

**FFP08S60SN**

**Features**

- High Speed Switching,  $t_{rr} < 25\text{ns}$  @  $I_F = 8\text{A}$
- High Reverse Voltage and High Reliability
- RoHS compliant

**Applications**

- General Purpose
- Switching Mode Power Supply
- Boost Diode in continuous mode power factor corrections
- Power switching circuits

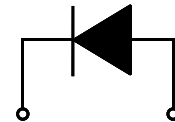
**8A, 600V STEALTH™ II Rectifier**

The FFP08S60SN is STEALTH™ II rectifier with soft recovery characteristics. It is silicon nitride passivated ion-implanted epitaxial planar construction.

This device is intended for use as freewheeling of boost diode in switching power supplies and other power switching applications. Their low stored charge and hyperfast soft recovery minimize ringing and electrical noise in many power switching circuits reducing power loss in the switching transistors.



1. Cathode    2. Anode



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 @ $T_C = 89^\circ\text{C}$	8	A
$I_{FSM}$	Non-repetitive Peak Surge Current 60Hz Single Half-Sine Wave	60	A
$T_J, T_{STG}$	Operating and Storage Temperature Range	-65 to +150	$^\circ\text{C}$

**Thermal Characteristics**

Symbol	Parameter	Ratings	Units
$R_{\theta JC}$	Maximum Thermal Resistance, Junction to Case	3.6	$^\circ\text{C/W}$

**Package Marking and Ordering Information**

Device Marking	Device	Package	Reel Size	Tape Width	Quantity
F08S60SN	FFP08S60SNTU	TO220-2L	-	-	50

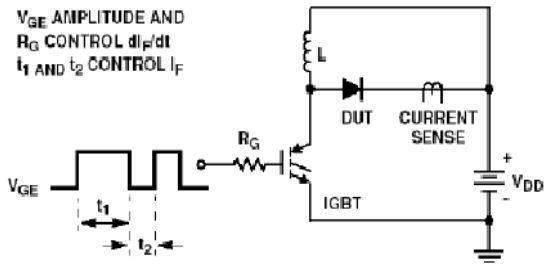
**Electrical Characteristics**  $T_C = 25^\circ\text{C}$  unless otherwise noted

Symbol	Parameter	Min.	Typ.	Max.	Units
$V_{FM1}$	$I_F = 8\text{A}$ $I_F = 8\text{A}$	-	2.7 2.1	3.4 -	V
$I_{RM1}$	$V_R = 600\text{V}$ $V_R = 600\text{V}$	-	-	100 500	$\mu\text{A}$
$t_{rr}$	$I_F = 1\text{A}$ , $di/dt = 100\text{A}/\mu\text{s}$ , $V_R = 30\text{V}$	-	13	-	ns
$t_{rr}$ $I_{rr}$ S factor $Q_{rr}$	$I_F = 8\text{A}$ , $di/dt = 200\text{A}/\mu\text{s}$ , $V_R = 390\text{V}$	- - - -	15 2.5 0.4 19	25 - - -	ns A - nC
$t_{rr}$ $I_{rr}$ S factor $Q_{rr}$	$I_F = 8\text{A}$ , $di/dt = 200\text{A}/\mu\text{s}$ , $V_R = 390\text{V}$	- - - -	32 3.8 0.7 62	- - - -	ns A - nC
$W_{AVL}$	Avalanche Energy ( $L = 40\text{mH}$ )	10	-	-	mJ

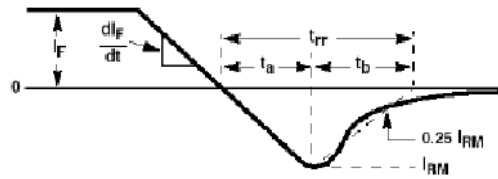
**Notes:**

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

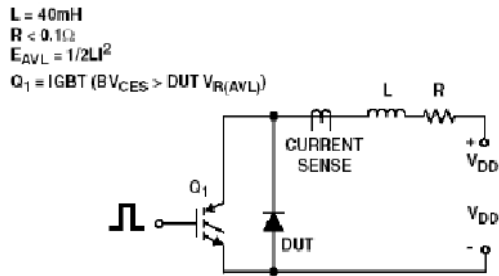
**Test Circuit and Waveforms**



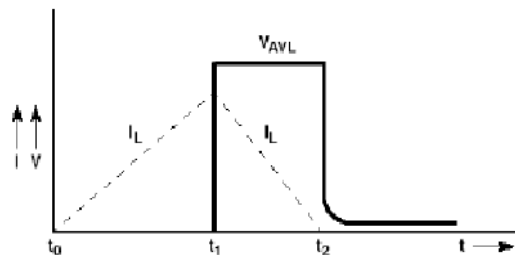
$t_{rr}$  TEST CIRCUIT



$t_{rr}$  WAVEFORMS AND DEFINITIONS



AVALANCHE ENERGY TEST CIRCUIT



AVALANCHE CURRENT AND VOLTAGE WAVEFORMS

### Typical Performance Characteristics

Figure 1. Typical Forward Voltage Drop vs. Forward Current

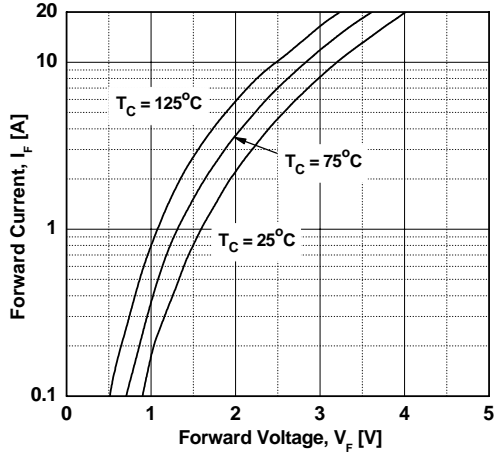


Figure 3. Typical Junction Capacitance

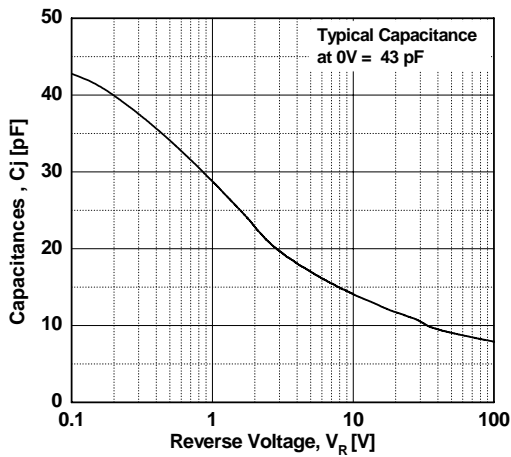


Figure 5. Typical Reverse Recovery Current vs. di/dt

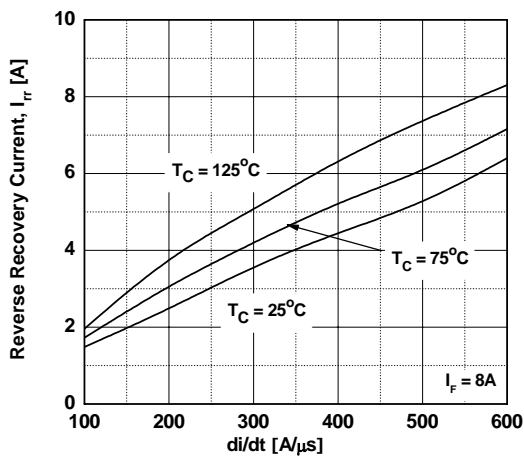


Figure 2. Typical Reverse Current vs. Reverse Voltage

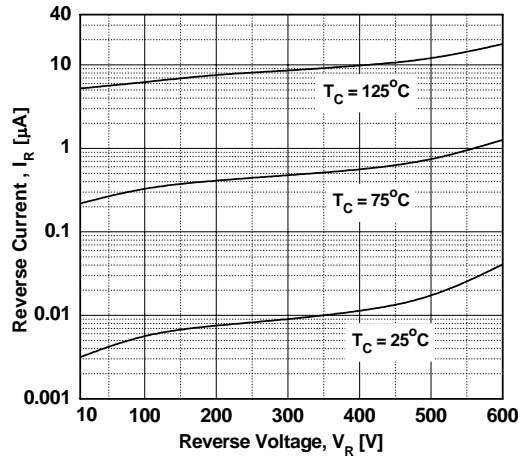


Figure 4. Typical Reverse Recovery Time vs. di/dt

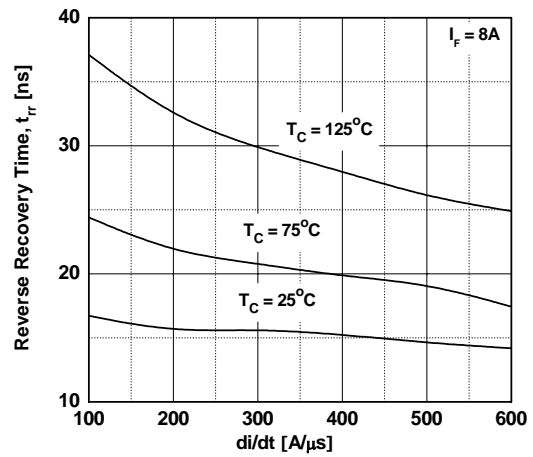
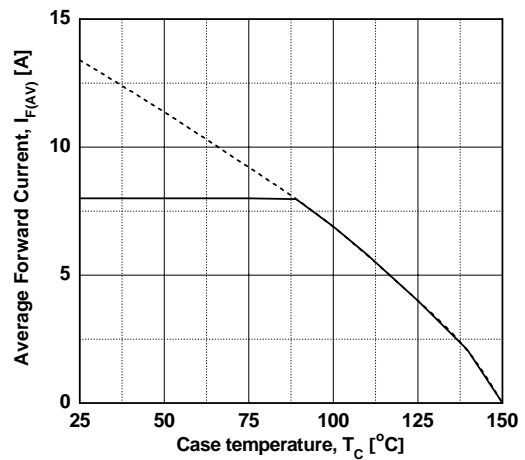
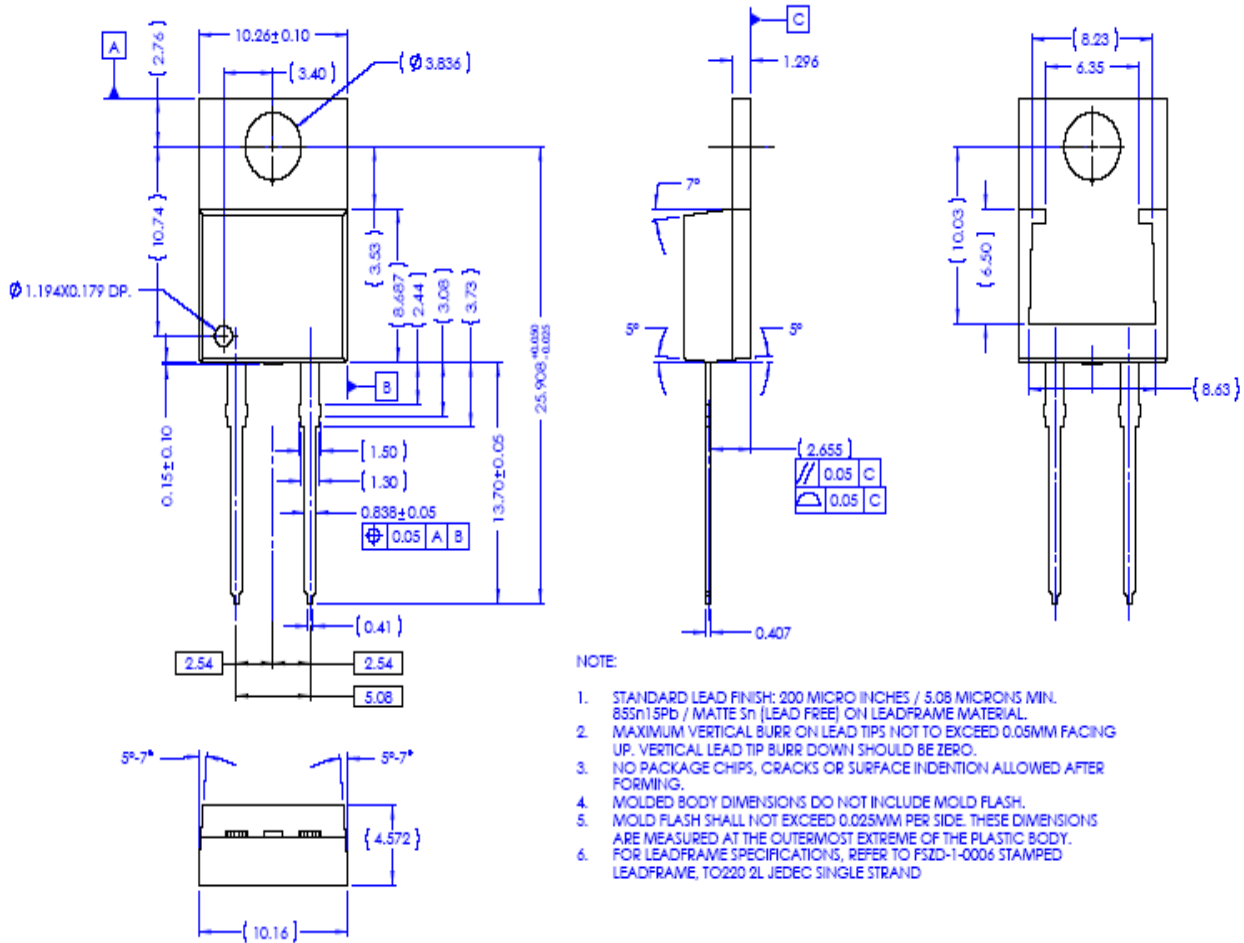


Figure 6. Forward Current Derating Curve



Mechanical Dimensions

TO220 2L

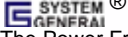





Dimensions in Millimeters



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