

# FFP08D60L2 Deuxpeed™ Rectifier

## Features

- High Speed Switching,  $t_{rr} < 25\text{ns}$  at rating current
- High Reverse Voltage and High Reliability
- Max Forward Voltage,  $V_F < 3.6\text{V}$  @25°C
- Insulated voltage, 2500V DC

## Applications

- Boost diode in continuous mode power factor corrections

## 8A, 600V Deuxpeed™ Rectifier

The Deuxpeed diode is a high performance product composed of two 300V dice in series and silicon nitride passivated ion-implanted epitaxial planar construction.

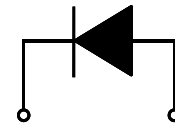
This device is intended for use as boost diode in continuous mode power factor correctors and hard switching conditions and internal ceramic insulated package allows flexible heatsinking on common or separate heatsink.



## Pin Assignments



Insulated TO-220



1. Cathode 2. Anode

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

Symbol	Parameter	Ratings	Units
$V_{RRM}$	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 @ $T_C = 115^\circ\text{C}$	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 +150	°C

## Thermal Characteristics

Symbol	Parameter	Ratings	Units
$R_{\theta JC}$	Maximum Thermal Resistance, Junction to Case	2.0	°C/W

## Package Marking and Ordering Information

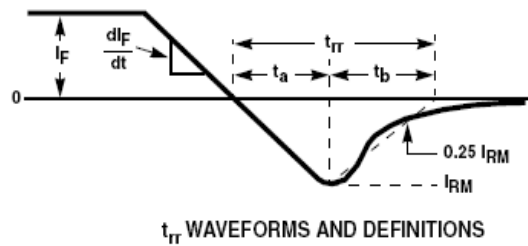
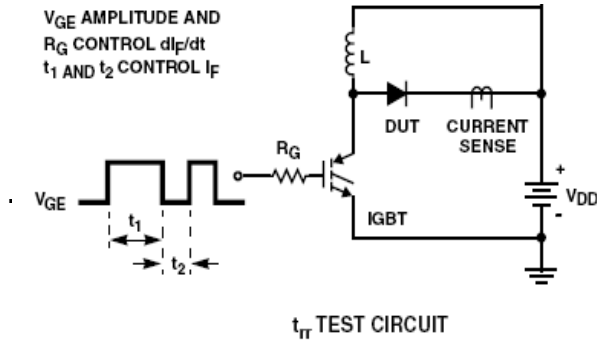
Device Marking	Device	Package	Reel Size	Tape Width	Quantity
F08D60L2	FFP08D60L2	TO-220	-	-	50

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

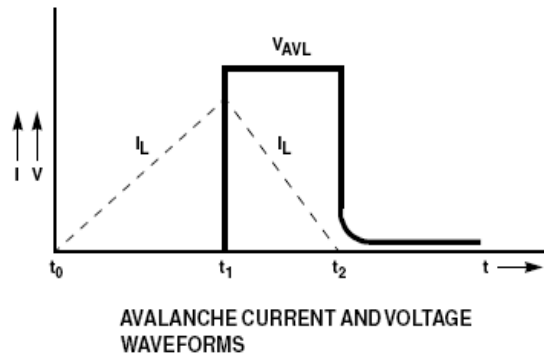
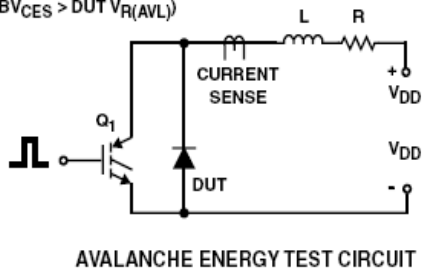
Symbol	Parameter	Min.	Typ.	Max.	Units
$V_{FM1}$	$I_F = 8\text{A}$ $I_F = 8\text{A}$	-	2.6 2.2	3.6	V
$I_{RM1}$	$V_R = 600\text{V}$ $V_R = 600\text{V}$	-	-	10 100	$\mu\text{A}$
$t_{rr}$	$I_F = 8\text{A}$ , $di/dt = 200\text{A}/\mu\text{s}$ , $V_R = 390\text{V}$	-	13 21	25	ns
$W_{AVL}$	Avalanche Energy ( $L = 40\text{mH}$ )	20	-	-	mJ

**Notes:**

1: Pulse: Test Pulse width = 300 $\mu\text{s}$ , Duty Cycle = 2%

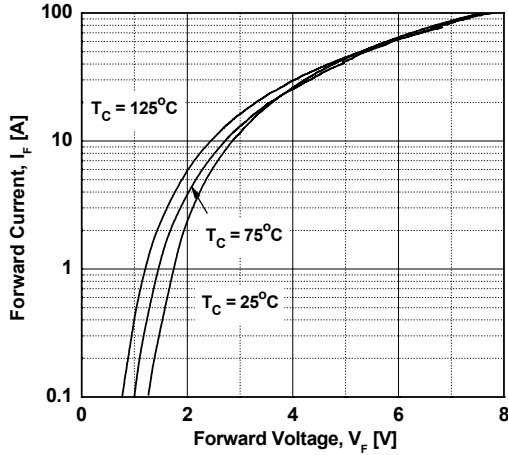


$L = 40\text{mH}$   
 $R < 0.1\Omega$   
 $E_{AVL} = 1/2LI^2$   
 $Q_1 = \text{IGBT (}BV_{CES} > \text{DUT } V_{R(AVL)}\text{)}$

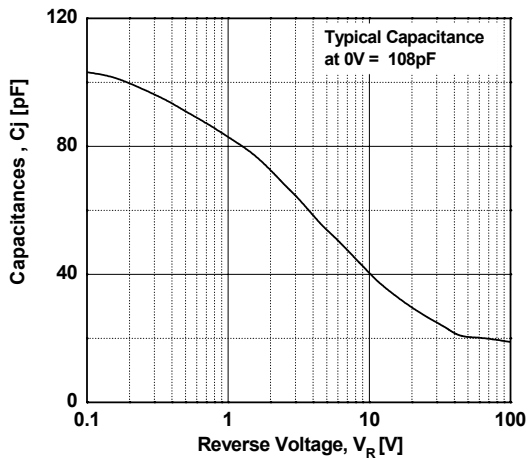


## Typical Performance Characteristics

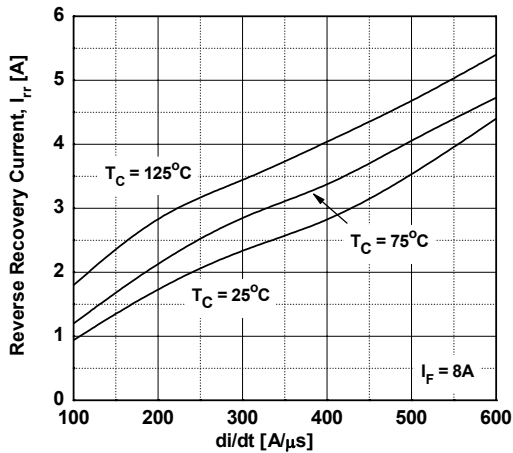
**Figure 1. Typical Forward Voltage Drop vs. Forward Current**



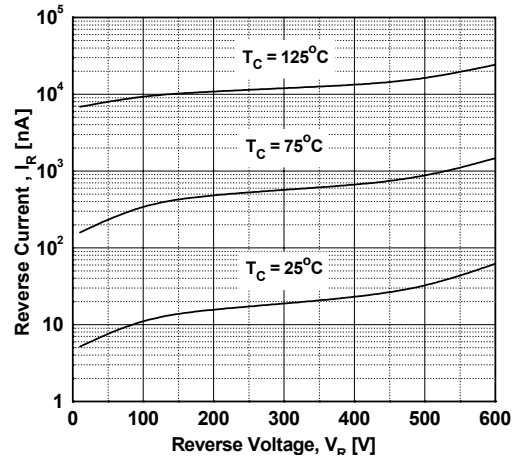
**Figure 3. Typical Junction Capacitance**



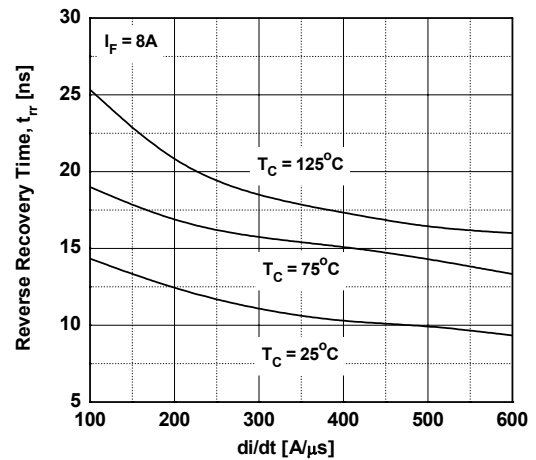
**Figure 5. Typical Reverse Recovery Current vs. di/dt**



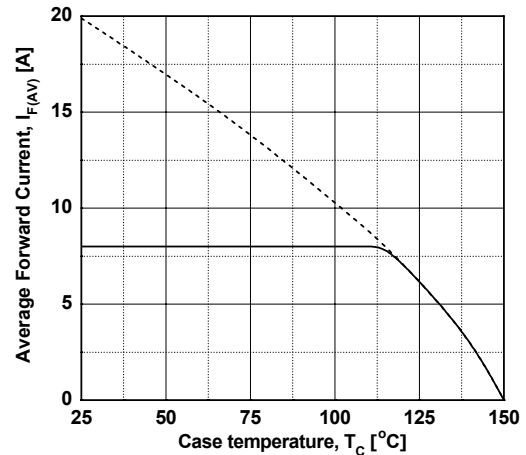
**Figure 2. Typical Reverse Current vs. Reverse Voltage**



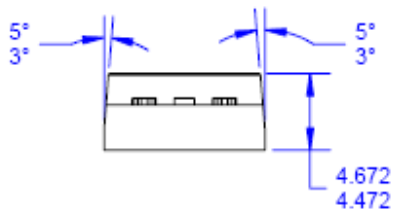
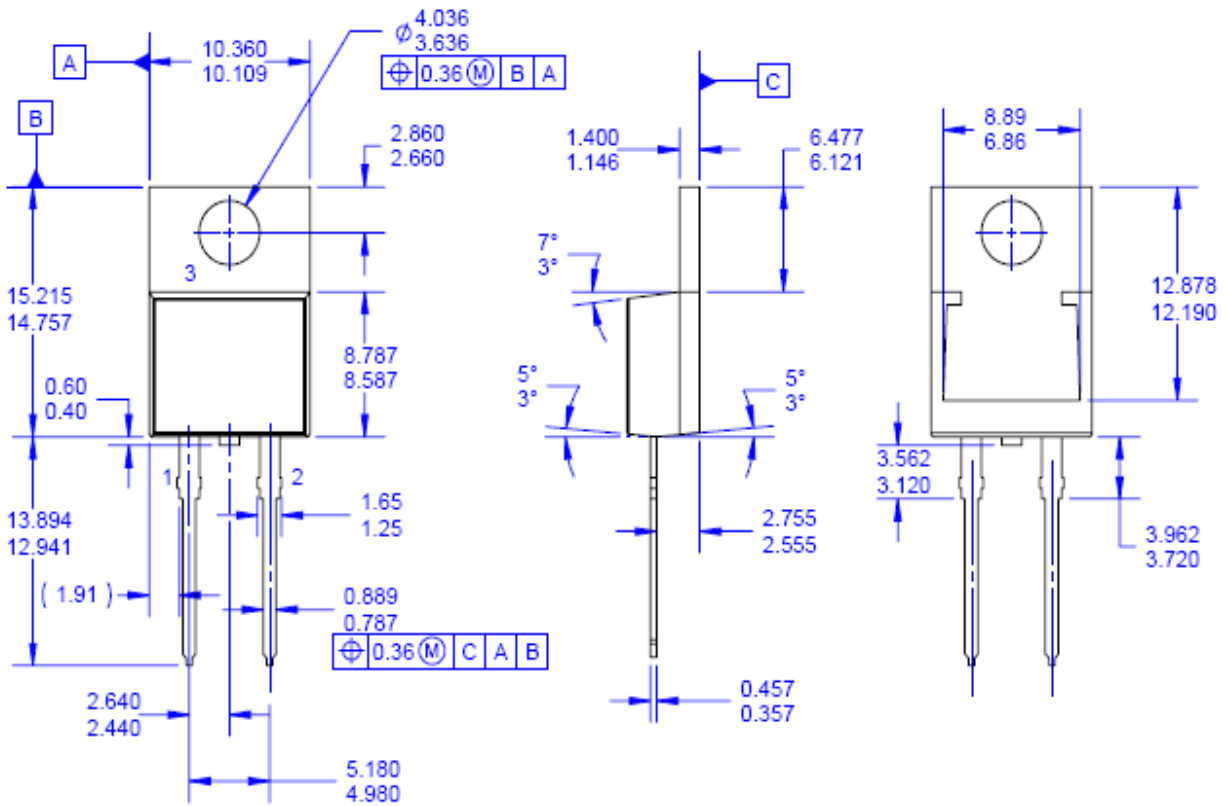
**Figure 4. Typical Reverse Recovery Time vs. di/dt**



**Figure 6. Forward Current Derating Curve**



Mechanical Dimensions



NOTES:

- A. PACKAGE REFERENCE: JEDEC TO220 VARIATION AC.
- B. ALL DIMENSIONS ARE IN MILLIMETERS.
- C. DIMENSION AND TOLERANCE AS PER ASME Y14.5-1994.
- D. DIMENSIONS ARE EXCLUSIVE OF BURRS, MOLD FLASH AND TIE BAR PROTRUSIONS.
- E. THIS PACKAGE IS FSSZ INTERNAL PRODUCTION AND INTENDED FOR DELTA CUSTOMER ONLY.
- F. DRAWING FILE NAME: TO220B02REV3

Dimensions in Millimeters



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| CorePOWER™               | Global Power ResourceSM | QFET®                                 |  |
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| Current Transfer Logic™  | Gmax™                   | RapidConfigure™                       |  |
| DEUXPEED®                | GTO™                    |                                       |  |
| EcoSPARK®                | IntelliMAX™             | Saving our world, 1mW/W/kW at a time™ |  |
| EfficientMax™            | ISOPLANAR™              | SignalWise™                           |  |
| EZSWITCH™*               | MegaBuck™               | SmartMax™                             |  |
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| FAST®                    | OPTOLOGIC®              | SuperSOT™-8                           |  |
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