FAIRCHILD SEMICONDUCTOR™

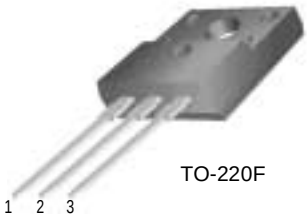
FFPF06U40DN

Features

- Ultrafast with soft recovery
- Low forward voltage

Applications

- Power switching circuits
- Output rectifiers
- Freewheeling diodes
- Switching mode power supply



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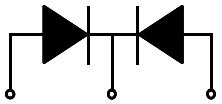

1. Anode 2.Cathode 3. Anode

ULTRA FAST RECOVERY POWER RECTIFIER

Absolute Maximum Ratings (per diode) T_C=25ºC unless otherwise noted

Symbol	Parameter	Value	Units
V_{RRM}	Peak Repetitive Reverse Voltage	400	V
$I_{F(AV)}$	Average Rectified Forward Current @ T_C = 100°C	6	A
I_{FSM}	Non-repetitive Peak Surge Current 60Hz Single Half-Sine Wave	60	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	7.0	°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 = 6A	T_C = 25 °C	-	-	1.4	
	I_F = 6A	T_C = 100 °C	-	-	1.3	
I_{RM} *	Maximum Instantaneous Reverse Current					µA
	@ rated V_R	T_C = 25 °C	-	-	20	
		T_C = 100 °C	-	-	200	
t_{rr}	Maximum Reverse Recovery Time		-	-	50	ns
I_{rr}	Maximum Reverse Recovery Current		-	-	4.0	A
Q_{rr}	Maximum Reverse Recovery Charge (I_F =6A, di/dt = 200A/µs)		-	-	100	nC
W_{AVL}	Avalanche Energy		1.0	-	-	mJ

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

Typical Characteristics

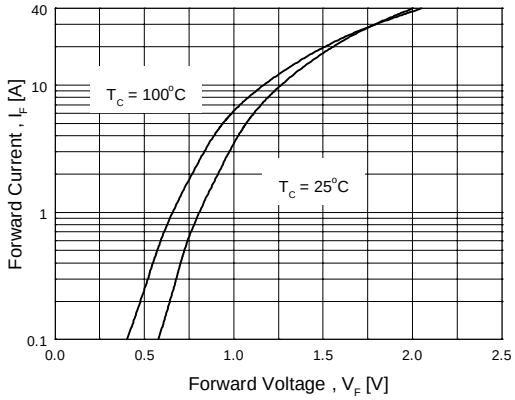

Figure 1. Typical Forward Voltage Drop vs. Forward Current

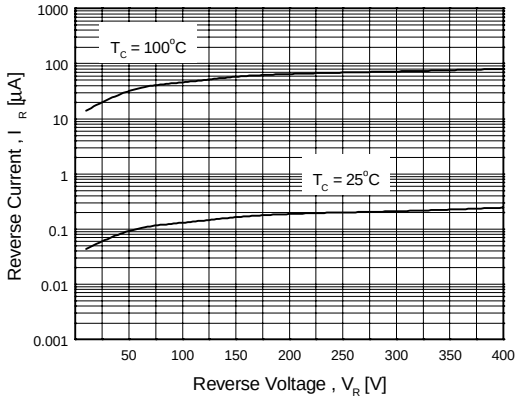

Figure 2. Typical Reverse Current vs. Reverse Voltage

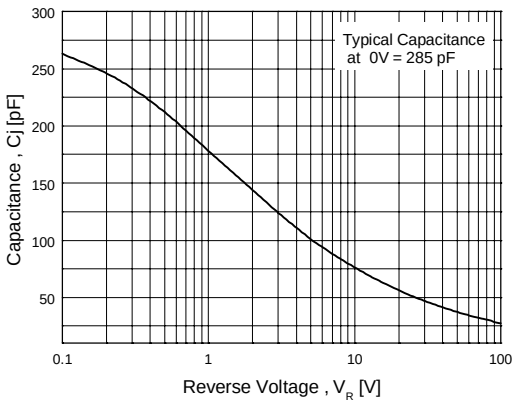

Figure 3. Typical Junction Capacitance

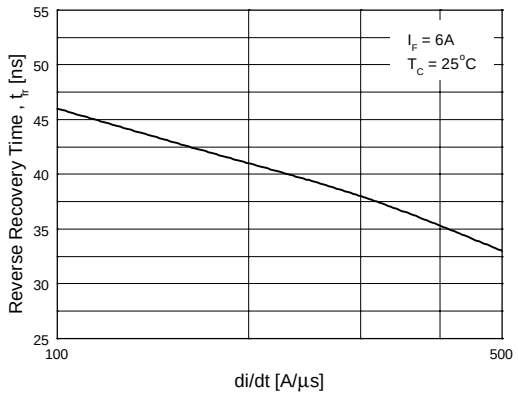

Figure 4. Typical Reverse Recovery Time vs. di/dt

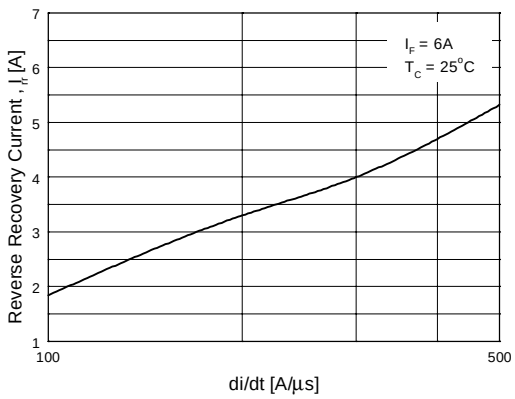

Figure 5. Typical Reverse Recovery Current vs. di/dt

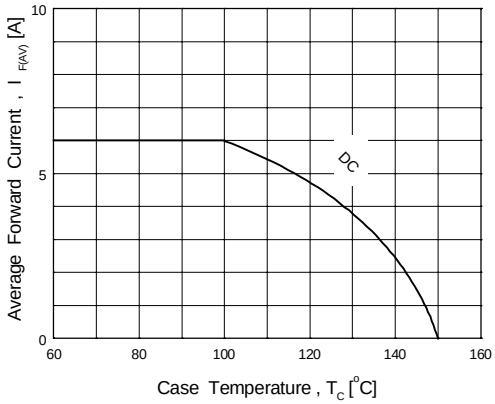

Figure 6. Forward Current Derating Curve

Package Dimensions

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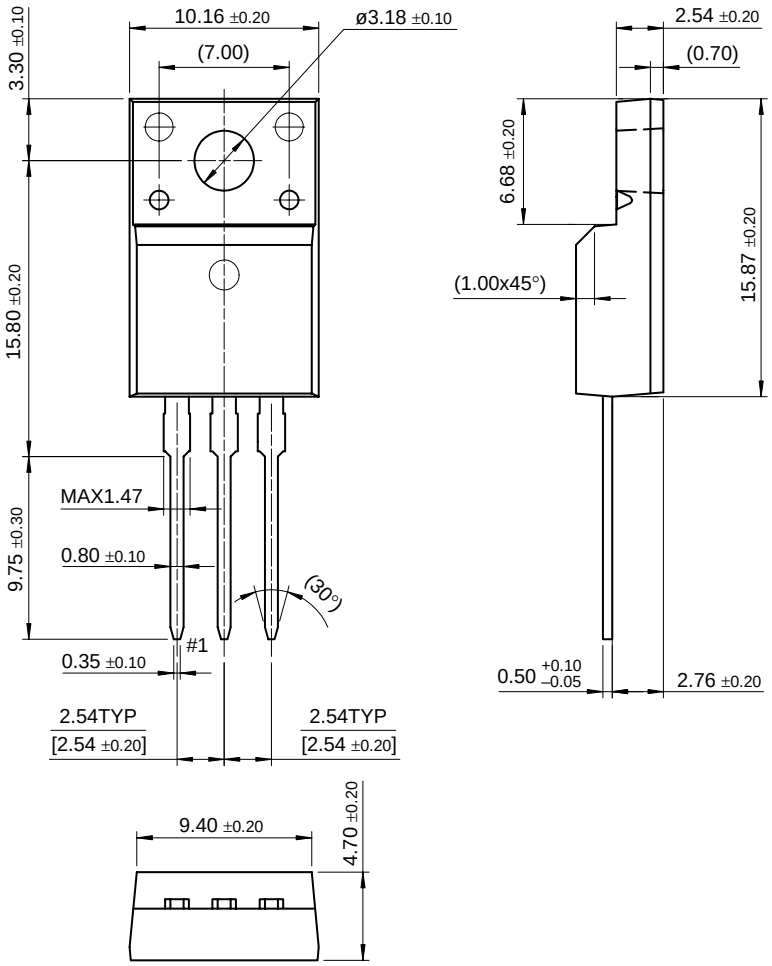

Dimensions in Millimeters

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FFPF06U40DN
6.0A/400V Ultra Fast Recovery Rectifier

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- Ultrafast with Soft Recovery
- Low Forward Voltage

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Applications

- Power Switching Circuits
- Output rectifiers
- Freewheeling Diodes
- Switching Mode Power Supply

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Product status/pricing/packaging

Product	Product status	Pricing*	Package type	Leads	Packing method
FFPF06U40DNTU	Full Production	$0.91	TO-220F	3	RAIL

* 1,000 piece Budgetary Pricing

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