

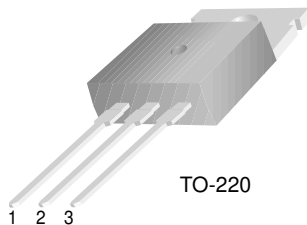
MBRP2045N

Features

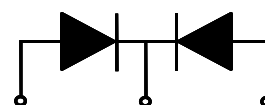
- Low forward voltage drop
- High frequency properties and switching speed
- Guard ring for over-voltage protection

Applications

- Switched mode power supply
- Freewheeling diodes



TO-220



1. Anode 2. Cathode 3. Anode

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	$^\circ\text{C}$

Thermal Characteristics

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

Electrical Characteristics (per diode)

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

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

Typical Characteristics

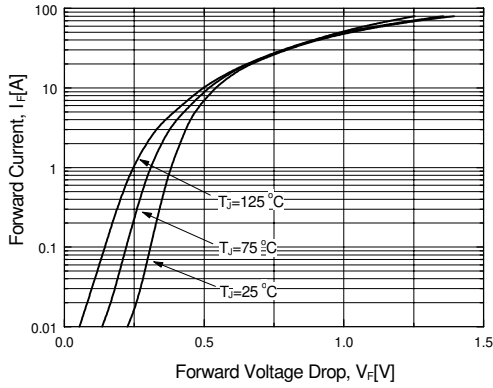


Figure 1. Typical Forward Voltage Characteristics (per diode)

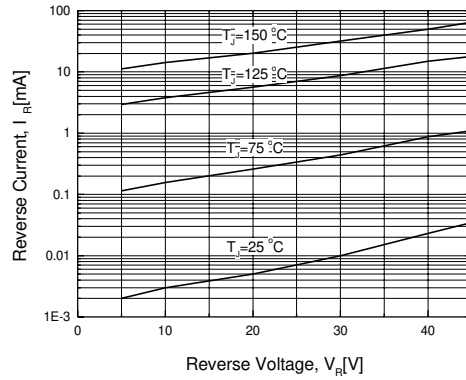


Figure 2. Typical Reverse Current vs. Reverse Voltage (per diode)

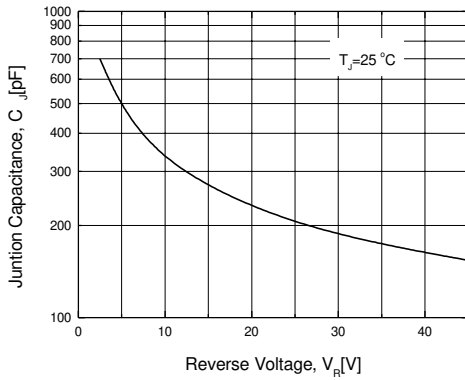


Figure 3. Typical Junction Capacitance (per diode)

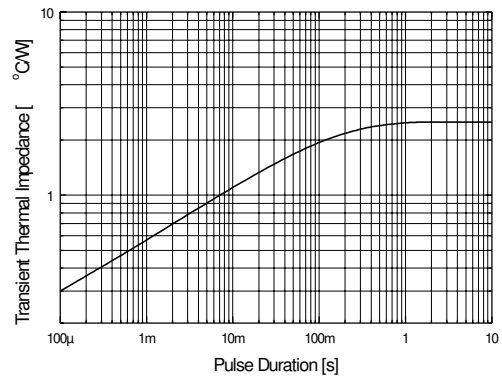


Figure 4. Thermal Impedance Characteristics (per diode)

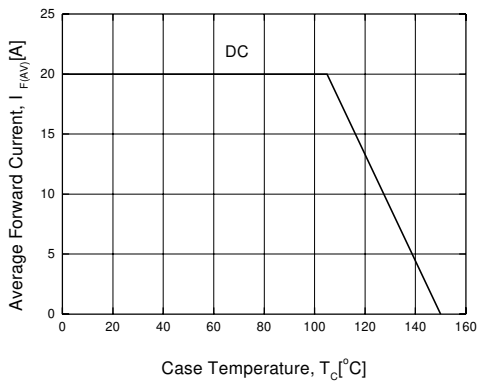


Figure 5. Forward Current Derating Curve

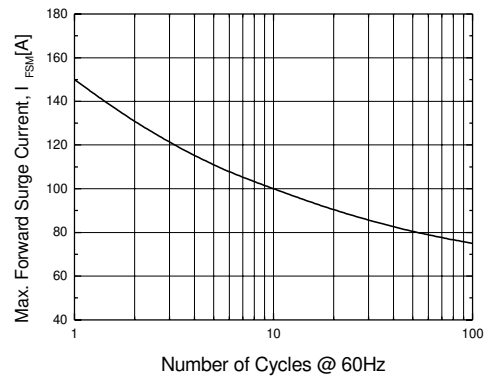
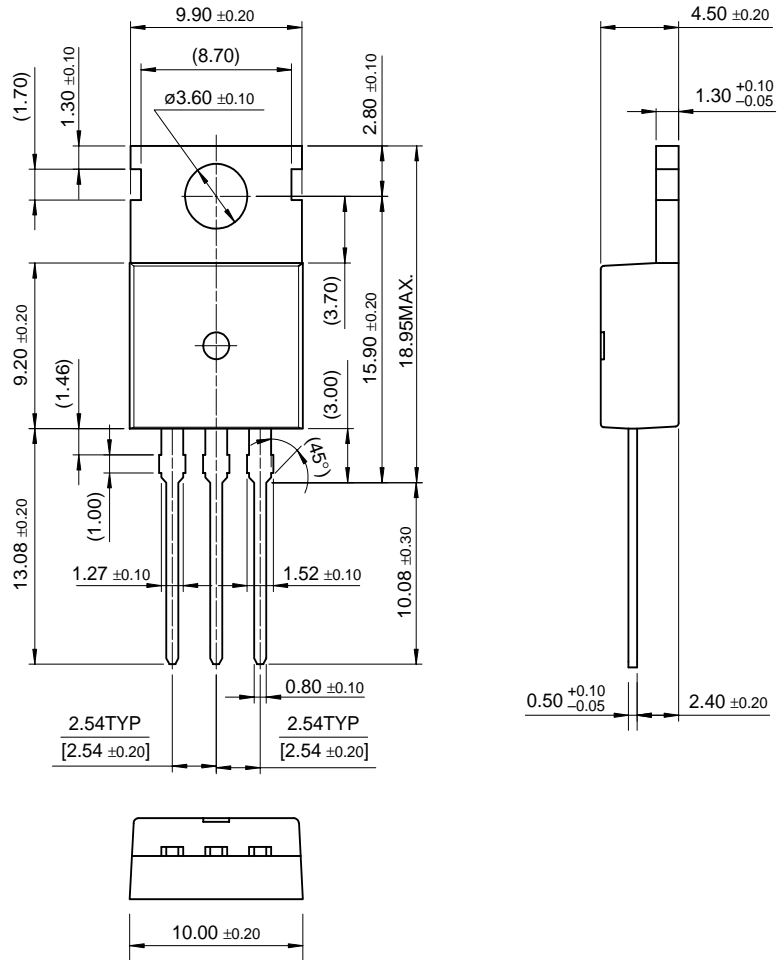


Figure 6. Non-Repetitive Surge Current (per diode)

Package Dimension

TO-220

MBRRP2045N



Dimensions in Millimeters

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Definition of Terms

Datasheet Identification	Product Status	Definition
Advance Information	Formative or In Design	This datasheet contains the design specifications for product development. Specifications may change in any manner without notice.
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Obsolete	Not In Production	This datasheet contains specifications on a product that has been discontinued by Fairchild semiconductor. The datasheet is printed for reference information only.

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MBRP2045N

Schottky Barrier Rectifier

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Features

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Applications

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Product status/pricing/packaging

BUY

Product	Product status	Pb-free Status	Pricing*	Package type	Leads	Packing method	Package Marking Convention**
MBRP2045NTU	Full Production	 Full Production	\$0.418	TO-220	3	RAIL	Line 1: \$Y (Fairchild logo) Line 2: YM2045N Line 3: &3

* Fairchild 1,000 piece Budgetary Pricing

** A sample button will appear if the part is available through Fairchild's on-line samples program. If there is no sample button, please contact a [Fairchild distributor](#) to obtain samples



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