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November 2014

# FFP08D60L2
# 8 A, 600 V, Deuxpeed® Diode

## Features

- Duexpeed Recovery, $T_{rr}$ = 25 ns (@ $I_F$ = 8 A)
- Max Forward Voltage, $V_F$ = 3.6 V (@ $T_C$ = 25°C)
- 600V Reverse Voltage and High Reliability
- Avalanche Energy Rated
- RoHS Compliant

## Applications

- Boost Diode in Continuous Mode Power Factor Corrections

## Description

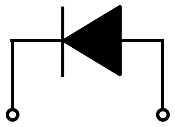
The DEUXPEED® is a high-performance diode composed of two 300V dice in series and silicon nitride passivated ionimplanted epitaxial planar construction.

This device is intended for use as boost diode in continuous mode power factor correctors and hard switching conditions and internal ceramic insulated package allows flexible heatsinking on common or separate heatsink.

## Pin Assignments




TO-220



1. Cathode 2. Anode

## Absolute Maximum Ratings $T_C$ = 25°C unless otherwise noted

| Symbol | Parameter | Ratings | 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 @ $T_C$ = 115°C | 8 | A |
| $I_{FSM}$ | Non-repetitive Peak Surge Current 60Hz Single Half-Sine Wave | 80 | A |
| $T_J$, $T_{STG}$ | Operating and Storage Temperature Range | -65 to +175 | °C |

## Thermal Characteristics

| Symbol | Parameter | Max. | Unit |
|---|---|---|---|
| $R_{\theta JC}$ | Maximum Thermal Resistance, Junction to Case | 2.0 | °C/W |

## Package Marking and Ordering Information

| Part Number | Top Mark | Package | Packing Method | Reel Size | Tape Width | Quantity |
|---|---|---|---|---|---|---|
| FFP08D60L2 | F08D60L2 | TO-220-2L | Tube | N/A | N/A | 50 |

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## Electrical Characteristics $T_C$ = 25°C unless otherwise noted

| Symbol | Parameter | | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|---|
| $V_{FM}$1 | $I_F$ = 8 A<br>$I_F$ = 8 A | $T_C$ = 25°C<br>$T_C$ = 125°C | -<br>- | 2.6<br>2.2 | 3.6 | V |
| $I_{RM}$1 | $V_R$ = 600 V<br>$V_R$ = 600 V | $T_C$ = 25°C<br>$T_C$ = 125°C | -<br>- | -<br>- | 10<br>100 | μA |
| $t_{rr}$ | $I_F$ = 8 A, $di_F/dt$ = 200 A/μs, $V_R$ = 390 V | $T_C$ = 25°C<br>$T_C$ = 125°C | -<br>- | 13<br>21 | 25 | ns |
| $W_{AVL}$ | Avalanche Energy ( L = 40 mH) | | 20 | - | - | mJ |

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

## Test Circuit and Waveforms

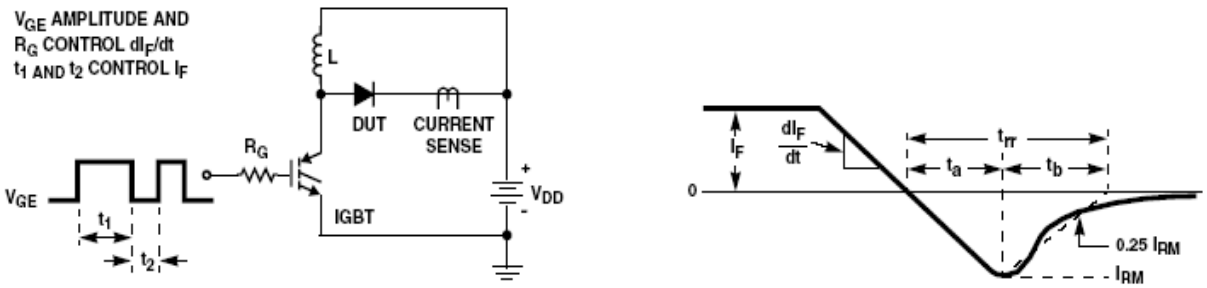



**Figure 1. Diode Reverse Recovery Test Circuit & Waveform**

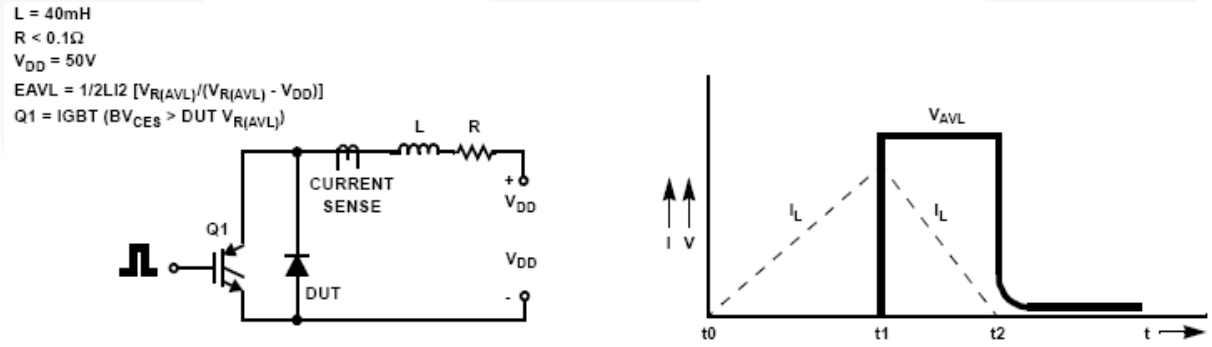



**Figure 2. Unclamped Inductive Switching Test Circuit & Waveform**

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## Typical Performance Characteristics

**Figure 3. Typical Forward Voltage Drop vs. Forward Current**

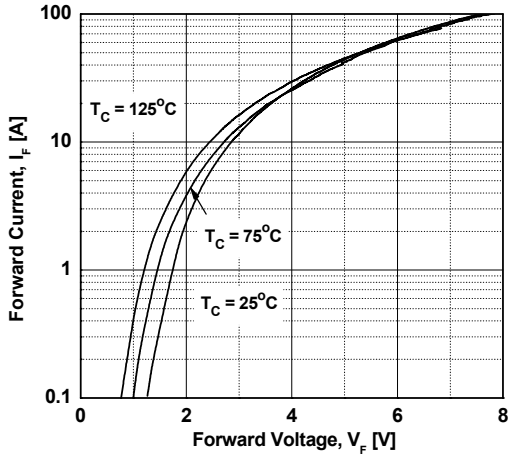



**Figure 4. Typical Reverse Current vs. Reverse Voltage**

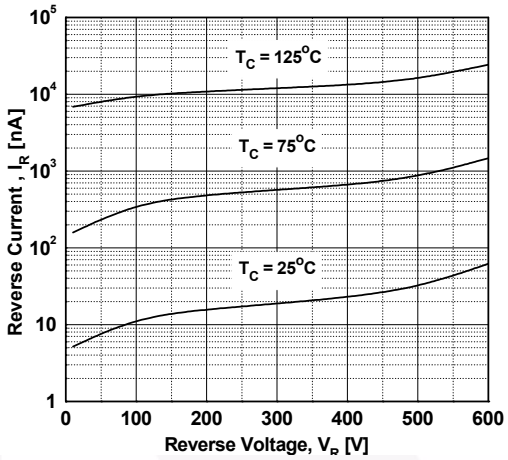



**Figure 5.Typical Junction Capacitance**

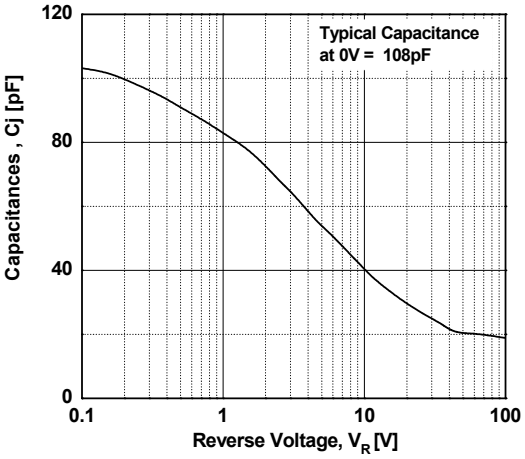



**Figure 6. Typical Reverse Recovery Time vs. $di_F/dt$**

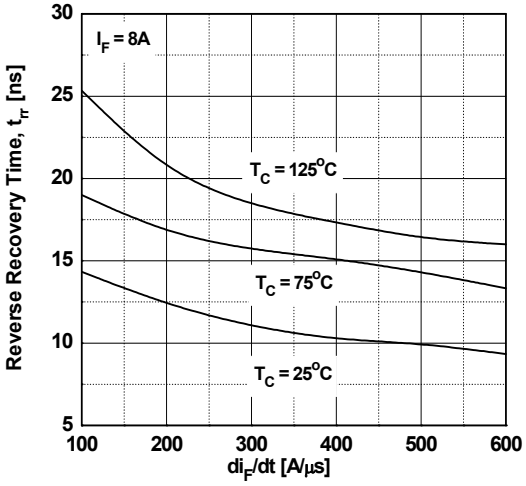



**Figure 7. Typical Reverse Recovery Current vs. $di_F/dt$**

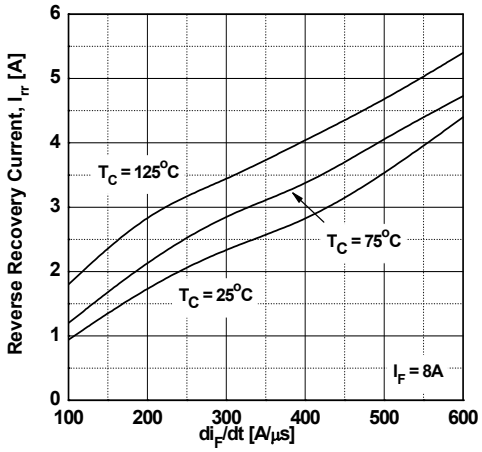
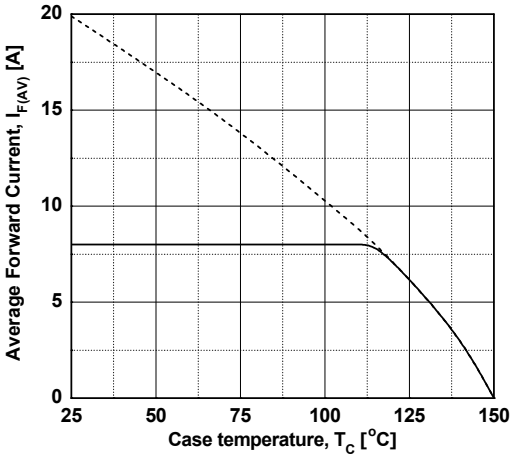



**Figure 8. Forward Current Derating Curve**




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## Mechanical Dimensions

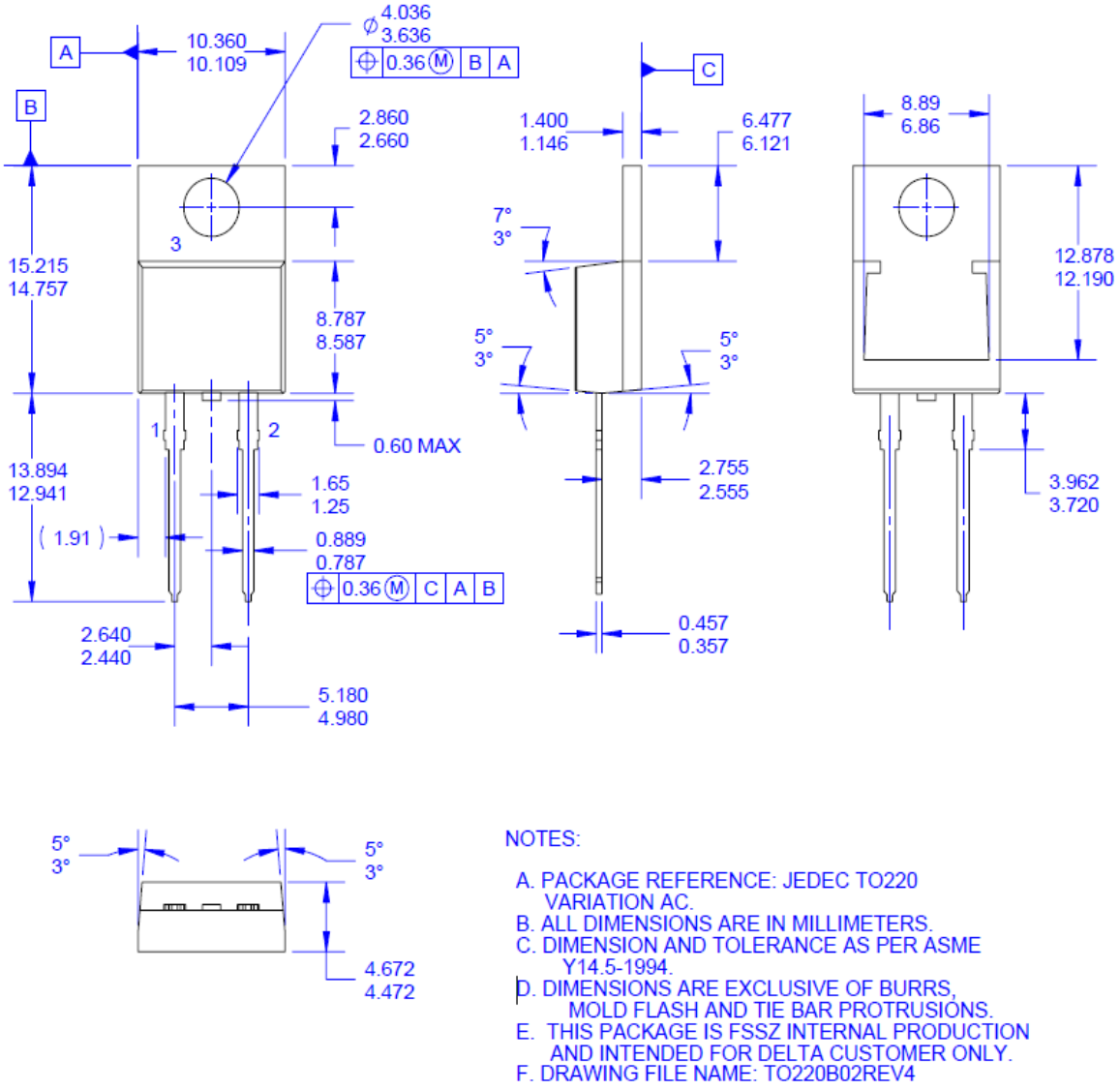



**Figure 9. TO-220 2L - TO-220, MOLDED, 2LD**

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