

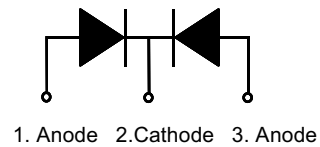
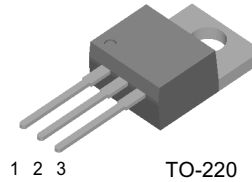
FFP15U20DN

Features

- Ultrafast with soft recovery.
- Low forward voltage.

Applications

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



FAST RECOVERY POWER RECTIFIER

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

Symbol	Parameter	Value	Units
V_{RRM}	Peak Repetitive Reverse Voltage	200	V
$I_{F(AV)}$	Average Rectified Forward Current @ $T_C = 100^\circ\text{C}$	15	A
I_{FSM}	Non-repetitive Peak Surge Current 60Hz Single Half-Sine Wave	150	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	3.1	$^\circ\text{C/W}$

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

Symbol	Parameter	Min.	Typ.	Max.	Units
V_{FM}^*	Maximum Instantaneous Forward Voltage				V
	$I_F = 15\text{A}$	-	-	1.2	
	$I_F = 15\text{A}$	-	-	1.0	
I_{RM}^*	Maximum Instantaneous Reverse Current				μA
	@ rated V_R				
	$T_C = 25^\circ\text{C}$ $T_C = 100^\circ\text{C}$	- -	- -	15 150	
t_{rr}	Maximum Reverse Recovery Time	-	-	40	ns
I_{rr}	Maximum Reverse Recovery Current	-	-	3.5	A
Q_{rr}	Maximum Reverse Recovery Charge ($I_F = 15\text{A}$, $di/dt = 200\text{A}/\mu\text{s}$)	-	-	70	nC
W_{AVL}	Avalanche Energy	0.5	-	-	mJ

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

Typical Characteristics

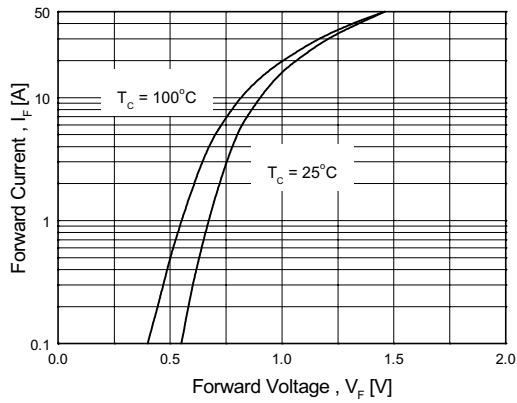


Figure 1. Typical Forward Voltage Drop vs. Forward Current

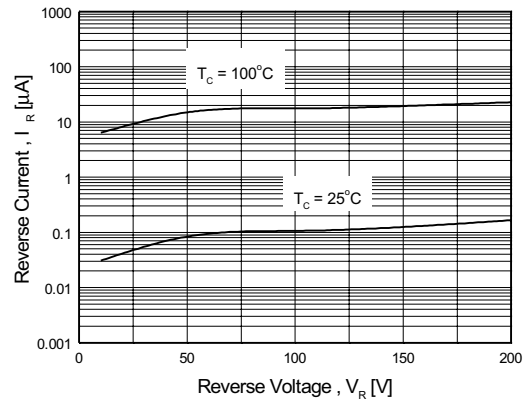


Figure 2. Typical Reverse Current vs. Reverse Voltage

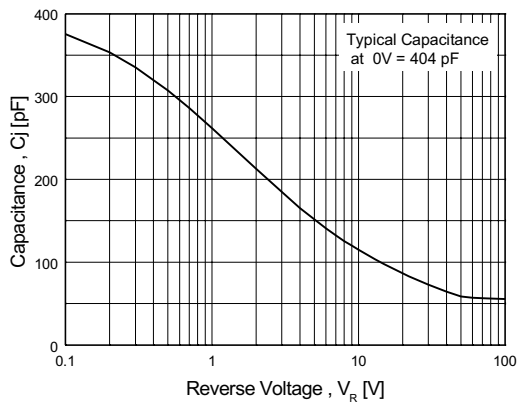


Figure 3. Typical Junction Capacitance

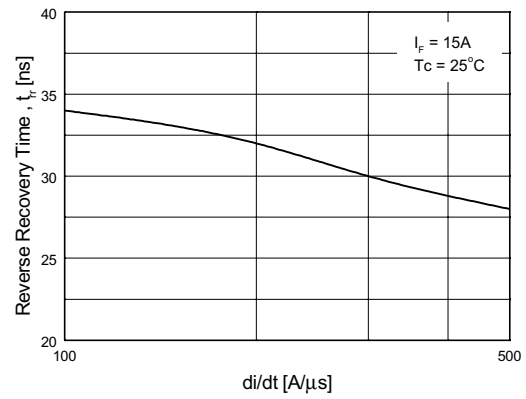


Figure 4. Typical Reverse Recovery Time vs. di/dt

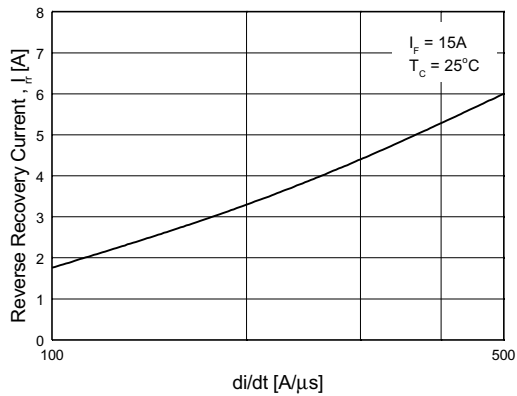


Figure 5. Typical Reverse Recovery Current vs. di/dt

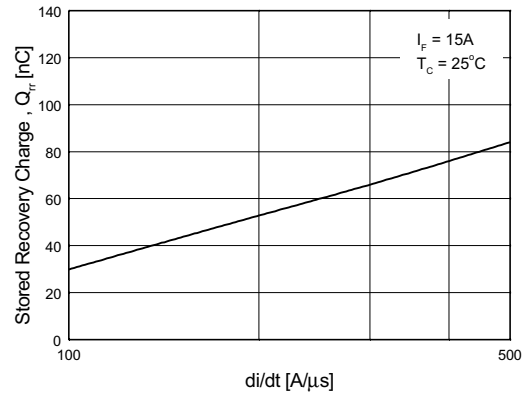


Figure 6. Typical Stored Charge vs. di/dt

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Technical drawing of a 10-pin D-sub connector showing front, side, and top views with dimensions in millimeters.

Front View Dimensions:

- Overall width: 9.90 ± 0.20
- Pin pitch (center-to-center): 2.54 TYP [2.54 ± 0.20]
- Pin diameter: $\phi 3.60 \pm 0.10$
- Pin length (from mounting surface): 1.30 ± 0.10
- Mounting hole diameter: $\phi 3.00$
- Mounting hole pitch: 3.70
- Overall height (from mounting surface): 18.95 MAX.
- Pin length (from mounting surface): 1.27 ± 0.10
- Pin length (from mounting surface): 1.52 ± 0.10
- Pin length (from mounting surface): 1.08 ± 0.30
- Pin length (from mounting surface): 1.00
- Pin length (from mounting surface): 1.46
- Pin length (from mounting surface): 9.20 ± 0.20
- Pin length (from mounting surface): 13.08 ± 0.20
- Pin length (from mounting surface): 1.00
- Pin length (from mounting surface): 1.27 ± 0.10
- Pin length (from mounting surface): 1.52 ± 0.10
- Pin length (from mounting surface): 1.08 ± 0.30
- Pin length (from mounting surface): 1.00
- Pin length (from mounting surface): 1.46
- Pin length (from mounting surface): 9.20 ± 0.20
- Pin length (from mounting surface): 13.08 ± 0.20

Side View Dimensions:

- Overall width: 4.50 ± 0.20
- Pin length (from mounting surface): $1.30 \text{ }^{+0.10}_{-0.05}$
- Pin length (from mounting surface): $0.50 \text{ }^{+0.10}_{-0.05}$
- Pin length (from mounting surface): 2.40 ± 0.20

Top View Dimensions:

- Overall width: 10.00 ± 0.20

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Rev. A, May 2000

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