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ON Semiconductor®

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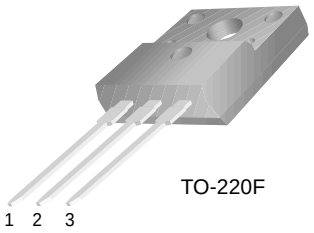
Please note: As part of the Fairchild Semiconductor integration, some of the Fairchild orderable part numbers will need to change in order to meet ON Semiconductor's system requirements. Since the ON Semiconductor product management systems do not have the ability to manage part nomenclature that utilizes an underscore (_), the underscore (_) in the Fairchild part numbers will be changed to a dash (-). This document may contain device numbers with an underscore (_). Please check the ON Semiconductor website to verify the updated device numbers. The most current and up-to-date ordering information can be found at www.onsemi.com. Please email any questions regarding the system integration to Fairchild_questions@onsemi.com.

FAIRCHILD
SEMICONDUCTOR®

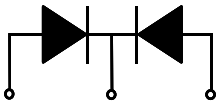
FYPF2010DN

Features

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



TO-220F



1. Anode 2.Cathode 3. Anode

Applications

- Switched mode power supply
- Freewheeling diodes
- Polarity protection

20A SCHOTTKY BARRIER RECTIFIER

Absolute Maximum Ratings T_C=25°C unless otherwise noted

Symbol	Parameter	Value	Units
V_{RRM}	Maximum Repetitive Reverse Voltage	100	V
V_R	Maximum DC Reverse Voltage	100	V
$I_{F(AV)}$	Maximum Average Rectified Current @ T_C = 105°C	20	A
I_{FSM}	Maximum Forward 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)	2.8	°C/W

Electrical Characteristics (per diode) T_C=25 °C unless otherwise noted

Symbol	Parameter		Min.	Typ.	Max.	Units
V_{FM} *	Maximum Instantaneous Forward Voltage					V
	I_F = 10A	T_C = 25 °C	-	-	0.77	
	I_F = 10A	T_C = 125 °C	-	-	0.65	
	I_F = 20A	T_C = 25 °C	-	-	-	
	I_F = 20A	T_C = 125 °C	-	-	0.75	
I_{RM} *	Maximum Instantaneous Reverse Current					mA
	(per diode) @ rated V_R	T_C = 25 °C	-	-	0.1	
		T_C = 125 °C	-	-	20	

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

Typical Characteristics

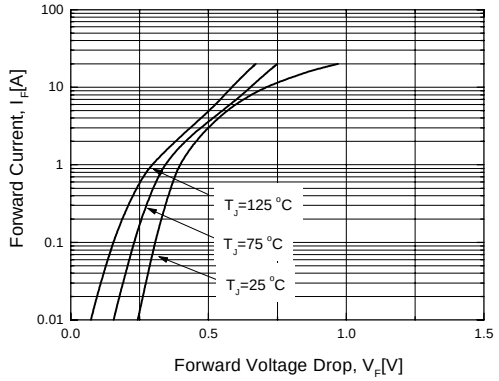


Figure 1. Typical Forward Voltage Characteristics (per diode)

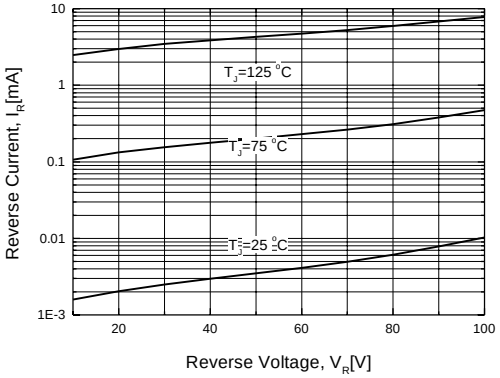


Figure 2. Typical Reverse Current vs. Reverse Voltage (per diode)

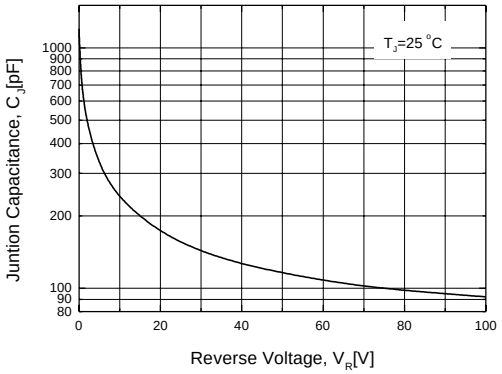


Figure 3. Typical Junction Capacitance (per diode)

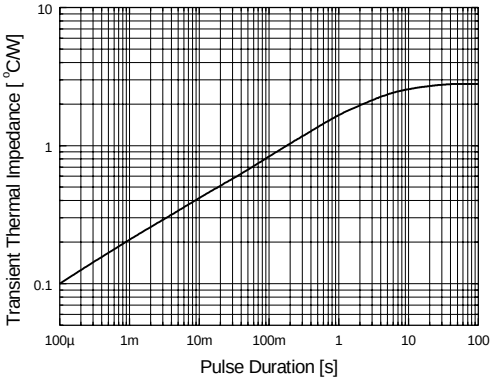


Figure 4. Thermal Impedance Characteristics (per diode)

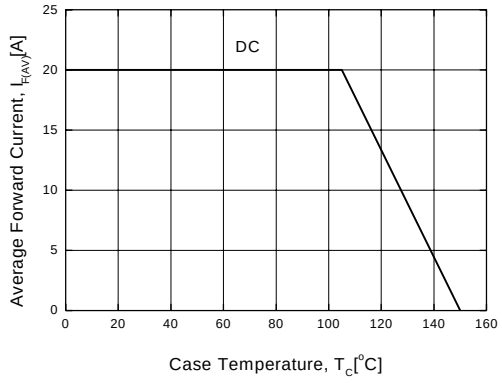


Figure 5. Forward Current Derating Curve

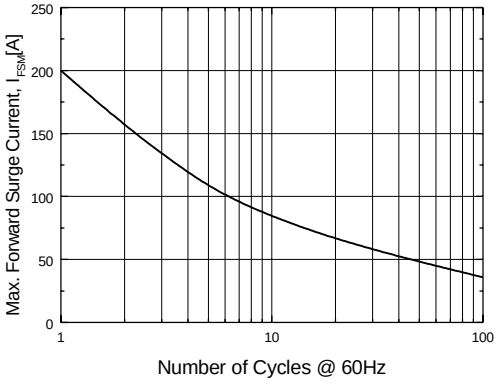
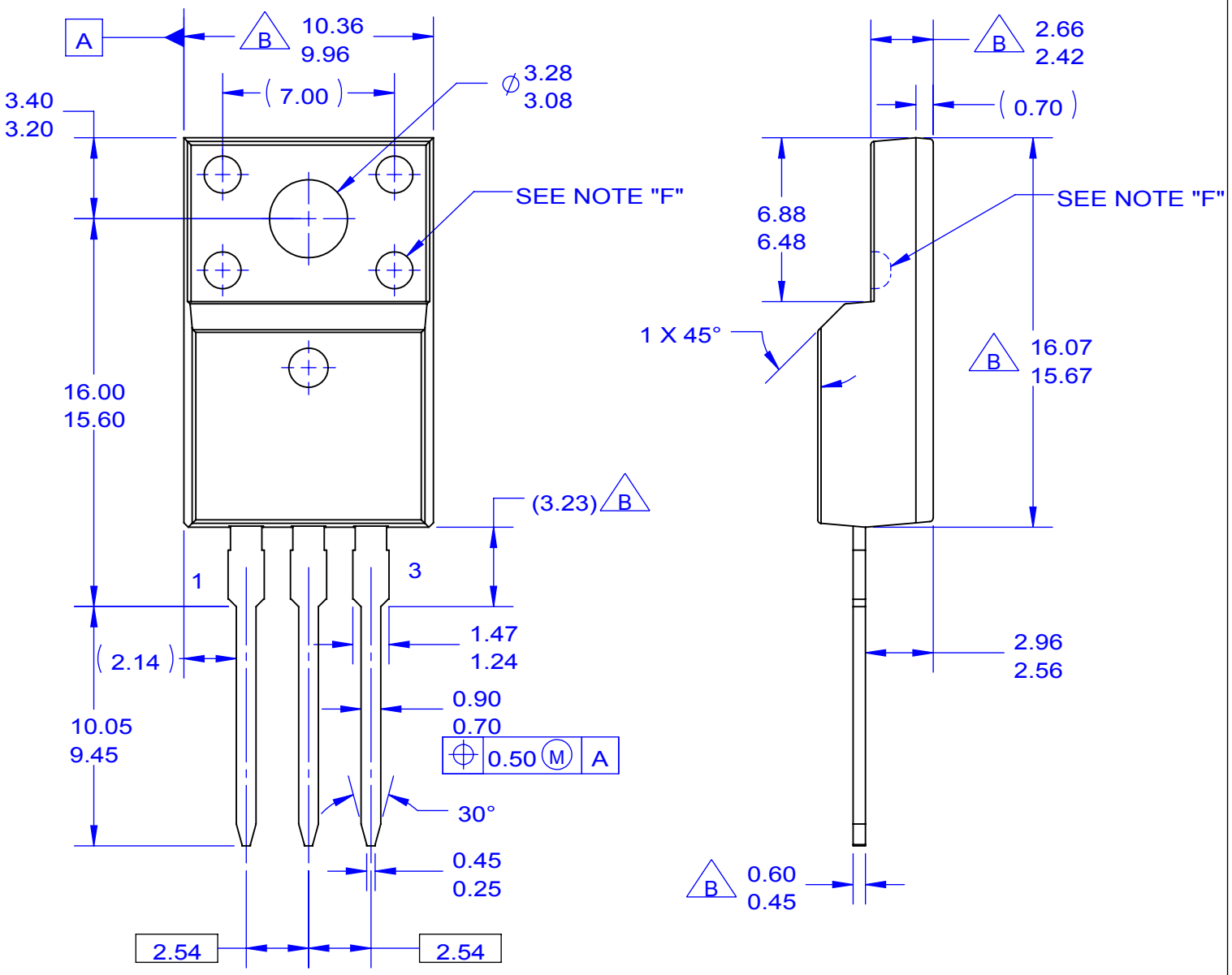
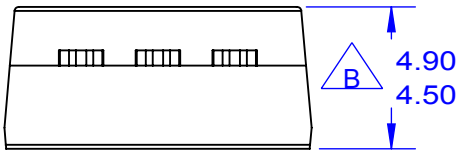


Figure 6. Non-Repetive Surge Current (per diode)





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NOTES:

A. EXCEPT WHERE NOTED CONFORMS TO EIAJ SC91A.
B DOES NOT COMPLY EIAJ STD. VALUE.
C. ALL DIMENSIONS ARE IN MILLIMETERS.
D. DIMENSIONS ARE EXCLUSIVE OF BURRS, MOLD FLASH AND TIE BAR PROTRUSIONS.
E. DIMENSION AND TOLERANCE AS PER ASME Y14.5-1994.
F. OPTION 1 - WITH SUPPORT PIN HOLE.
OPTION 2 - NO SUPPORT PIN HOLE.
G. DRAWING FILE NAME: TO220M03REV5

PUBLICATION ORDERING INFORMATION

LITERATURE FULFILLMENT:
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