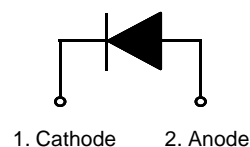
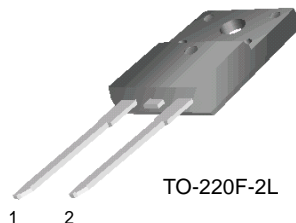


## FFPF10UP60S

### Features

- Ultrafast with soft recovery  
(@  $I_F = 1A$ ), < 40ns
- Reverse Voltage, 600V
- Forward Voltage (@  $T_C = 60^\circ C$ ), < 2V
- Enhanced Avalanche Energy



### Applications

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

### Absolute Maximum Ratings $T_C=25^\circ C$ unless otherwise noted

Symbol	Parameter	Value	Units
$V_{RRM}$	Peak Repetitive Reverse Voltage	600	V
$I_{F(AV)}$	Average Rectified Forward Current @ $T_C = 60^\circ C$	10	A
$I_{FSM}$	Non-repetitive Peak Surge Current 60Hz Single Half-Sine Wave	50	A
$T_J, T_{STG}$	Operating Junction and Storage Temperature	- 65 to +150	$^\circ C$

### Thermal Characteristics

Symbol	Parameter	Value	Units
$R_{\theta JC}$	Maximum Thermal Resistance, Junction to Case	4.5	$^\circ C/W$

### Electrical Characteristics $T_C=25^\circ C$ unless otherwise noted

Symbol	Parameter	Min.	Typ.	Max.	Units	
$V_{FM}^*$	Maximum Instantaneous Forward Voltage $I_F = 10A$ $I_F = 10A$	$T_C = 25^\circ C$	-	-	2.2	V
		$T_C = 100^\circ C$	-	-	2.0	
$I_{RM}^*$	Maximum Instantaneous Reverse Current @ rated $V_R$	$T_C = 25^\circ C$	-	-	100	$\mu A$
		$T_C = 100^\circ C$	-	-	500	
$t_{rr}$	Reverse Recovery Time	-	34	40	ns	
$I_{rr}$	Reverse Recovery Current	-	1.0	1.5	A	
$Q_{rr}$	Reverse Recovery Charge ( $I_F = 1A, di/dt = 100A/\mu s$ )	-	17	30	nC	
$t_{rr}$	Maximum Reverse Recovery Time ( $I_F = 10A, di/dt = 200A/\mu s$ )	-	58	-	ns	
$W_{AVL}$	Avalanche Energy (L=40mH)	20	-	-	mJ	

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

# Typical Characteristics

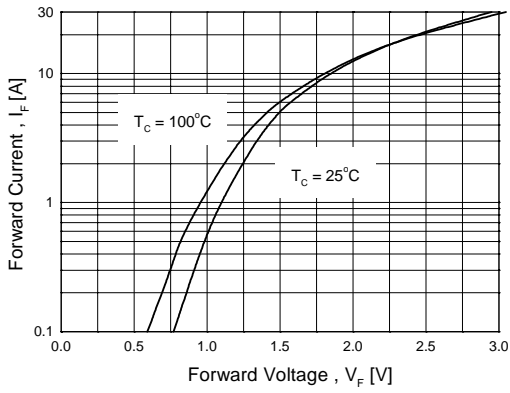


Figure 1. Typical Forward Voltage Drop vs. Forward Current

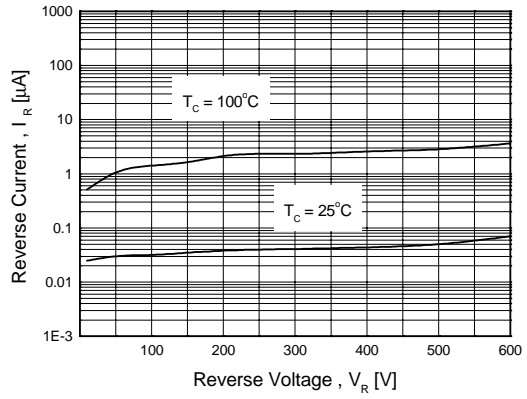


Figure 2. Typical Reverse Current vs. Reverse Voltage

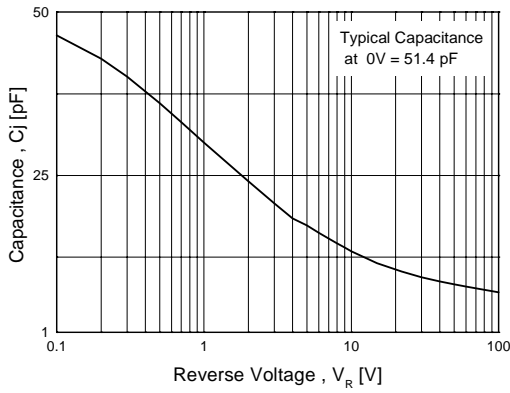


Figure 3. Typical Junction Capacitance

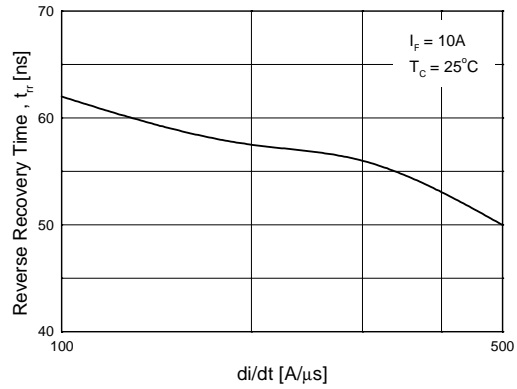


Figure 4. Typical Reverse Recovery Time vs. di/dt

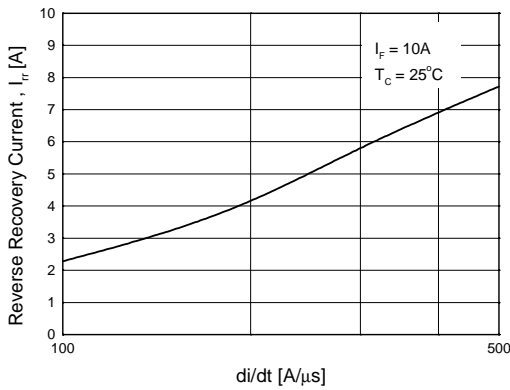


Figure 5. Typical Reverse Recovery Current vs. di/dt

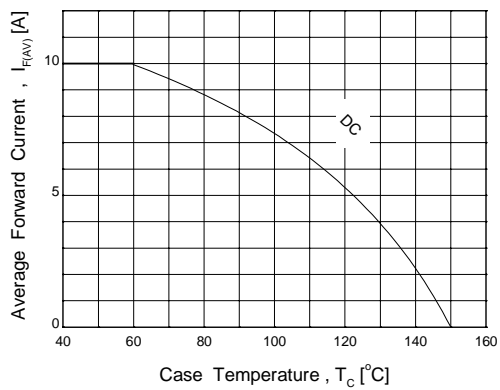
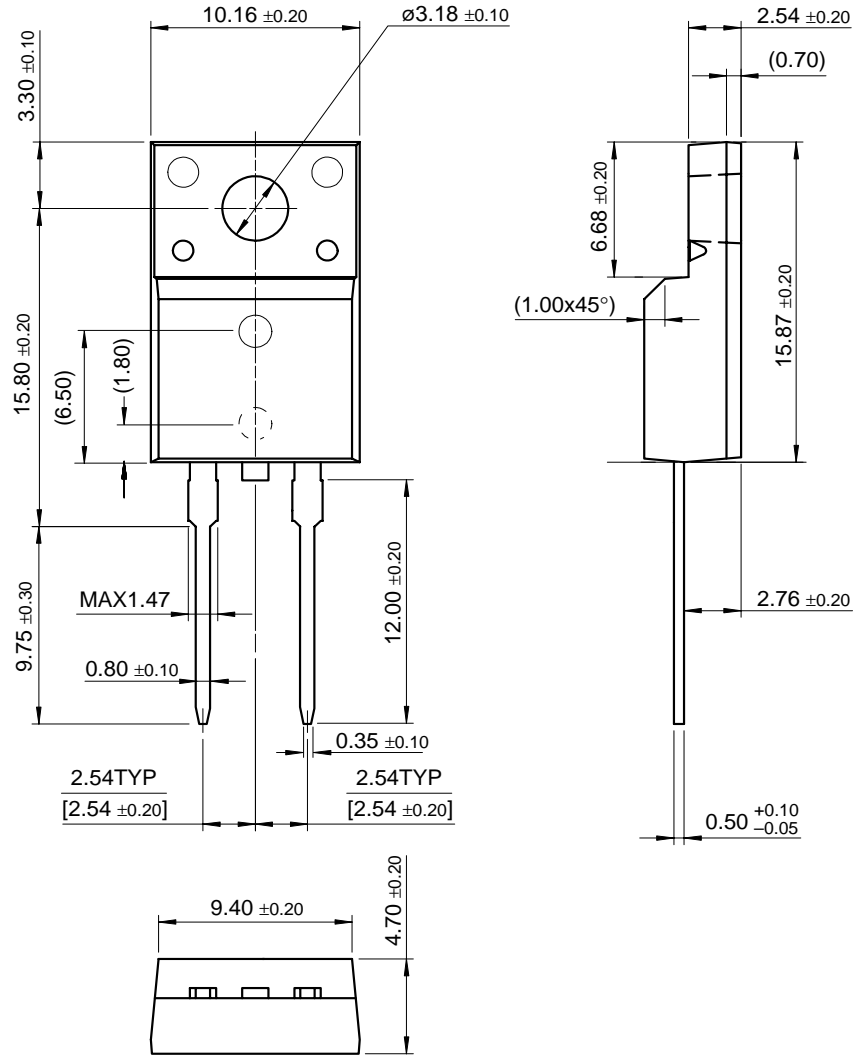


Figure 6. Forward Current Derating Curve

# Package Dimensions

## TO-220F-2L

FFPF10UP60S



Dimensions in Millimeters

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Bottomless <sup>™</sup>	FPS <sup>™</sup>	MICROCOUPLER <sup>™</sup>	PowerTrench <sup>®</sup>	SuperSOT <sup>™</sup> -6
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## FFPF10UP60S

10A/600V UltraFast Rectifier

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  - [Applications](#)
  - [Product status/pricing/packaging](#)
  - [Order Samples](#)
- [Qualification Support](#)

### Features

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**Product status/pricing/packaging**

**BUY**

Product	Product status	Pb-free Status	Pricing*	Package type	Leads	Packing method	Package Marking Convention**
FFPF10UP60STU	Full Production		\$0.56	<a href="#">TO-220F</a>	2	RAIL	Line 1: \$Y (Fairchild logo) &Z (Asm. Plant Code) &4 (4-Digit Date Code)

\* Fairchild 1,000 piece Budgetary Pricing

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