

MBR30020 THRU MBR30045

Features

- Metal of silicon rectifier, majority carrier conduction
- Guard ring for transient protection
- Low power loss high efficiency
- High surge capacity, High current capability

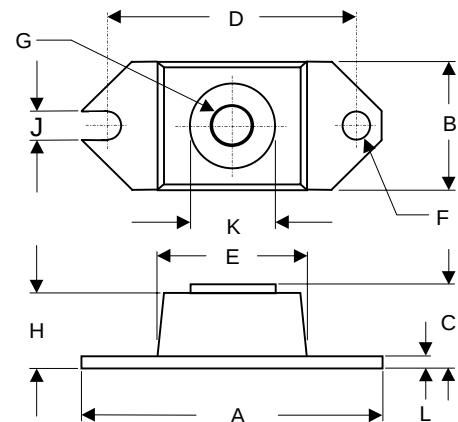
Maximum Ratings

- Operating Junction Temperature: -55°C to +175°C
- Storage Temperature: -55°C to +175°C
- Typical Thermal Resistance per leg 0.4°C/W Junction to Case

MCC Part Number	Maximum Recurrent Peak Reverse Voltage	Maximum RMS Voltage	Maximum DC Blocking Voltage
MBR30020	20V	14V	20V
MBR30030	30V	21V	30V
MBR30035	35V	24.5V	35V
MBR30040	40V	28V	40V
MBR30045	45V	31.5V	45V

300 Amp Schottky Barrier Rectifier 20 to 45V olts

HALF PACK



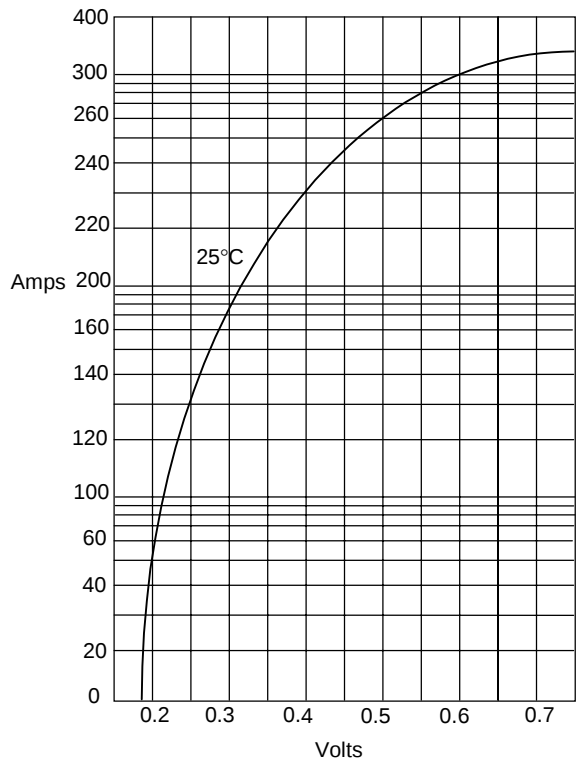
Electrical Characteristics @ 25°C Unless Otherwise Specified

Average Forward Current	$I_{F(AV)}$	300 A	$T_C = 133^\circ\text{C}$
Peak Forward Surge Current	I_{FSM}	3400A	8.3ms, half sine
Maximum Instantaneous Forward Voltage MBR30020-30045	V_F	.63 V	$I_{FM} = 300A$; $T_J = 25^\circ\text{C}$
Maximum DC Reverse Current At Rated DC Blocking Voltage	I_R	10mA 200mA	$T_J = 25^\circ\text{C}$ $T_J = 125^\circ\text{C}$
Typical Junction Capacitance	C_J	9500pF	Measured at 1.0MHz, $V_R=5.0V$

DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	1.515	1.560	38.48	39.62	
B	.725	.775	18.42	19.69	
C	.595	.625	15.11	15.88	
D	1.182	1.192	30.02	30.28	
E	.745	.755	18.92	19.18	
F	.152	.160	3.86	4.06	Ø
G	1/4 - .20		UNC - .28		
H	.540	.580	13.72	14.73	
J	.15	.160	3.96	4.06	
K	.495	.505	12.57	12.83	Ø
L	.120	.130	3.05	3.30	

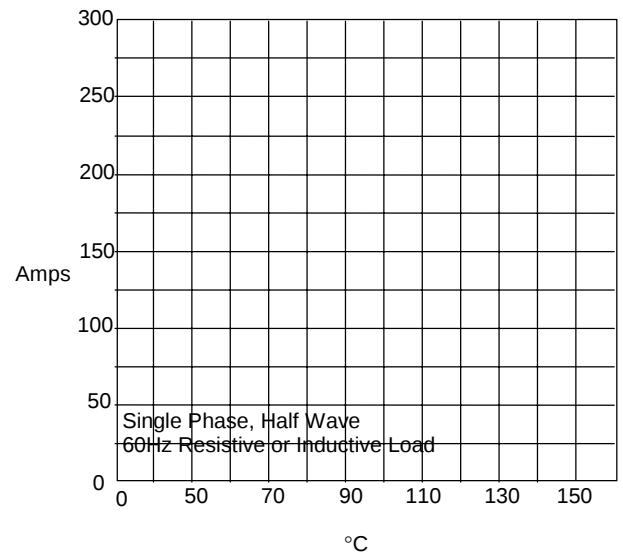
*Pulse Test: Pulse Width 300µsec, Duty Cycle 2%

Figure 1
Typical Forward Characteristics



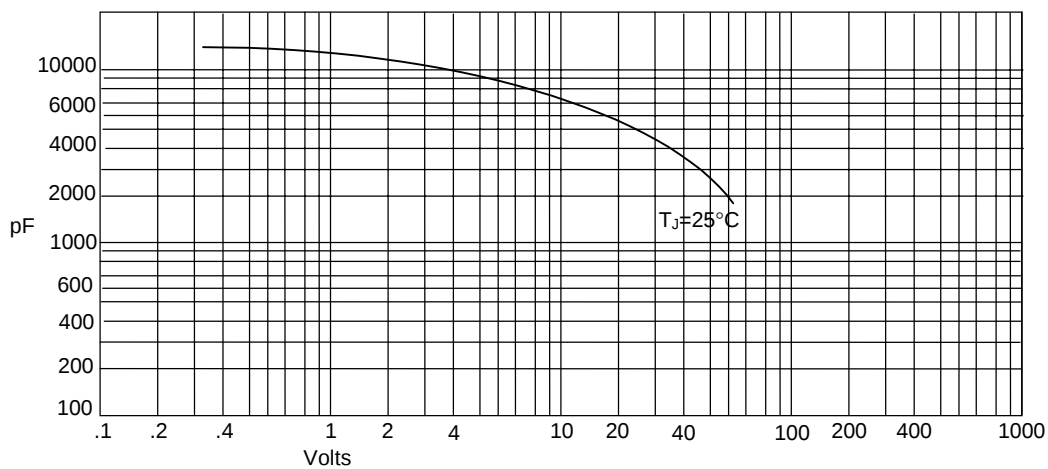
Instantaneous Forward Current - Amperes versus
Instantaneous Forward Voltage - Volts

Figure 2
Forward Derating Curve



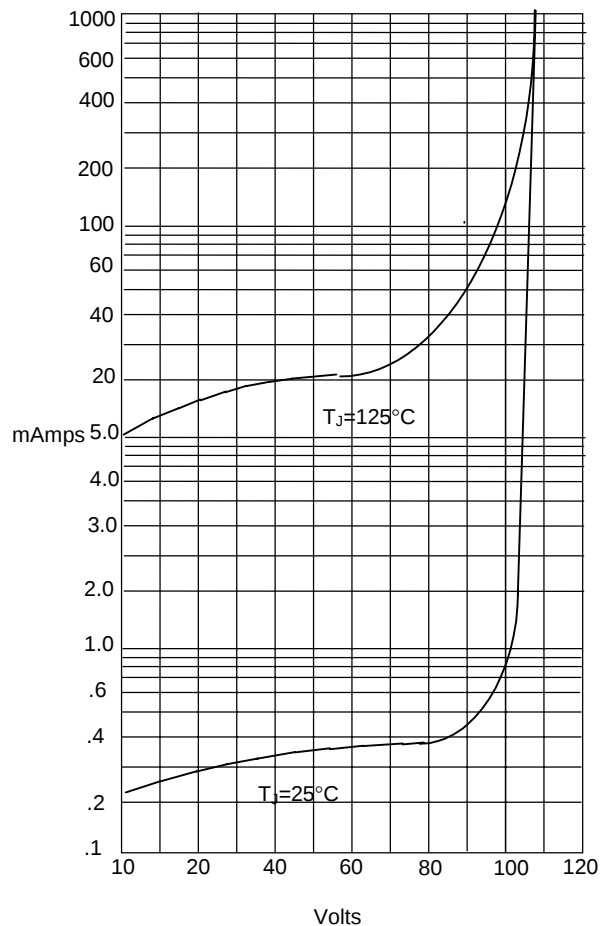
Average Forward Rectified Current - Amperes versus
Case Temperature - °C

Figure 3
Junction Capacitance



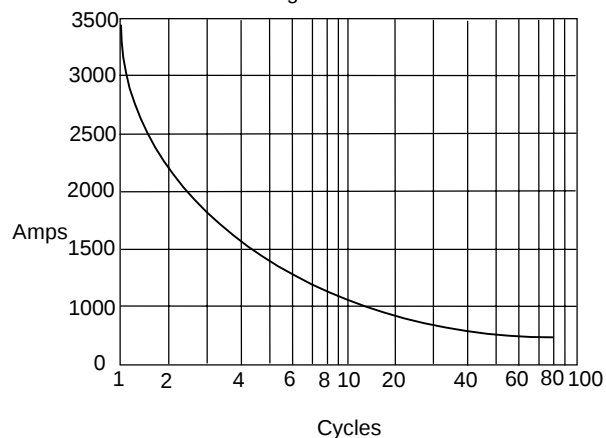
Junction Capacitance - pF versus
Reverse Voltage - Volts

Figure 4
Typical Reverse Characteristics



Instantaneous Reverse Leakage Current - MicroAmperes versus
Percent Of Rated Peak Reverse Voltage - Volts

Figure 5
Peak Forward Surge Current



Peak Forward Surge Current - Amperes versus
Number Of Cycles At 60Hz - Cycles