

## Schottky Barrier Rectifier

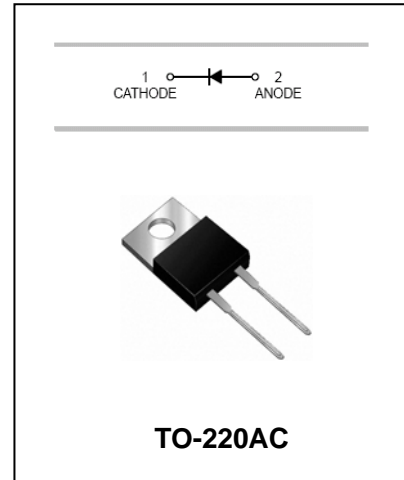
## MBR1630...MBR16100

### FEATURES

- High Surge Capacity.
- For Use In Low Voltage,High Frequency Inverters,Free Wheeling,And Polarity Protection Applications.
- Metal Silicon Junction,Majority Carrier Conduction.
- High Current Capacity,Low Forward Voltage Drop.
- Guard ring Die Construction for Transient Protection.



Lead-free



### MAXIMUM RATING operating temperature range applies unless otherwise specified

Symbol	Parameter	MBR 1630	MBR 1635	MBR 1640	MBR 1645	MBR 1650	MBR 1660	MBR 1680	MBR 16100	Unit
$V_{RRM}$	Recurrent Peak Reverse Voltage	30	35	40	45	50	60	80	100	V
$V_{RMS}$	RMS Reverse Voltage	21	25	28	32	35	42	56	70	V
$V_{DC}$	DC Blocking Voltage	30	35	40	45	50	60	80	100	V
$I_{F(AV)}$	Average Forward Total Device Rectified Current @ $T_A=100^{\circ}C$	16								A
$I_{FSM}$	Forward Surge Current 8.3ms Single Half Sine-wave Superimosed on Rated Load	150								A
$R_{\theta JC}$ (Note1)	Thermal Resistance Per Leg	1.5								$^{\circ}C/W$
$T_j$	Operating Junction Temperature Range	-55 to +150								$^{\circ}C$
$T_{stg}$	Storage Temperature Range	-55 to +175								$^{\circ}C$

Note:1.Thermal resistance from junction to case.



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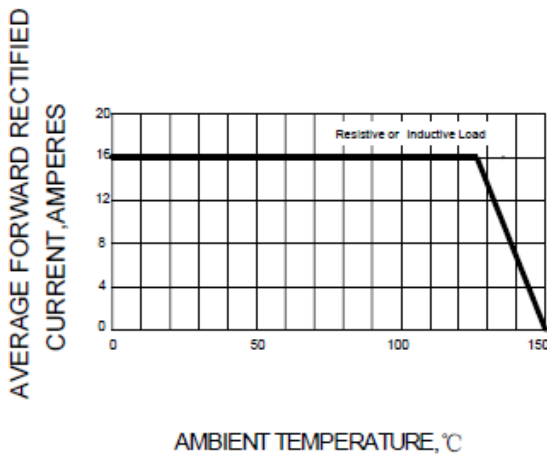
ELECTRICAL CHARACTERISTICS @  $T_a=25^\circ\text{C}$  unless otherwise specified

Parameter	Symbol	Test conditions	MBR1630- MBR1645	MBR1650- MBR1660	MBR1680- MBR16100	UNIT
			MAX			
Reverse Current	$I_R$	$V_R=V_{RRM}, T_A=25^\circ\text{C}$ $V_R=V_{RRM}, T_A=125^\circ\text{C}$	0.1	0.1	0.1	mA
			15	25	50	
Forward Voltage	$V_F$ (Note1)	$I_F=16\text{A}, T_A=25^\circ\text{C}$ $I_F=16\text{A}, T_A=125^\circ\text{C}$	0.70	0.80	0.85	V
			0.57	0.65	-	

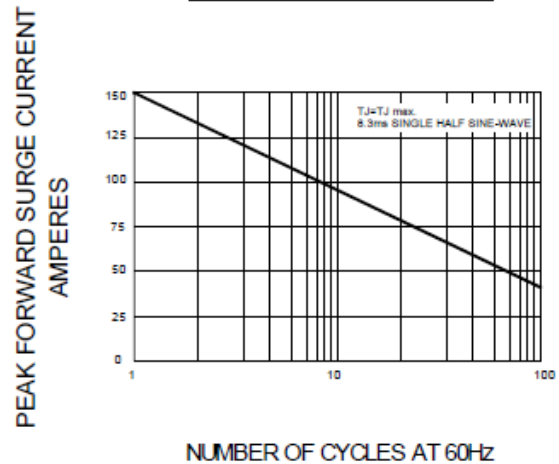
Note:1.Pulse test:300 $\mu\text{s}$  pulse width,1% duty cycle.

TYPICAL CHARACTERISTICS @  $T_a=25^\circ\text{C}$  unless otherwise specified

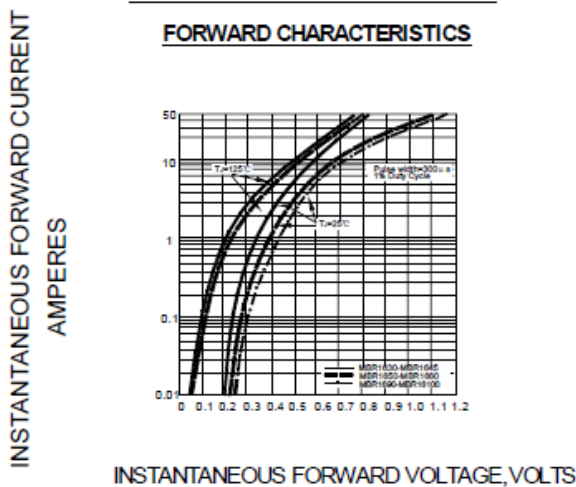
**FIG.1 – FORWARD CURRENT DERATING CURVE**



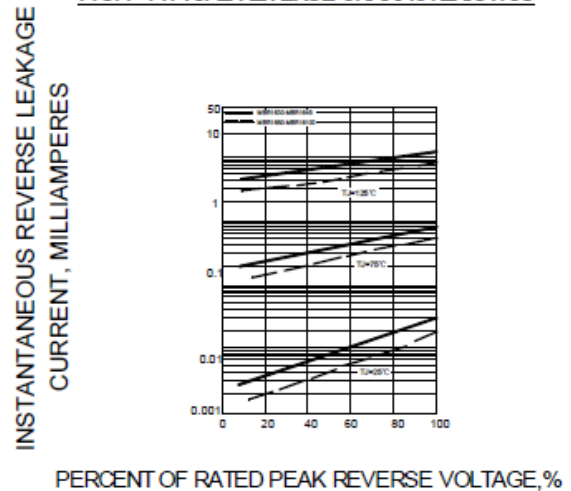
**FIG.2 –MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT**



**FIG.3 –TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS**



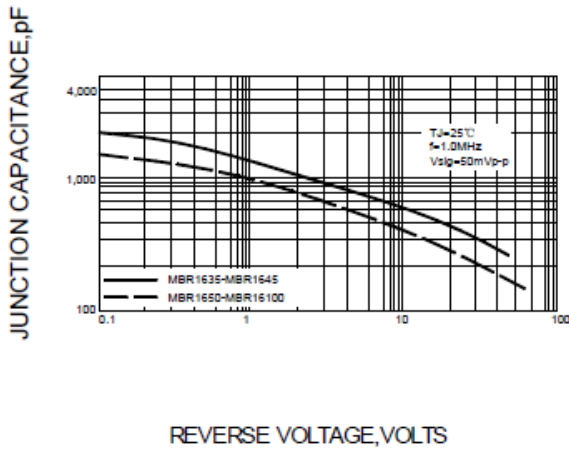
**FIG.4-TYPICAL REVERSE CHARACTERISTICS**



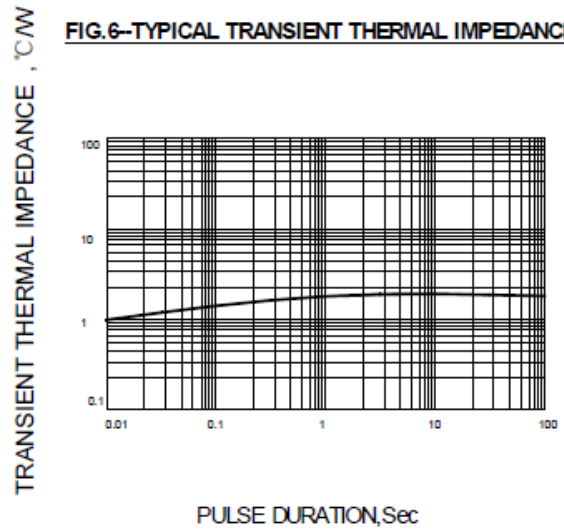
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**FIG.5-TYPICAL JUNCTION CAPACITANCE**



**FIG.6-TYPICAL TRANSIENT THERMAL IMPEDANCE**



## PACKAGE OUTLINE

Plastic surface mounted package

TO-220AC

TO-220AC		
Dim	Min	Max
A	9.80	10.30
B	8.70	9.10
C	4.57 Typical	
D	1.27 Typical	
E	2.64	2.84
F	13.14	13.74
G	4.98	5.18
H	28.03	28.83
J	0.38 Typical	
K	1.22	1.32
L	0.71	0.91
M	2.50 Typical	
N	3.86 Typical	
All Dimensions in mm		