

FFPF20UA60DN

Features

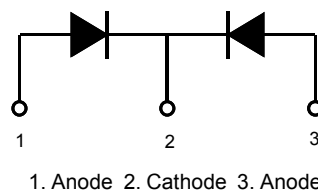
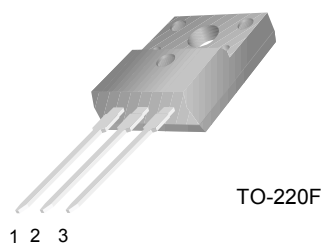
- Ultrafast Recovery $t_{rr} = 120 \text{ ns}$ (@ $I_F = 10 \text{ A}$)
- Max Forward Voltage, $V_F = 2.3 \text{ V}$ (@ $T_C = 25^\circ\text{C}$)
- 600 V Reverse Voltage and High Reliability
- Avalanche Energy Rated
- RoHS Compliant

20 A, 600 V, Ultrafast II Dual Diode

The FFPF20UA60DN is an ultrafast II dual diode with low forward voltage drop and rugged UIS capability. This device is intended for use as freewheeling and clamping diodes in a variety of switching power supplies and other power switching applications. It is specially suited for use in switching power supplies and industrial applications as welder and UPS application.

Applications

- Boost Diode in PFC and Switching Mode Power Supply



Absolute Maximum Ratings $T_C = 25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Rating	Unit
V_{RRM}	Peak Repetitive Reverse Voltage	600	V
V_{RWM}	Working Peak Reverse Voltage	600	V
V_R	DC Blocking Voltage	600	V
$I_{F(AV)}$	Average Rectified Forward Current @ $T_C = 25^\circ\text{C}$	10	A
I_{FSM}	Non-repetitive Peak Surge Current 60Hz Single Half-Sine Wave	50	A
T_J, T_{STG}	Operating and Storage Temperature Range	-65 to +150	$^\circ\text{C}$

Thermal Characteristics $T_C = 25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Rating	Unit
$R_{\theta JC}$	Maximum Thermal Resistance, Junction to Case	6.3	$^\circ\text{C/W}$

Package Marking and Ordering Information

Device Marking	Device	Package	Reel Size	Tape Width	Quantity
FFPF20UA60DN	FFPF20UA60DN	TO-220F	-	-	50

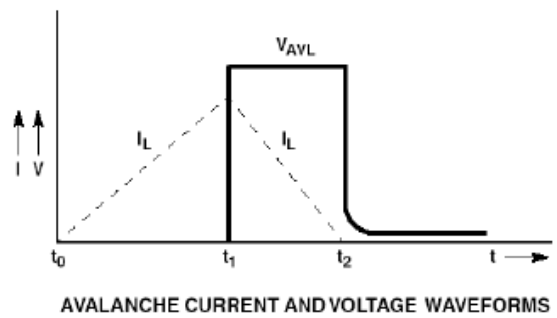
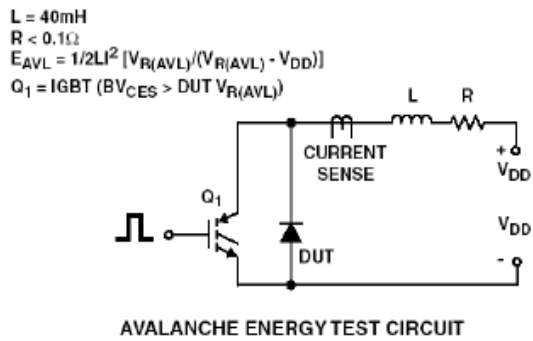
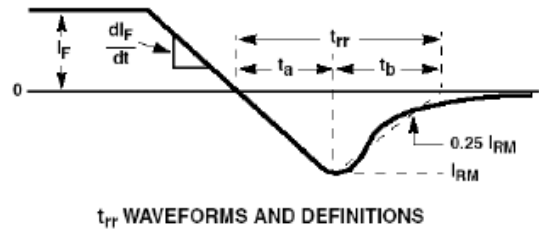
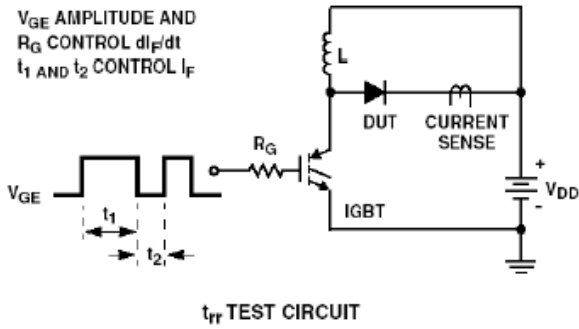
Electrical Characteristics $T_C = 25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Min.	Typ.	Max.	Unit
V_{F1}	$I_F = 10\text{ A}$ $I_F = 10\text{ A}$	-	1.8 1.7	2.3 2.2	V
I_{R1}	$V_R = 600\text{ V}$ $V_R = 600\text{ V}$	-	-	100 500	μA
t_{rr}	$I_F = 10\text{ A}, di/dt = 200\text{ A}/\mu\text{s}$ $T_C = 25^\circ\text{C}$		74	120	nS
I_{rr}			6	10	A
Q_{rr}			213	600	nC
W_{AVL}	Avalanche Energy ($L = 40\text{ mH}$)	10	-	-	mJ

Notes:

1: Pulse: Test Pulse width = 300 μs , Duty Cycle = 2%

Test Circuit and Waveforms



Typical Performance Characteristics

Figure 1. Typical Forward Voltage Drop vs. Forward Current

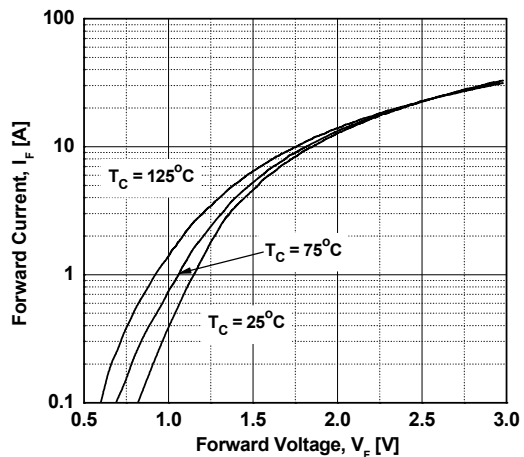


Figure 2. Typical Reverse Current vs. Reverse Voltage

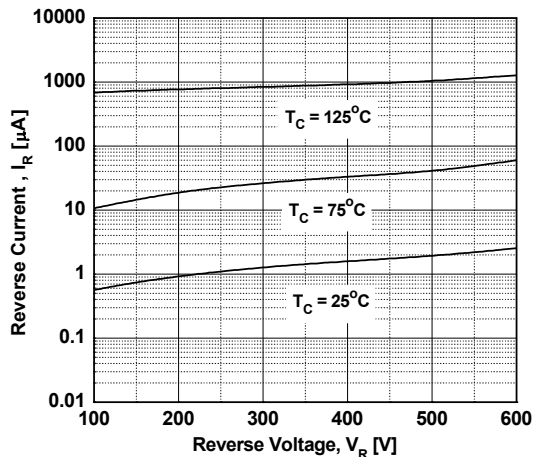


Figure 3. Typical Junction Capacitance

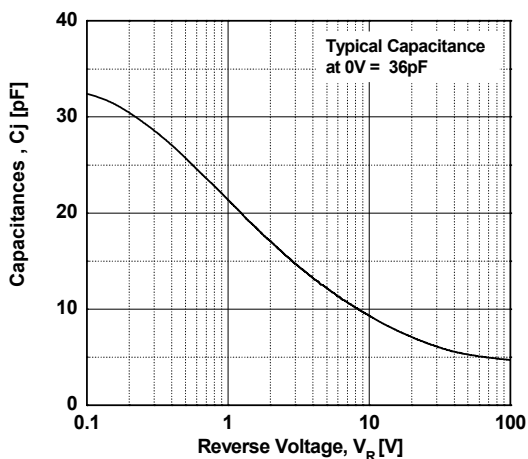


Figure 4. Typical Reverse Recovery Time vs. di/dt

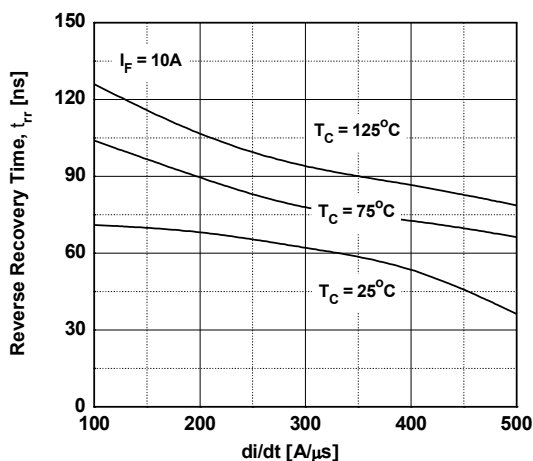


Figure 5. Typical Reverse Recovery Current vs. di/dt

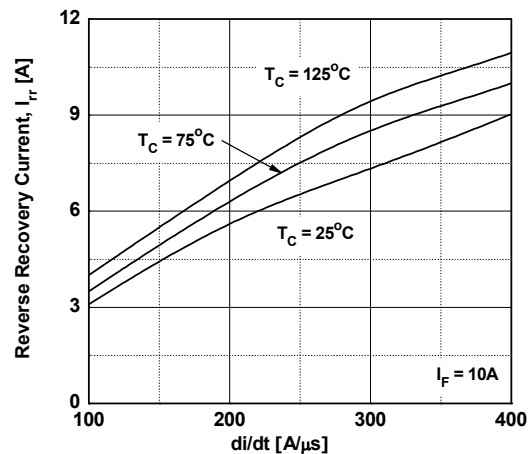
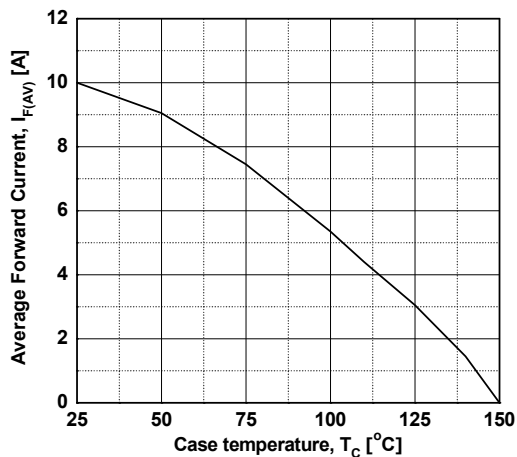
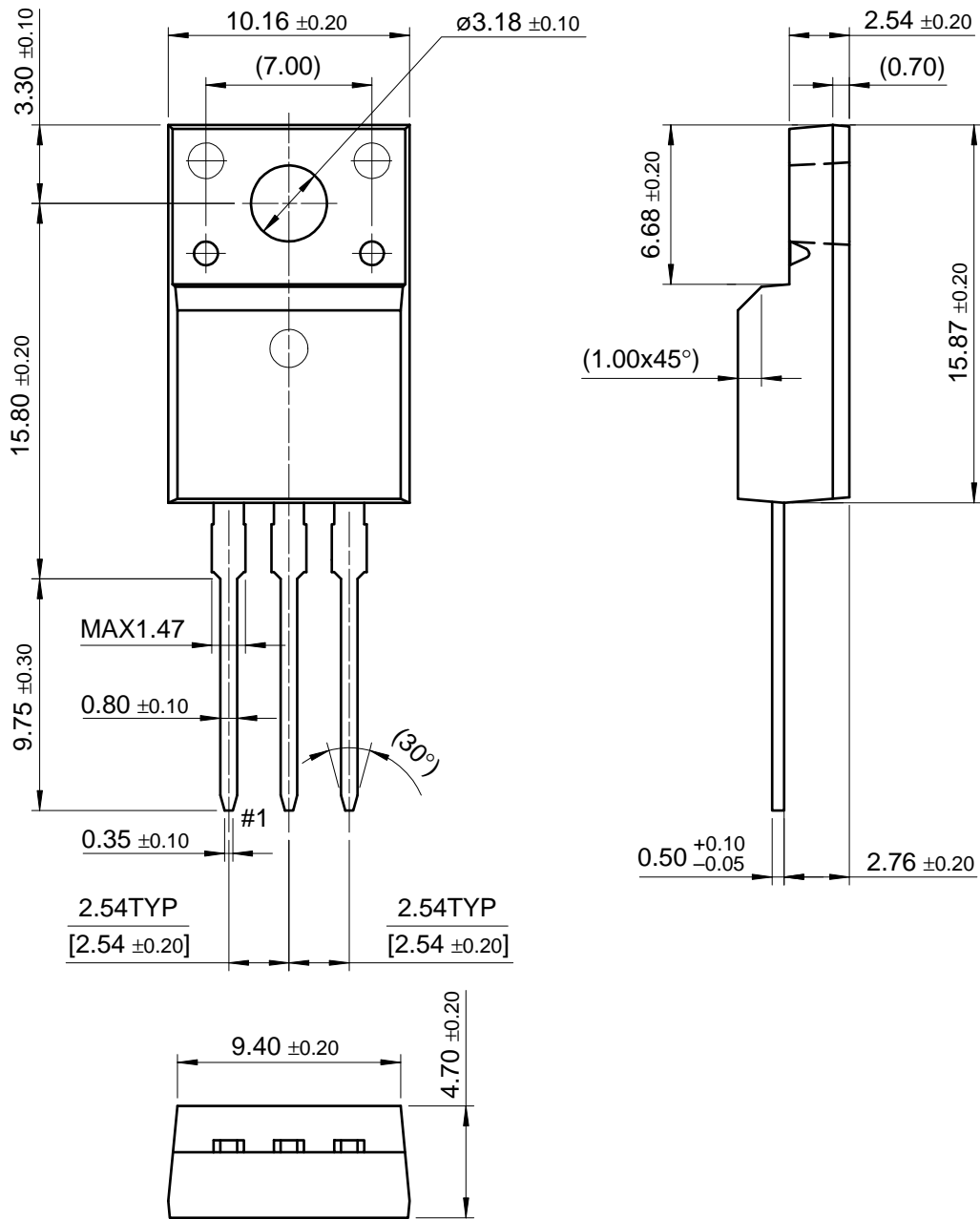


Figure 6. Forward Current Derating Curve



Mechanical Dimensions

TO220F








Dimensions in Millimeters



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