

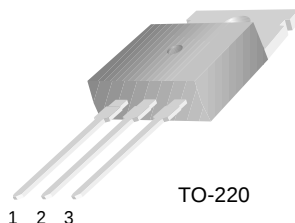
FFP10U60DN

Features

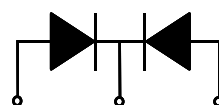
- High voltage and high reliability
- High speed switching
- Low forward voltage

Applications

- General purpose
- Switching mode power supply
- Free-wheeling diode for motor application
- Power switching circuits



TO-220



1. Anode 2. Cathode 3. Anode

ULTRA 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	600	V
$I_{F(AV)}$	Average Rectified Forward Current @ $T_C = 100^\circ\text{C}$	10	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	$^\circ\text{C}$

Thermal Characteristics

Symbol	Parameter	Value	Units
$R_{\theta JC}$	Maximum Thermal Resistance, Junction to Case	2.5	$^\circ\text{C/W}$

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 $I_F = 10\text{A}$ $I_F = 10\text{A}$ $T_C = 25^\circ\text{C}$ $T_C = 100^\circ\text{C}$			2.2 2.0	V
I_{RM}^*	Maximum Instantaneous Reverse Current @ rated V_R $T_C = 25^\circ\text{C}$ $T_C = 100^\circ\text{C}$			5 50	μA
t_{rr} I_{rr} Q_{rr}	Maximum Reverse Recovery Time Maximum Reverse Recovery Current Maximum Reverse Recovery Charge ($I_F = 10\text{A}$, $di/dt = 200\text{A}/\mu\text{s}$)			90 6 270	ns A nC
W_{AVL}	Avalanche Energy	1.0			mJ

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

Typical Characteristics

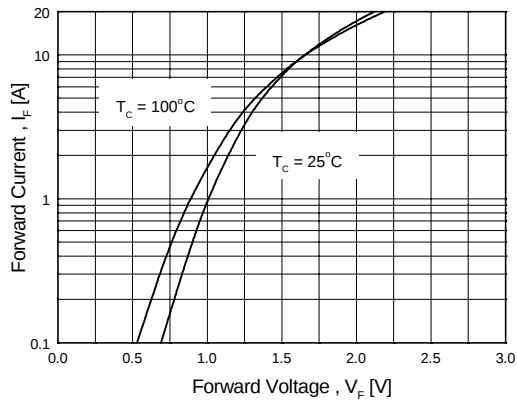


Figure 1. Typical Forward Voltage Drop vs. Forward Current

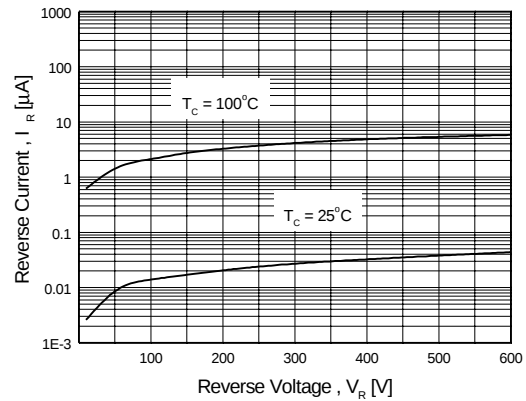


Figure 2. Typical Reverse Current vs. Reverse Voltage

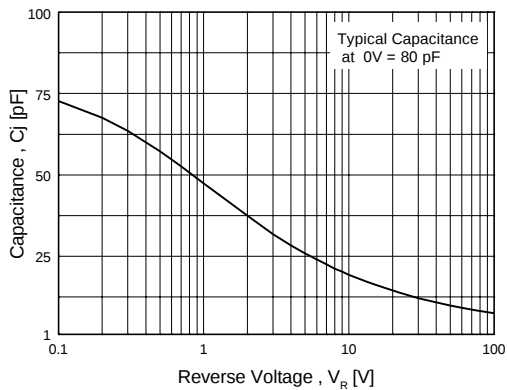


Figure 3. Typical Junction Capacitance

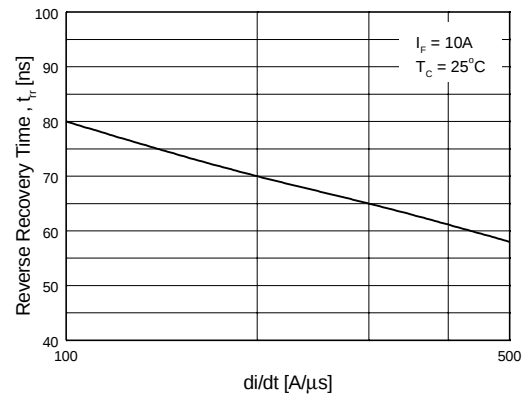


Figure 4. Typical Reverse Recovery Time vs. di/dt

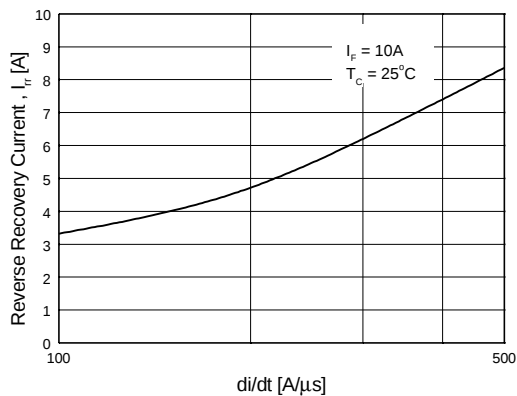


Figure 5. Typical Reverse Recovery Current vs. di/dt

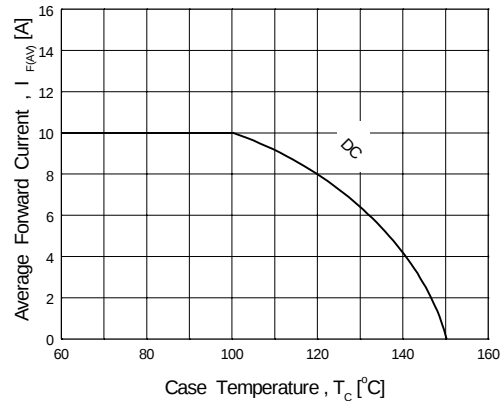


Figure 6. Forward Current Derating Curve

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Technical drawing of a 3-pin connector with dimensions in millimeters. The drawing includes a front view, a side view, and a top view.

Front View Dimensions:

- Overall width: 9.90 ± 0.20
- Pin spacing (center-to-center): 1.27 ± 0.10 and 1.52 ± 0.10
- Pin diameter: $\varnothing 3.60 \pm 0.10$
- Pin length: 10.08 ± 0.30
- Overall height: 18.95 MAX.
- Height from base to top of housing: 15.90 ± 0.20
- Height from base to top of pins: 13.08 ± 0.20
- Height from base to top of housing (alternative): 9.20 ± 0.20
- Height from base to top of pins (alternative): 1.30 ± 0.10
- Height from base to top of pins (alternative): 1.00
- Height from base to top of pins (alternative): 1.46
- Height from base to top of pins (alternative): 3.00
- Height from base to top of pins (alternative): 3.70
- Height from base to top of pins (alternative): 2.80 ± 0.10
- Height from base to top of pins (alternative): (1.70)
- Height from base to top of pins (alternative): (8.70)
- Height from base to top of pins (alternative): (1.30)

Side View Dimensions:

- Overall width: 4.50 ± 0.20
- Pin spacing (center-to-center): $1.30^{+0.10}_{-0.05}$
- Pin length: 10.08 ± 0.30
- Overall height: 18.95 MAX.
- Height from base to top of housing: 15.90 ± 0.20
- Height from base to top of pins: 13.08 ± 0.20
- Height from base to top of pins (alternative): 9.20 ± 0.20
- Height from base to top of pins (alternative): 1.30 ± 0.10
- Height from base to top of pins (alternative): 1.00
- Height from base to top of pins (alternative): 1.46
- Height from base to top of pins (alternative): 3.00
- Height from base to top of pins (alternative): 3.70
- Height from base to top of pins (alternative): 2.80 ± 0.10
- Height from base to top of pins (alternative): (1.70)
- Height from base to top of pins (alternative): (8.70)
- Height from base to top of pins (alternative): (1.30)

Top View Dimensions:

- Overall width: 10.00 ± 0.20
- Pin spacing (center-to-center): 1.27 ± 0.10 and 1.52 ± 0.10
- Pin diameter: $\varnothing 3.60 \pm 0.10$
- Pin length: 10.08 ± 0.30
- Overall height: 18.95 MAX.
- Height from base to top of housing: 15.90 ± 0.20
- Height from base to top of pins: 13.08 ± 0.20
- Height from base to top of pins (alternative): 9.20 ± 0.20
- Height from base to top of pins (alternative): 1.30 ± 0.10
- Height from base to top of pins (alternative): 1.00
- Height from base to top of pins (alternative): 1.46
- Height from base to top of pins (alternative): 3.00
- Height from base to top of pins (alternative): 3.70
- Height from base to top of pins (alternative): 2.80 ± 0.10
- Height from base to top of pins (alternative): (1.70)
- Height from base to top of pins (alternative): (8.70)
- Height from base to top of pins (alternative): (1.30)

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