FAIRCHILD SEMICONDUCTOR™

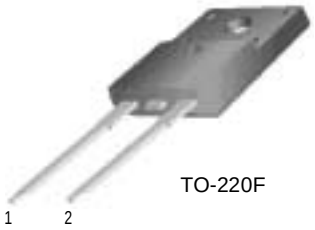
FFPF05U60S

Features

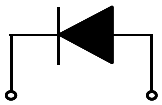
- High voltage and high reliability
- High speed switching
- Low forward voltage

Applications

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



TO-220F



1. Cathode 2. Anode

ULTRA FAST RECOVERY POWER RECTIFIER

Absolute Maximum Ratings T_C=25°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°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	°C

Thermal Characteristics

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

Electrical Characteristics T_C=25 °C unless otherwise noted

Symbol	Parameter		Min.	Typ.	Max.	Units
V_{FM} *	Maximum Instantaneous Forward Voltage					V
	I_F = 5A	T_C = 25 °C			2.3	
	I_F = 5A	T_C = 100 °C			2.2	
I_{RM} *	Maximum Instantaneous Reverse Current					µA
	@ rated V_R	T_C = 25 °C			2.5	
		T_C = 100 °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 =5A, di/dt = 200A/µs)				220	nC
W_{AVL}	Avalanche Energy		1.0			mJ

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

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Typical Characteristics

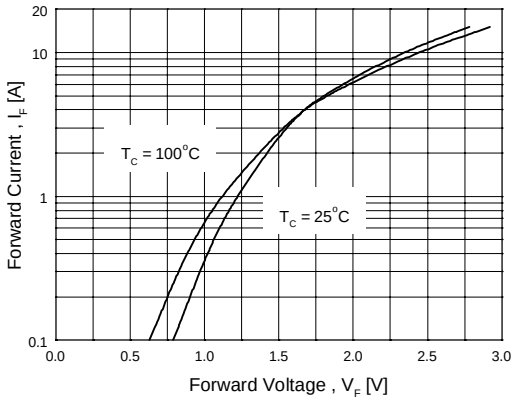


Figure 1. Typical Forward Voltage Drop vs. Forward Current

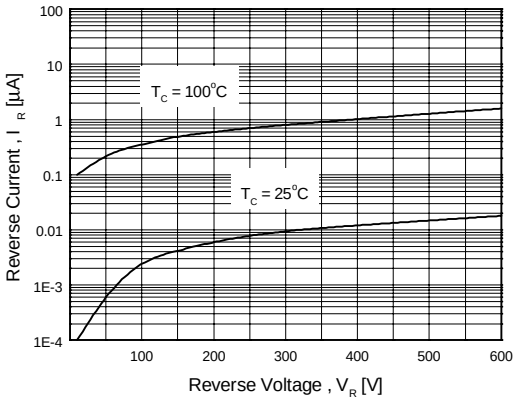


Figure 2. Typical Reverse Current vs. Reverse Voltage

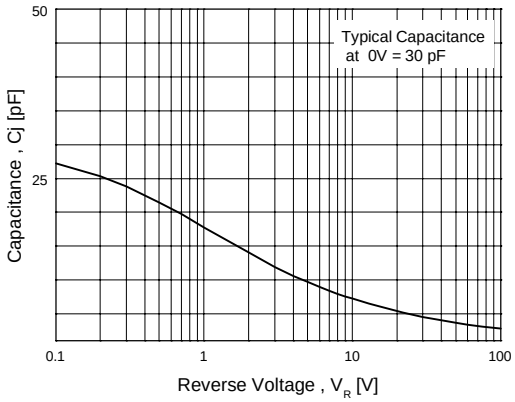


Figure 3. Typical Junction Capacitance

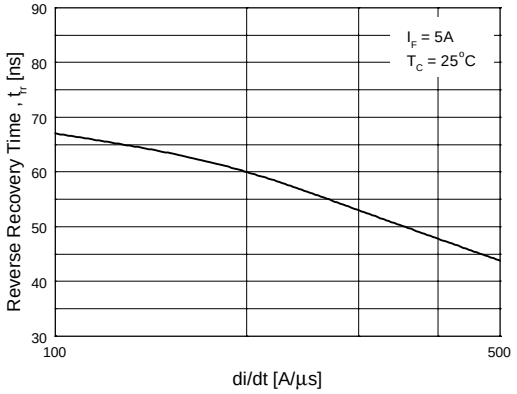


Figure 4. Typical Reverse Recovery Time vs. di/dt

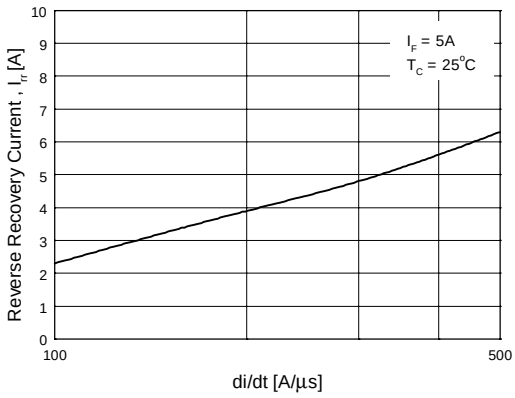


Figure 5. Typical Reverse Recovery Current vs. di/dt

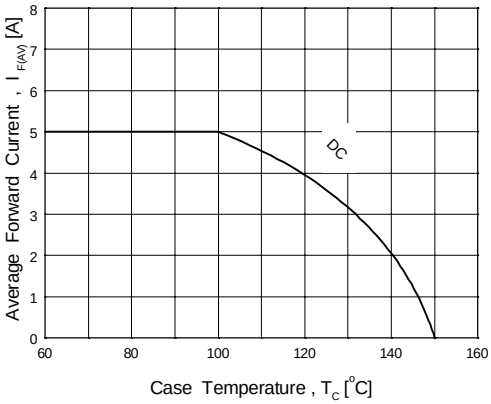
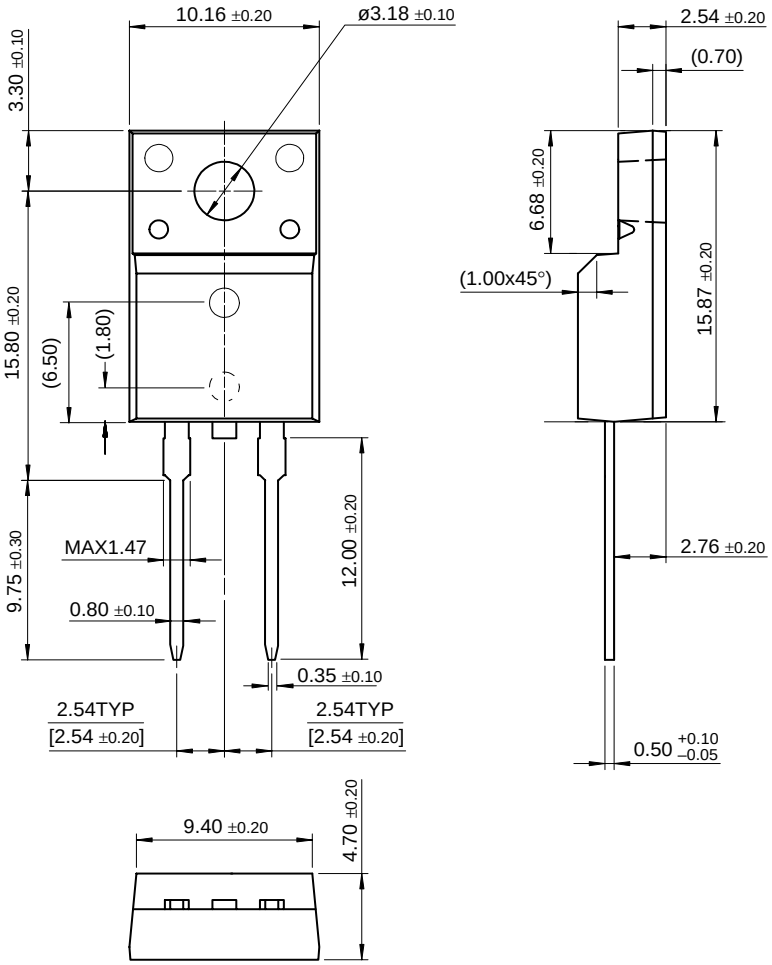


Figure 6. Forward Current Derating Curve

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Package Dimensions

TO-220F 2L



Dimensions in Millimeters

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