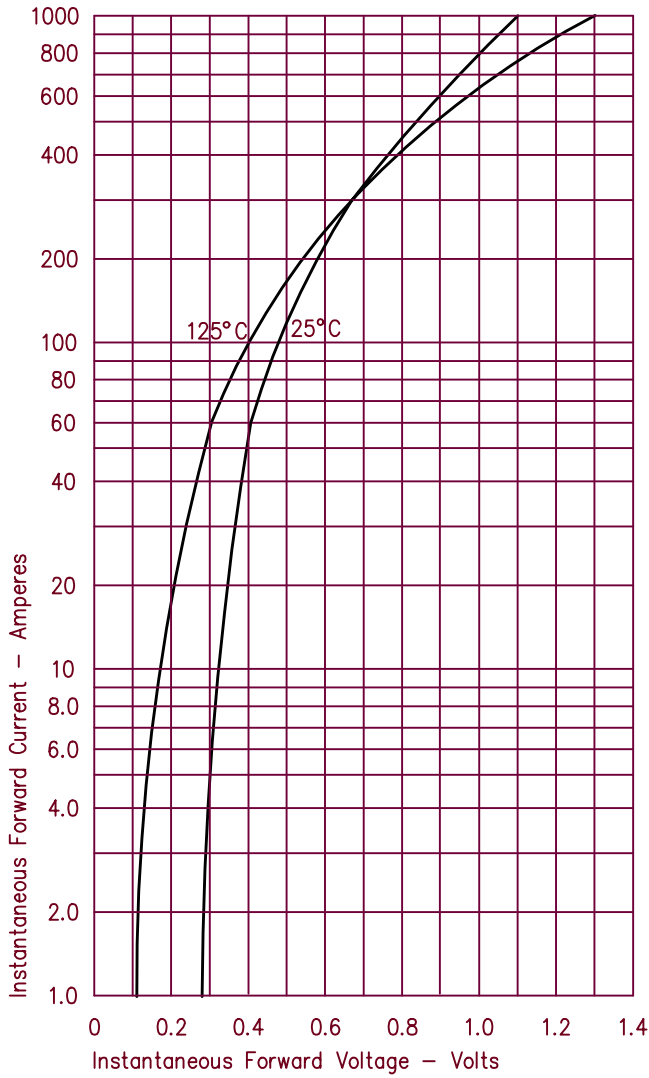


Figure 3  
Typical Junction Capacitance

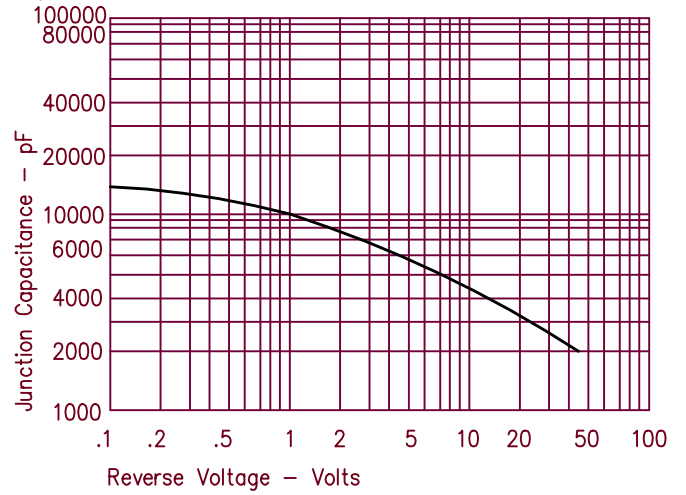


Figure 4  
Forward Current Derating

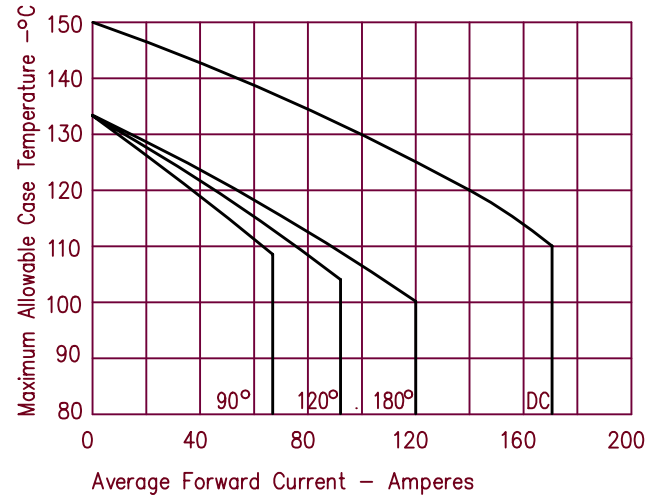


Figure 2  
Typical Reverse Characteristics

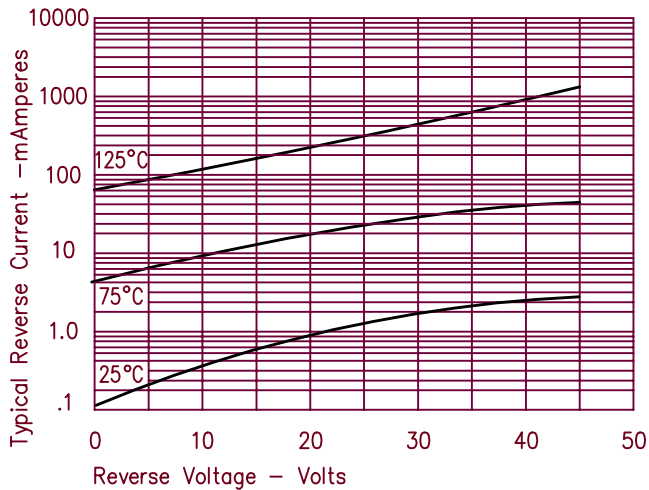


Figure 5  
Maximum Forward Power Dissipation

