

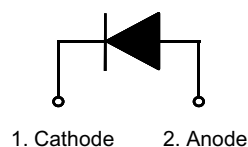
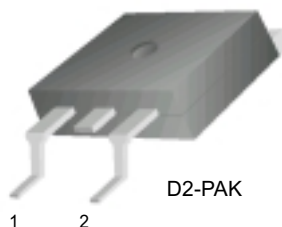
FFB20U60S

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



ULTRA FAST RECOVERY POWER RECTIFIER

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

Symbol	Parameter	Value	Units
V_{RRM}	Peak Repetitive Reverse Voltage	600	V
$I_{F(AV)}$	Average Rectified Forward Current @ $T_C = 100^\circ\text{C}$	20	A
I_{FSM}	Non-repetitive Peak Surge Current 60Hz Single Half-Sine Wave	120	A
T_J, T_{STG}	Operating Junction and Storage Temperature	- 65 to +150	$^\circ\text{C}$

Thermal Characteristics

Symbol	Parameter	Value	Units
$R_{\theta JC}$	Maximum Thermal Resistance, Junction to Case	1.25	$^\circ\text{C}/\text{W}$

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

Symbol	Parameter	Min.	Typ.	Max.	Units
V_{FM}^*	Maximum Instantaneous Forward Voltage $I_F = 20\text{A}$ $I_F = 20\text{A}$			2.2 2.0	V
I_{RM}^*	Maximum Instantaneous Reverse Current @ rated V_R			10 100	μA
t_{rr}	Maximum Reverse Recovery Time			90	ns
I_{rr}	Maximum Reverse Recovery Current			8	A
Q_{rr}	Maximum Reverse Recovery Charge ($I_F = 20\text{A}$, $di/dt = 200\text{A}/\mu\text{s}$)			360	nC
W_{AVL}	Avalanche Energy	1.0			mJ

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

Typical Characteristics

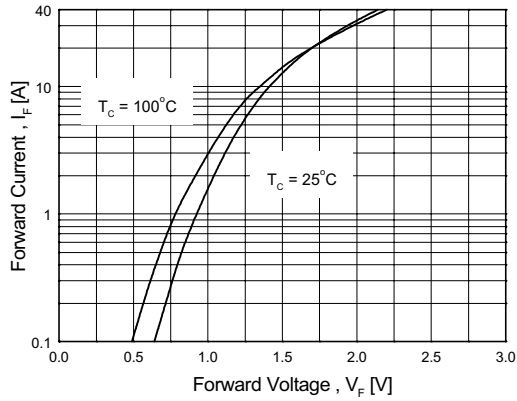


Figure 1. Typical Forward Voltage Drop vs. Forward Current

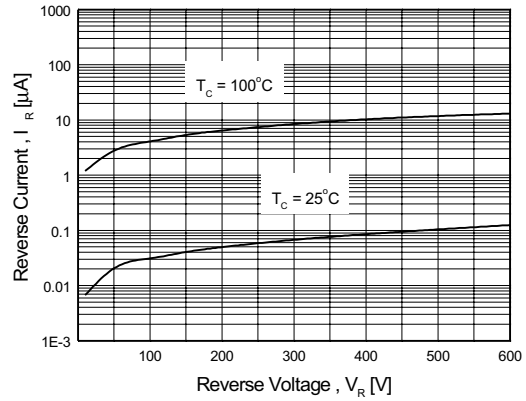


Figure 2. Typical Reverse Current vs. Reverse Voltage

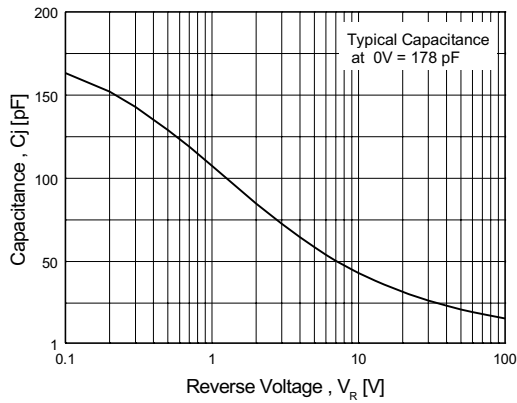


Figure 3. Typical Junction Capacitance

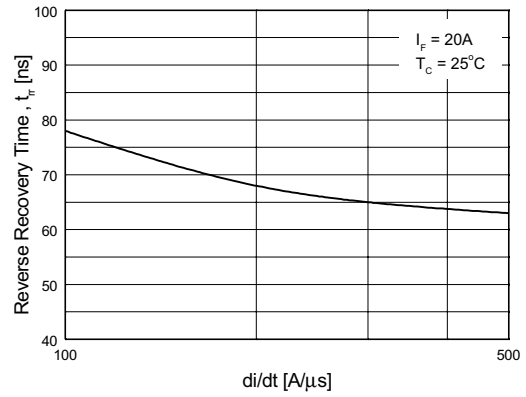


Figure 4. Typical Reverse Recovery Time vs. di/dt

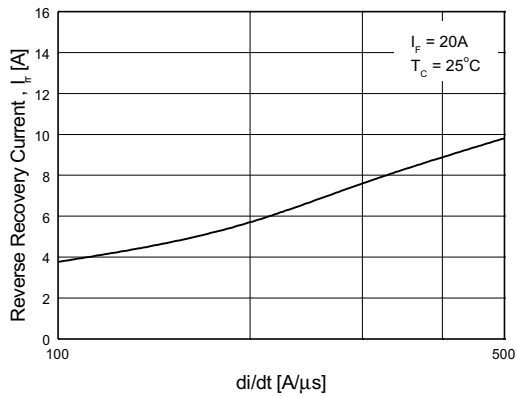


Figure 5. Typical Reverse Recovery Current vs. di/dt

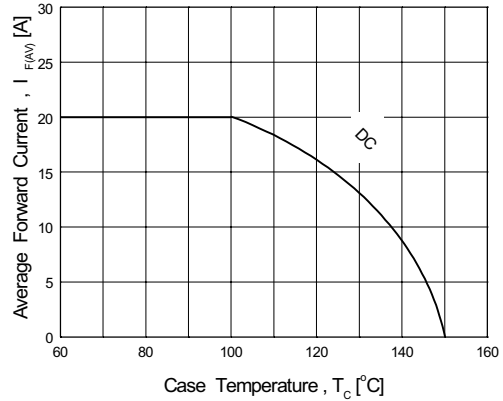
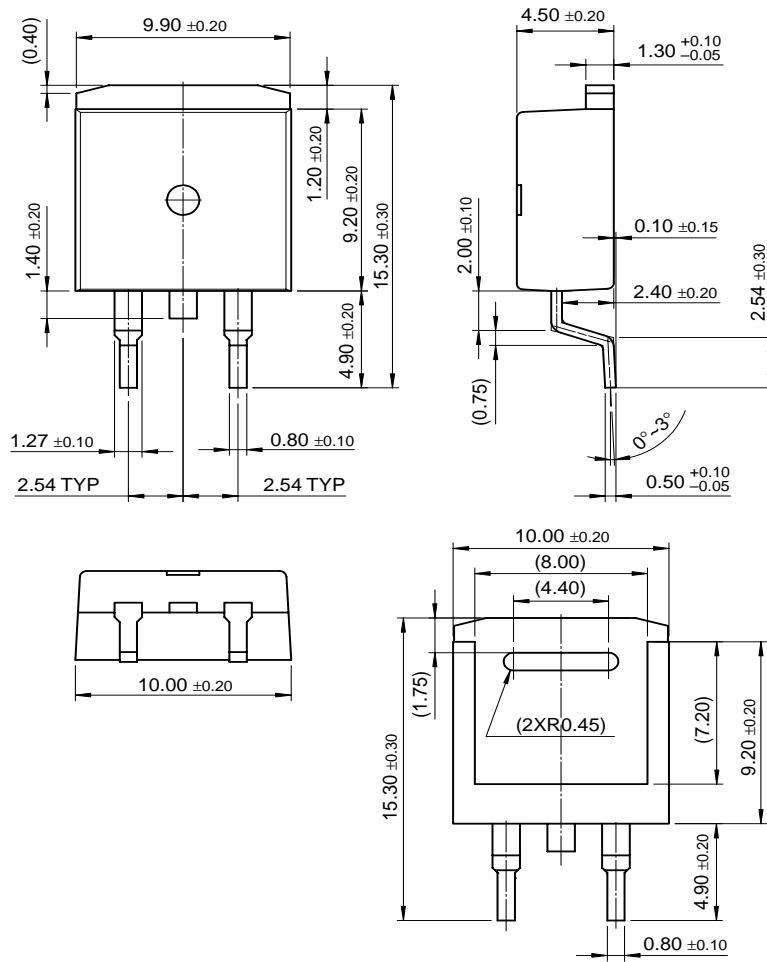


Figure 6. Forward Current Derating Curve

Package Dimensions

FFB20U60S

D²-PAK



Dimensions in Millimeters

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PRODUCT STATUS DEFINITIONS

Definition of Terms

Datasheet Identification	Product Status	Definition
Advance Information	Formative or In Design	This datasheet contains the design specifications for product development. Specifications may change in any manner without notice.
Preliminary	First Production	This datasheet contains preliminary data, and supplementary data will be published at a later date. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
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FFB20U60S
20A/600V Ultra Fast Recovery Rectifiers

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Product status/pricing/packaging

Product	Product status	Pricing*	Package type	Leads	Packing method
FFB20U60STM	Full Production	\$0.74	TO-263(D2PAK)	2	TAPE REEL

* 1,000 piece Budgetary Pricing

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