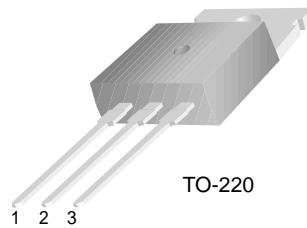




## MBRP2045N

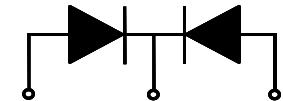
### Features

- Low forward voltage drop
- High frequency properties and switching speed
- Guard ring for over-voltage protection



### Applications

- Switched mode power supply
- Freewheeling diodes



## SCHOTTKY BARRIER RECTIFIER

**Absolute Maximum Ratings**  $T_C=25^\circ\text{C}$  unless otherwise noted

Symbol	Parameter	Value	Units
$V_{RRM}$	Maximum Repetitive Reverse Voltage	45	V
$V_R$	Maximum DC Reverse Voltage	45	V
$I_F(AV)$	Average Rectified Forward Current @ $T_C = 105^\circ\text{C}$	20	A
$I_{FSM}$	Non-repetitive Peak Surge Current (per diode) 60Hz Single Half-Sine Wave	150	A
$T_J, T_{STG}$	Operating Junction and Storage Temperature	-65 to +150	°C

### Thermal Characteristics

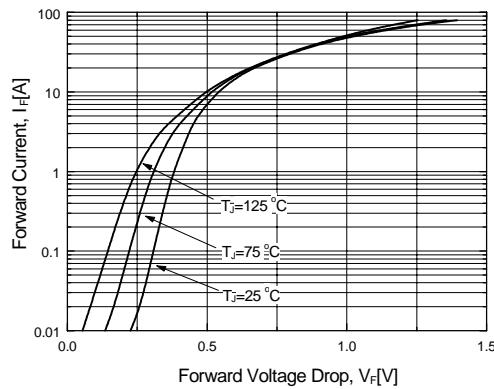
Symbol	Parameter	Value	Units
$R_{\theta JC}$	Maximum Thermal Resistance, Junction to Case (per diode)	2.5	°C/W

### Electrical Characteristics (per diode)

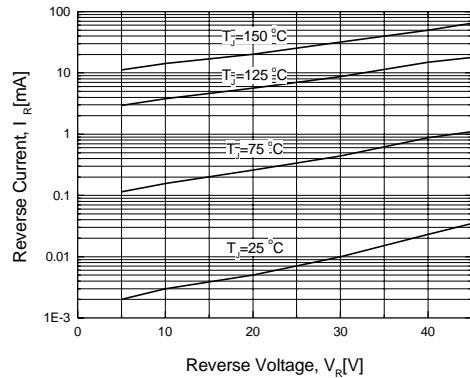
Symbol	Parameter	Value	Units	
$V_{FM} *$	Maximum Instantaneous Forward Voltage $I_F = 10\text{A}$ $I_F = 10\text{A}$ $I_F = 20\text{A}$ $I_F = 20\text{A}$	$T_C = 25^\circ\text{C}$ $T_C = 125^\circ\text{C}$ $T_C = 25^\circ\text{C}$ $T_C = 125^\circ\text{C}$	0.65 0.57 0.80 0.65	V
$I_{RM} *$	Maximum Instantaneous Reverse Current @ rated $V_R$	$T_C = 25^\circ\text{C}$ $T_C = 125^\circ\text{C}$	1 60	mA

\* Pulse Test: Pulse Width=300μs, Duty Cycle=2%

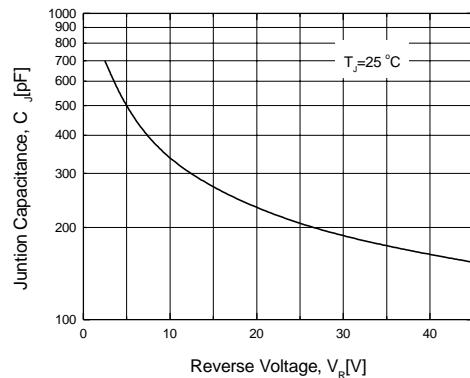
## Typical Characteristics



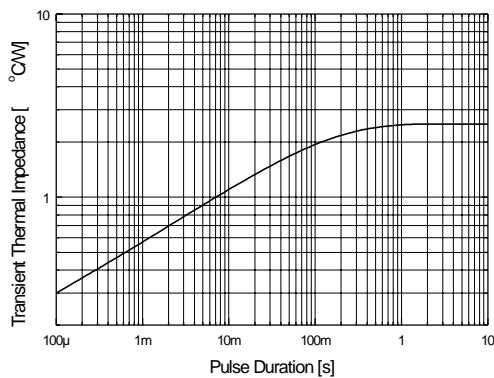
**Figure 1. Typical Forward Voltage Characteristics  
(per diode)**



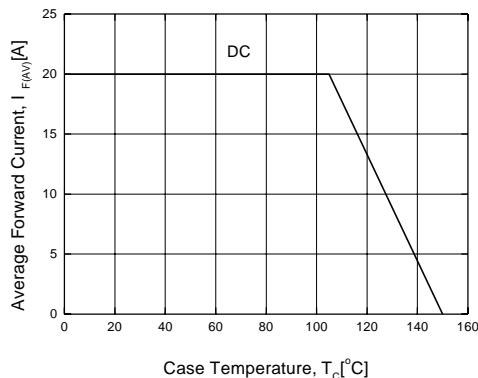
**Figure 2. Typical Reverse Current  
vs. Reverse Voltage (per diode)**



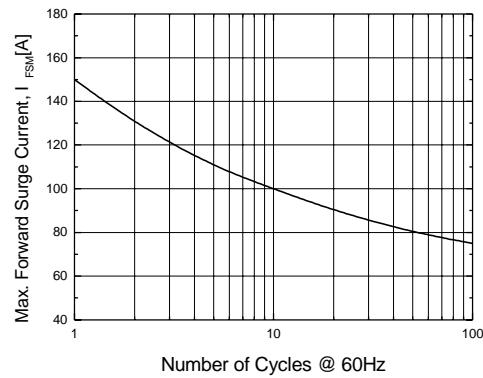
**Figure 3. Typical Junction Capacitance  
(per diode)**



**Figure 4. Thermal Impedance Characteristics  
(per diode)**



**Figure 5. Forward Current Derating Curve**



**Figure 6. Non-Repetitive Surge Current  
(per diode)**