

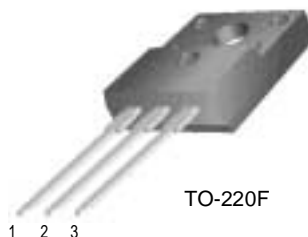
## FFPF05U60DN

### Features

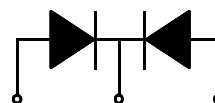
- High voltage and high reliability
- High speed switching
- Low forward voltage

### Applications

- General purpose
- Switching mode power supply
- Free-wheeling diode for motor application
- Power switching circuits



TO-220F



1. Anode 2. Cathode 3. Anode

## ULTRA FAST RECOVERY POWER RECTIFIER

### Absolute Maximum Ratings (per diode) $T_C=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Value	Units
$V_{RRM}$	Peak Repetitive Reverse Voltage	600	V
$I_{F(AV)}$	Average Rectified Forward Current @ $T_C = 100^\circ\text{C}$	5	A
$I_{FSM}$	Non-repetitive Peak Surge Current 60Hz Single Half-Sine Wave	30	A
$T_J, T_{STG}$	Operating Junction and Storage Temperature	- 65 to +150	$^\circ\text{C}$

### Thermal Characteristics

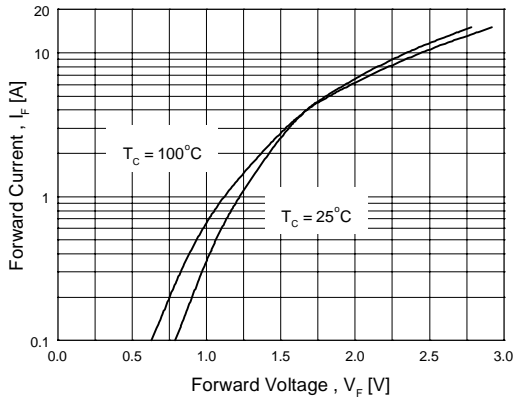
Symbol	Parameter	Value	Units
$R_{\theta JC}$	Maximum Thermal Resistance, Junction to Case	5.0	$^\circ\text{C}/\text{W}$

### Electrical Characteristics (per diode) $T_C=25^\circ\text{C}$ unless otherwise noted

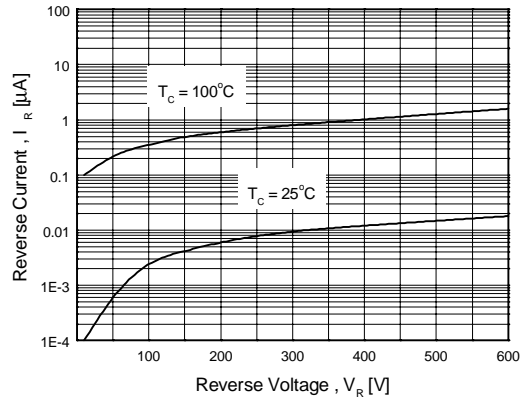
Symbol	Parameter	Min.	Typ.	Max.	Units
$V_{FM}^*$	Maximum Instantaneous Forward Voltage $I_F = 5\text{A}$ $I_F = 5\text{A}$			$T_C = 25^\circ\text{C}$	2.3
				$T_C = 100^\circ\text{C}$	2.2
$I_{RM}^*$	Maximum Instantaneous Reverse Current @ rated $V_R$			$T_C = 25^\circ\text{C}$	2.5
				$T_C = 100^\circ\text{C}$	25
$t_{rr}$	Maximum Reverse Recovery Time			80	ns
$I_{rr}$	Maximum Reverse Recovery Current			5.5	A
$Q_{rr}$	Maximum Reverse Recovery Charge ( $I_F = 5\text{A}$ , $di/dt = 200\text{A}/\mu\text{s}$ )			220	nC
$W_{AVL}$	Avalanche Energy	1.0			mJ

\* Pulse Test: Pulse Width=300 $\mu\text{s}$ , Duty Cycle=2%

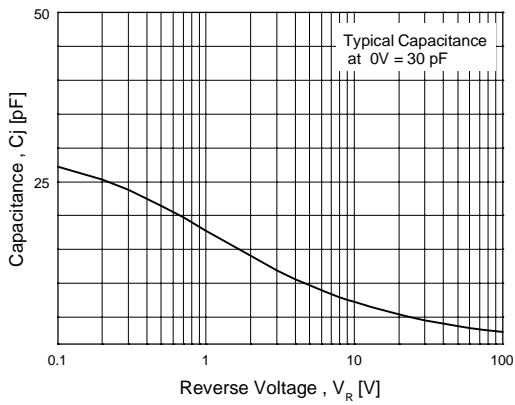
# Typical Characteristics



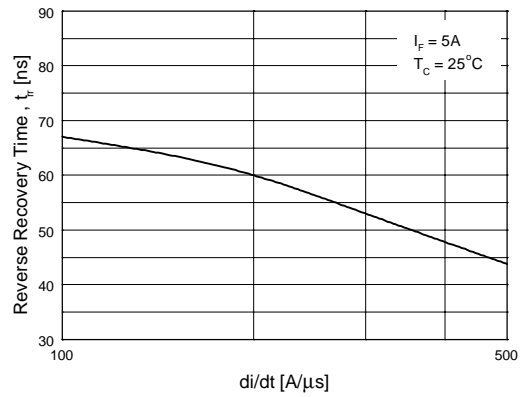
**Figure 1. Typical Forward Voltage Drop vs. Forward Current**



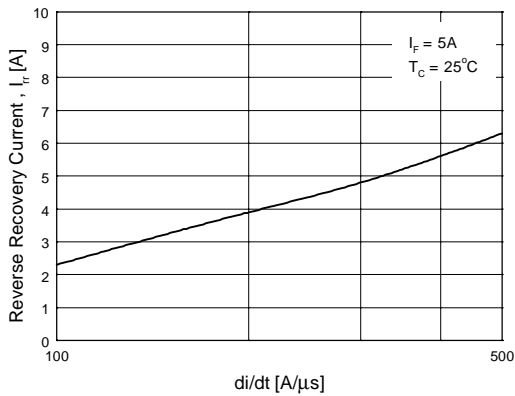
**Figure 2. Typical Reverse Current vs. Reverse Voltage**



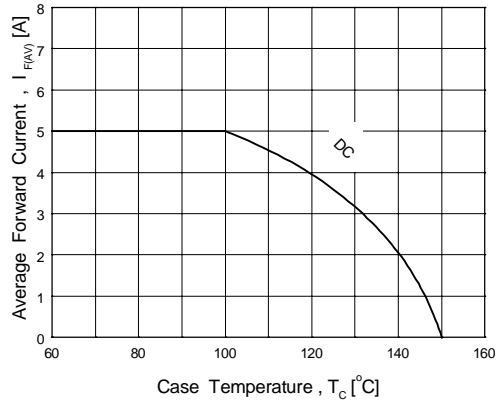
**Figure 3. Typical Junction Capacitance**



**Figure 4. Typical Reverse Recovery Time vs. di/dt**



**Figure 5. Typical Reverse Recovery Current vs. di/dt**

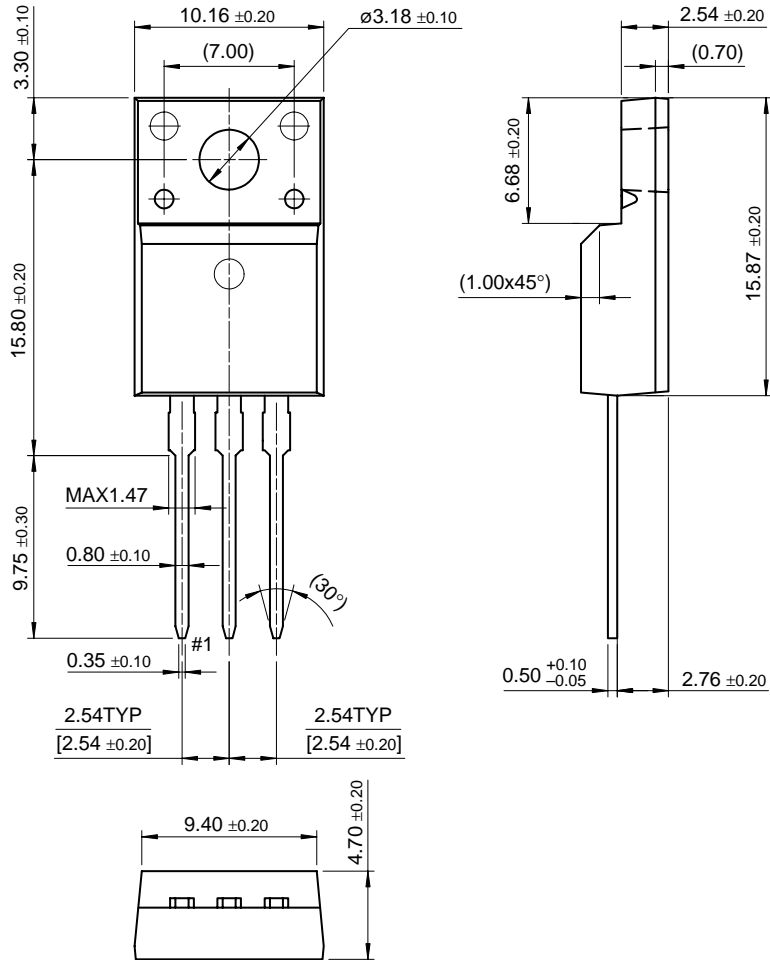


**Figure 6. Forward Current Derating Curve**

# Package Dimensions

FFPF05U60DN

## TO-220F



Dimensions in Millimeters

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DO <sub>M</sub> E™	ISOP <sub>L</sub> ANAR™	SuperSOT™_3	
E <sup>2</sup> CMOS™	MICROWIRE™	SuperSOT™_6	
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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.
Preliminary	First Production	This datasheet contains preliminary data, and supplementary data will be published at a later date. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
No Identification Needed	Full Production	This datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
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FFPF05U60DN

5.0A/600V Ultra Fast Recovery Rectifier

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Features

- High Voltage and High Reliability
- High Speed Switching
- Low Forward Voltage

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Applications

- General Purpose
- Switching Mode Power Supply
- Free Wheeling Diode for Motor Application
- Power Switching Circuit

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Product status/pricing/package

Product	Product status	Pricing*	Package type	Leads	Packing method
FFPF05U60DNTU	Full Production	\$0.52	<a href="#">TO-220F</a>	3	RAIL

\* 1,000 piece Budgetary Pricing

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