

# FFP08D60L2

## Features

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

## 8 A, 600 V, DEUXPEED® Diode

The DEUXPEED® is a high-performance diode 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.

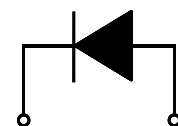
## Applications

- Boost Diode in Continuous Mode Power Factor Corrections

## Pin Assignments



Insulated TO-220



1. Cathode 2. Anode

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

Symbol	Parameter	Rating	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 @ $T_C = 115^\circ\text{C}$	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	$^\circ\text{C}$

## Thermal Characteristics

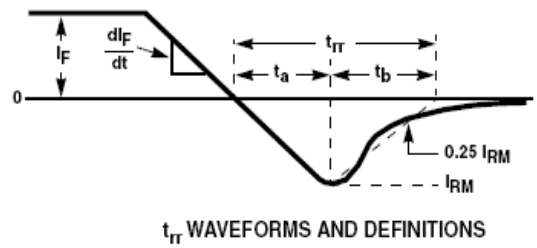
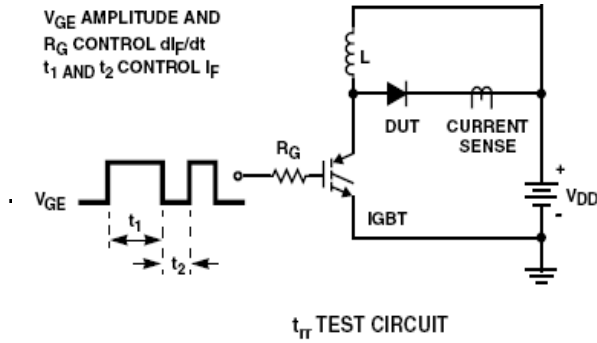
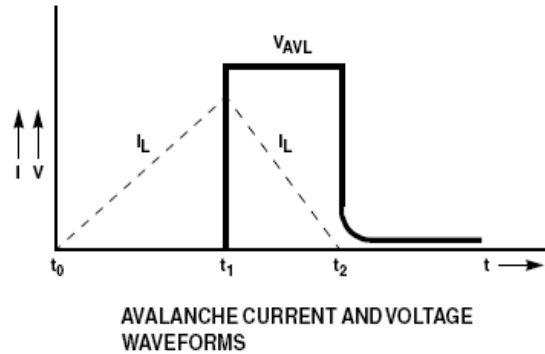
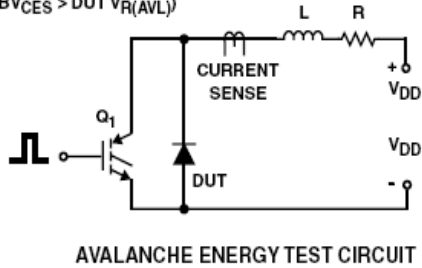
Symbol	Parameter	Rating	Unit
$R_{\theta JC}$	Maximum Thermal Resistance, Junction to Case	2.0	$^\circ\text{C/W}$

## 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.	Unit
$V_{F1}$	$I_F = 8\text{ A}$	$T_C = 25^\circ\text{C}$ $T_C = 125^\circ\text{C}$	- 2.6 2.2	3.6	V
$I_{R1}$	$V_R = 600\text{ V}$	$T_C = 25^\circ\text{C}$ $T_C = 125^\circ\text{C}$	- - -	10 100	$\mu\text{A}$
$t_{rr}$	$I_F = 8\text{ A}$ , $di/dt = 200\text{ A}/\mu\text{s}$ , $V_R = 390\text{ V}$	$T_C = 25^\circ\text{C}$ $T_C = 125^\circ\text{C}$	- 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% $L = 40\text{mH}$  $R < 0.1\Omega$  $E_{AVL} = 1/2 L I^2$  $Q_1 = \text{IGBT (} BV_{CES} > DUT V_{R(AVL)} \text{)}$ 

## Typical Performance Characteristics

Figure 1. Typical Forward Voltage Drop vs. Forward Current

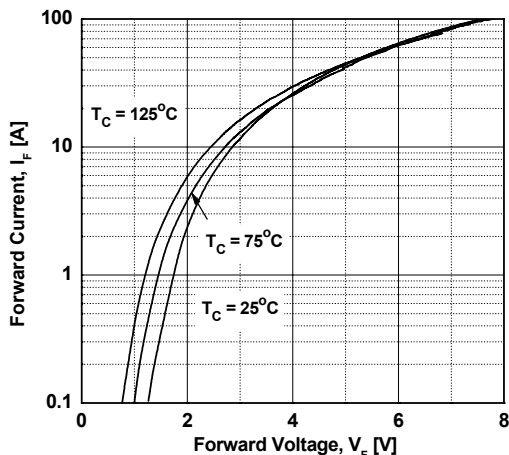


Figure 3. Typical Junction Capacitance

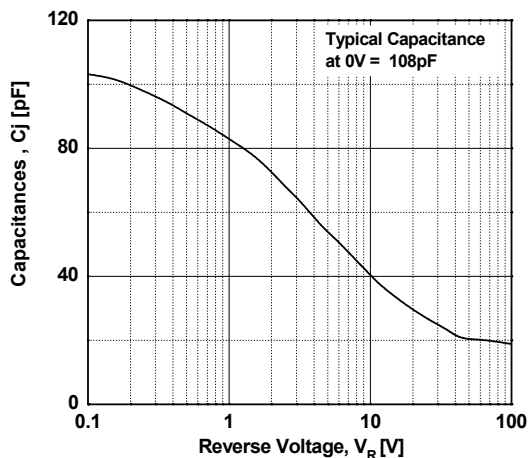


Figure 5. Typical Reverse Recovery Current vs. di/dt

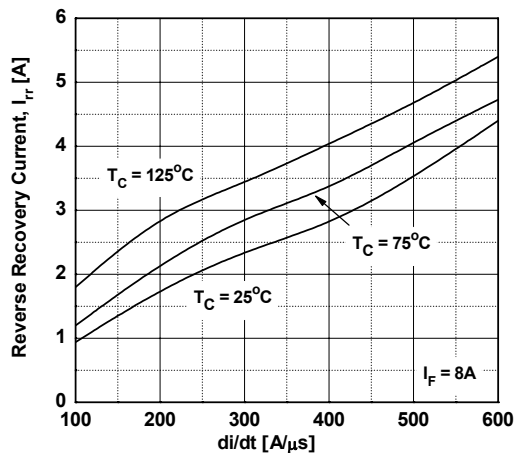


Figure 2. Typical Reverse Current vs. Reverse Voltage

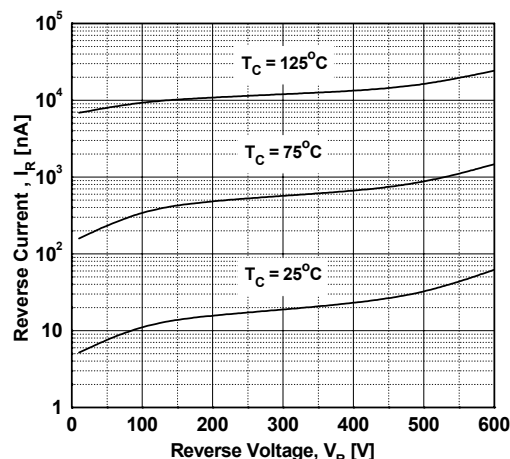


Figure 4. Typical Reverse Recovery Time vs. di/dt

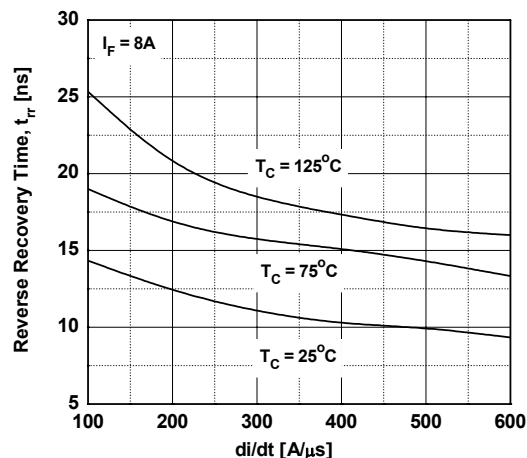
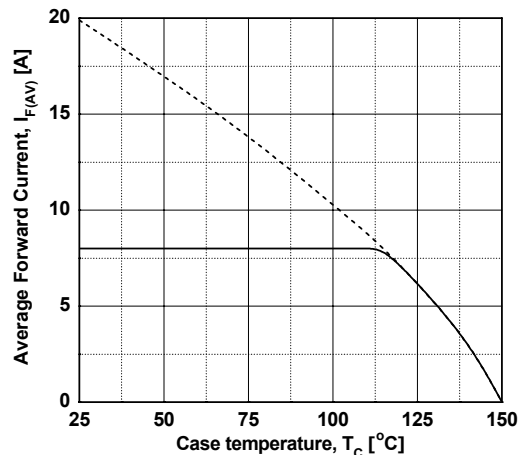
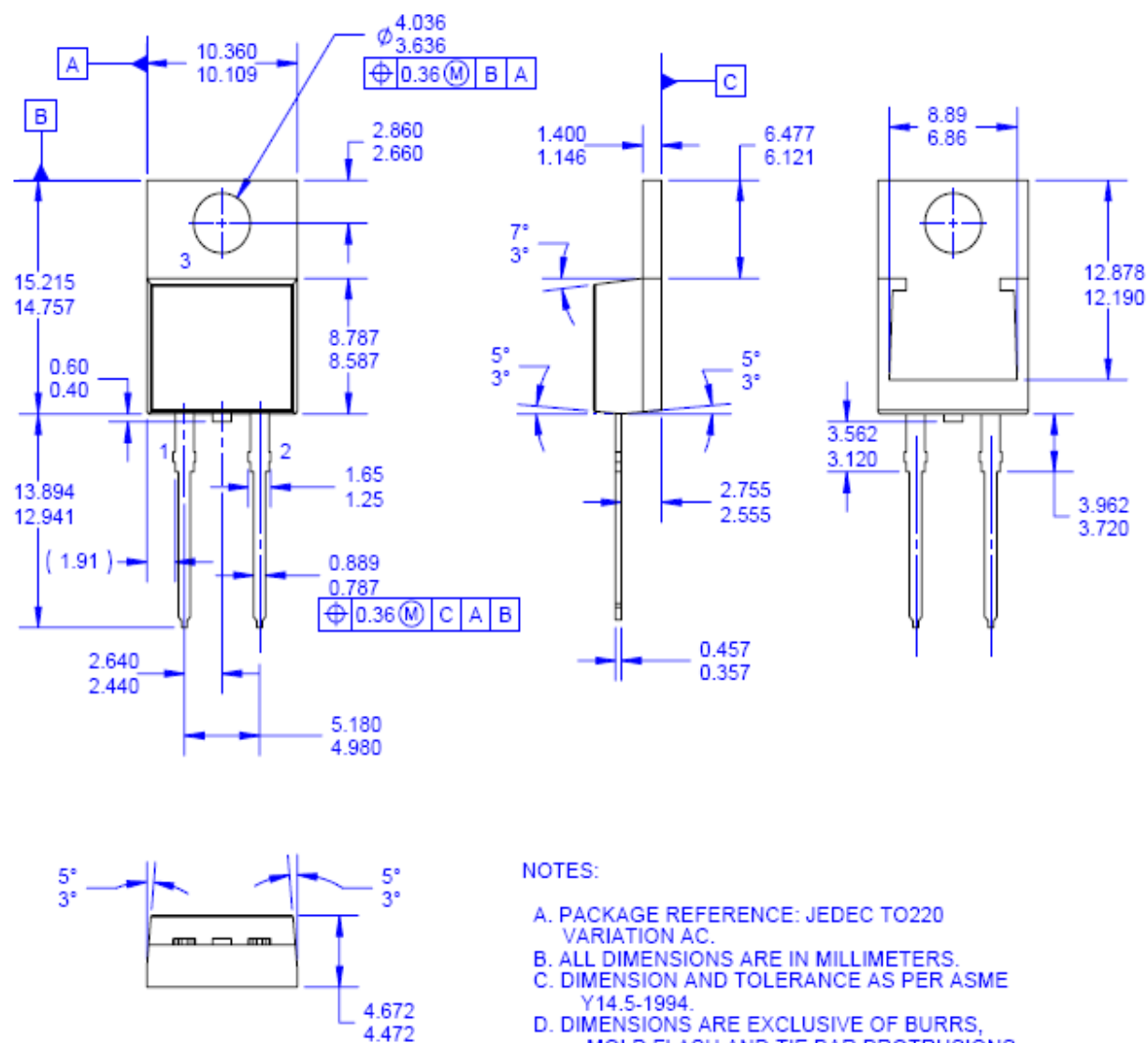


Figure 6. Forward Current Derating Curve



## Mechanical Dimensions




Dimensions in Millimeters



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