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FAIRCHILD SEMICONDUCTOR®

December 2009

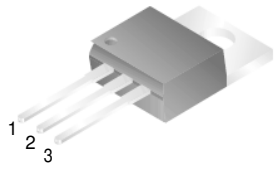
MBRP1545N
Schottky Barrier Rectifier

Features

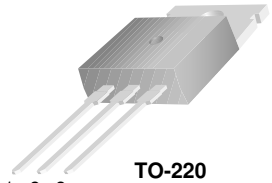
- Low forward voltage drop
- High frequency properties and switching speed
- Guard ring for over-voltage protection

Applications

- Switched mode power supply
- Freewheeling diodes



TO-220(Jedec)



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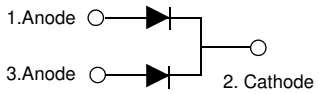

Absolute Maximum Ratings T_A=25°C unless otherwise noted

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 = 100°C	15	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)	3.0	°C/W

Electrical Characteristics (per diode)

Symbol	Parameter		Value	Units
V_{FM} *	Maximum Instantaneous Forward Voltage I_F = 7.5A I_F = 7.5A I_F = 15A I_F = 15A	 T_C = 25 °C T_C = 125 °C T_C = 25 °C T_C = 125 °C	 0.65 0.57 0.80 0.65	V
I_{RM} *	Maximum Instantaneous Reverse Current @ rated V_R	T_C = 25 °C T_C = 125 °C	1 40	mA

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

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Typical Performance Characteristics

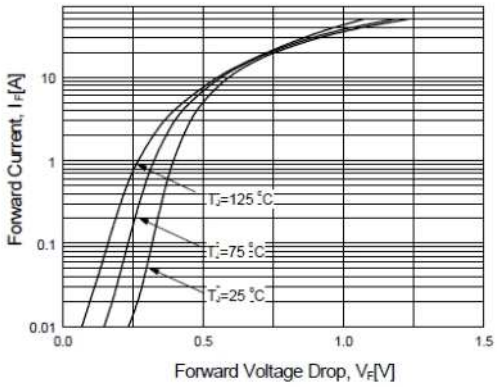

Figure 1. Typical Forward Voltage Characteristics (per diode)

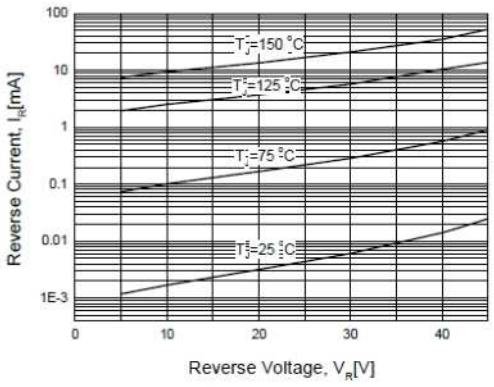

Figure 2. Typical Reverse Current vs. Reverse Voltage (per diode)

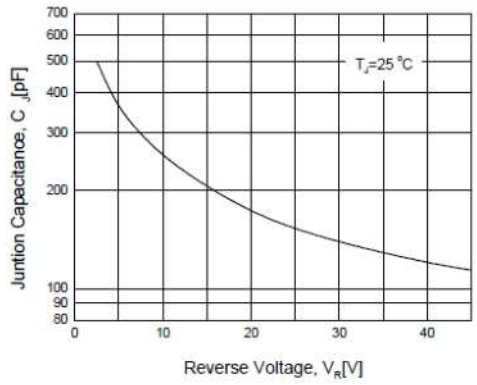

Figure 3. Typical Junction Capacitance (per diode)

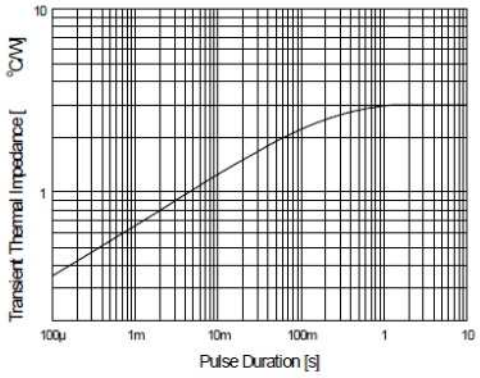

Figure 4. Thermal Impedance Characteristics (per diode)

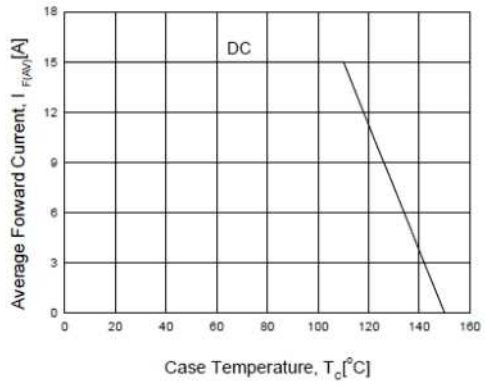

Figure 5. Forward Current Derating Curve

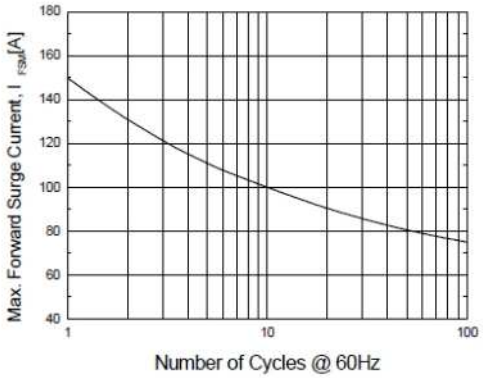

Figure 6. Non-Repetitive Surge Current (per diode)

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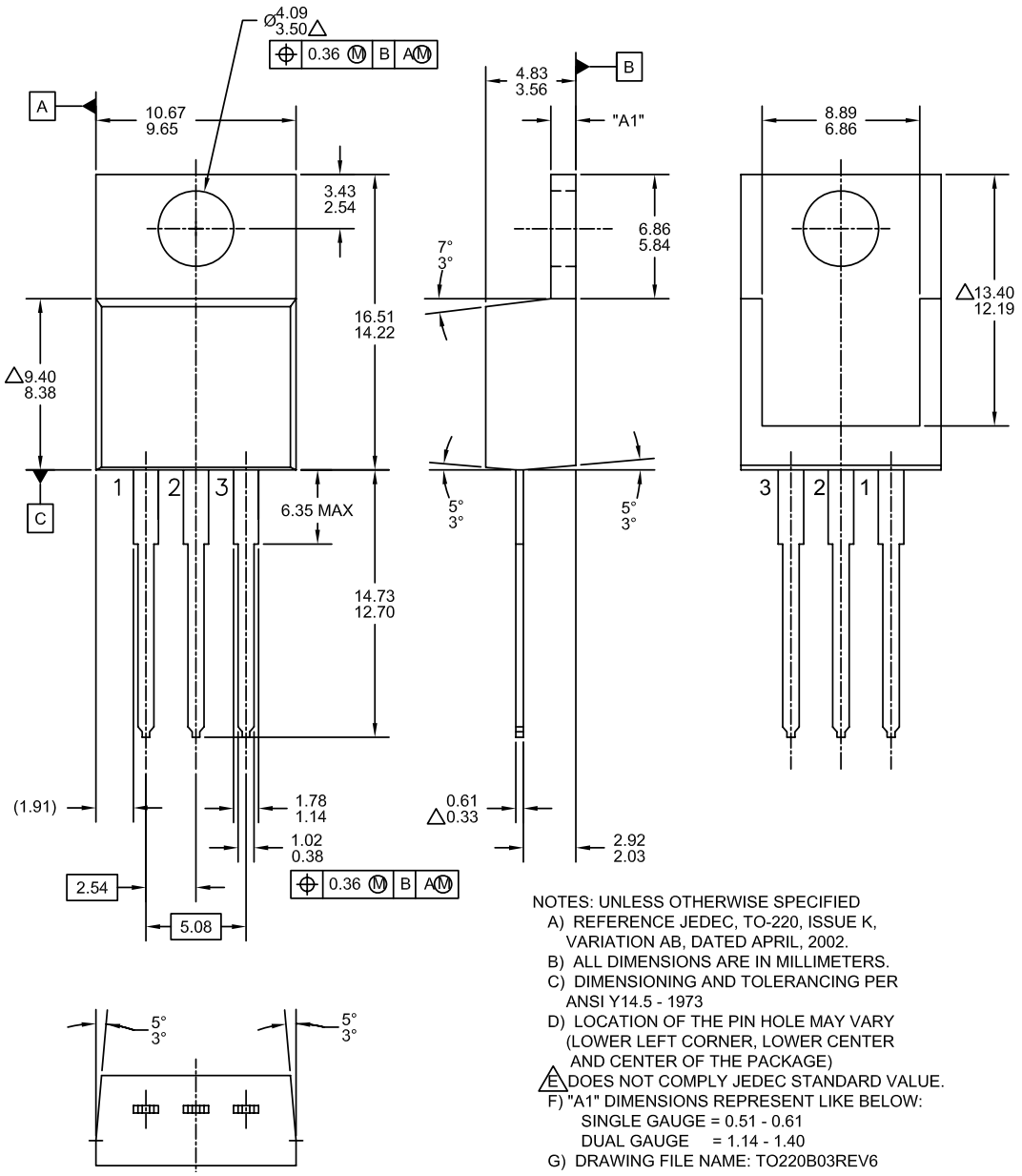
Physical Dimensions

TO-220



NOTES: UNLESS OTHERWISE SPECIFIED

A) REFERENCE JEDEC, TO-220, ISSUE K, VARIATION AB, DATED APRIL, 2002.

B) ALL DIMENSIONS ARE IN MILLIMETERS.

C) DIMENSIONING AND TOLERANCING PER ANSI Y14.5 - 1973

D) LOCATION OF THE PIN HOLE MAY VARY (LOWER LEFT CORNER, LOWER CENTER AND CENTER OF THE PACKAGE)

△E DOES NOT COMPLY JEDEC STANDARD VALUE.

F) "A1" DIMENSIONS REPRESENT LIKE BELOW:
SINGLE GAUGE = 0.51 - 0.61
DUAL GAUGE = 1.14 - 1.40

G) DRAWING FILE NAME: TO220B03REV6

Dimensions in Millimeters

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No Identification Needed	Full Production	Datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice to improve the design.
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