FAIRCHILD
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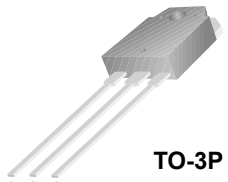
FFA120UP60DN
Ultrafast Recovery Power Rectifier

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



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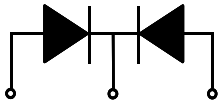


1. Anode 2.Cathode 3. Anode

Absolute Maximum Ratings (per diode) T_a = 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 = 50°C	120	A
I_{FSM}	Non-repetitive Peak Surge Current 60Hz Single Half-Sine Wave	360	A
$T_{J,}$ T_{STG}	Operating Junction and Storage Temperature	- 65 to +150	°C

Thermal Characteristics T_a = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
$R_{\theta JC}$	Maximum Thermal Resistance, Junction to Case	0.88	°C/W

Electrical Characteristics (per diode) T_a = 25°C unless otherwise noted

Symbol	Parameter		Min.	Typ.	Max.	Units
V_{FM} *	Maximum Instantaneous Forward Voltage					V
	I_F = 60A	T_C = 25 °C	-	-	2.2	
	I_F = 60A	T_C = 100 °C	-	-	2.0	
I_{RM} *	Maximum Instantaneous Reverse Current					μA
	@ rated V_R	T_C = 25 °C	-	-	25	
		T_C = 100 °C	-	-	250	
t_{rr}	Maximum Reverse Recovery Time		-	-	90	ns
I_{rr}	Maximum Reverse Recovery Current		-	-	9	A
Q_{rr}	Maximum Reverse Recovery Charge (I_F =60A, di/dt = 200A/μs)		-	-	405	nC
W_{AVL}	Avalanche Energy (L = 40mH)		20	-	-	mJ

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

Typical Performance Characteristics

Figure 1. Typical Forward Voltage Drop vs. Forward Current

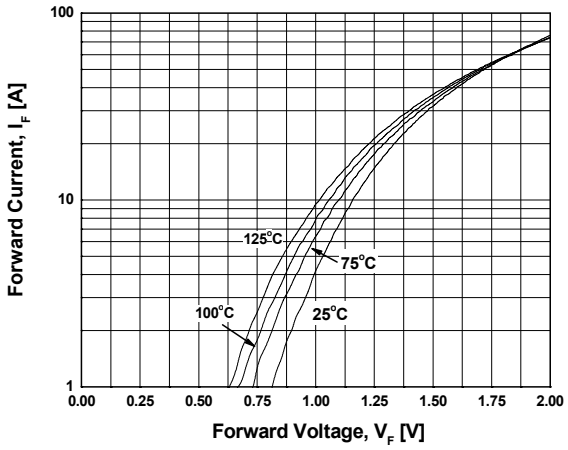


Figure 2. Typical Reverse Current vs. Reverse Voltage

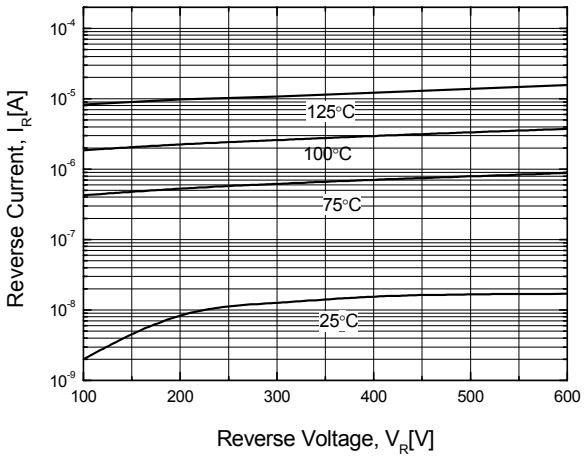


Figure 3. Typical Junction Capacitance

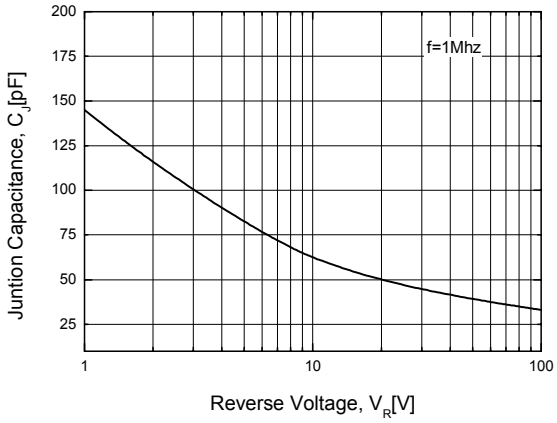


Figure 4. Typical Reverse Recovery Time vs. di/dt

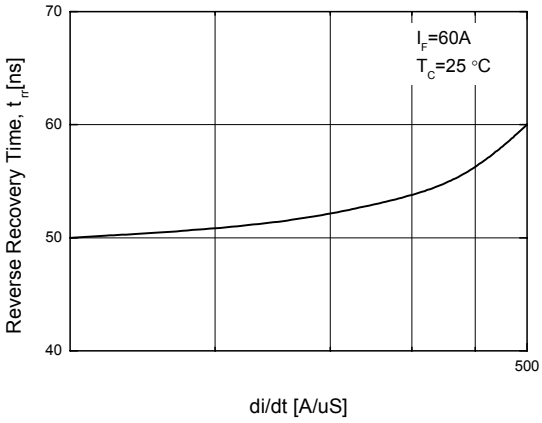


Figure 5. Typical Reverse Recovery Current vs. di/dt

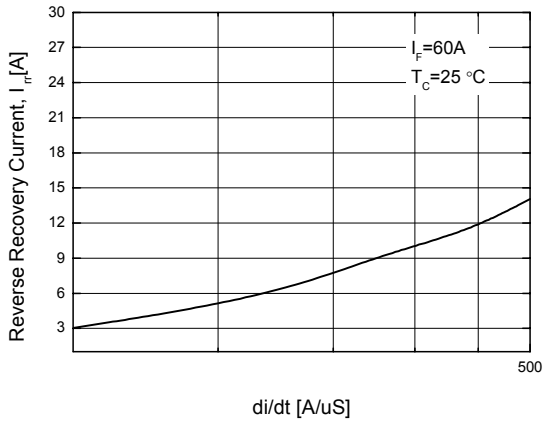
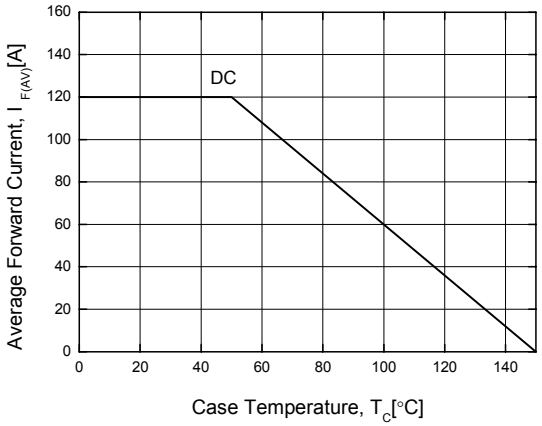


Figure 6. Forward Current Derating Curve



Mechanical Dimensions

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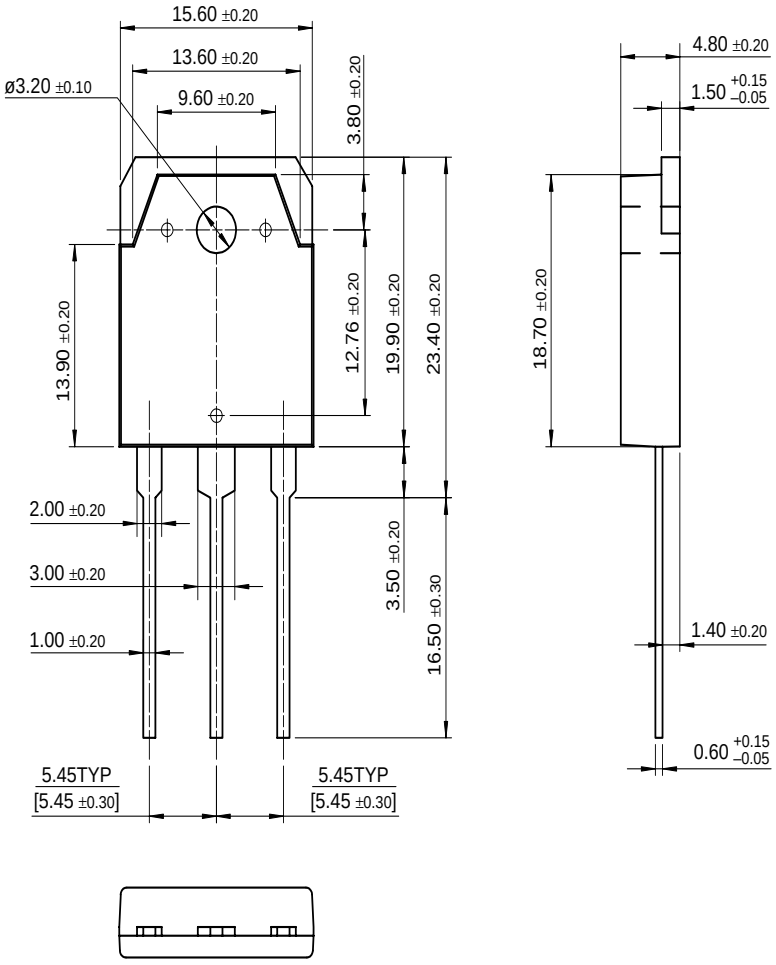

Dimensions in Millimeters

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