

**FFPF08S60SN**

**Features**

- High Speed Switching,  $t_{rr} < 25ns$  @  $I_F = 8A$
- 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

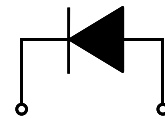
**8A, 600V STEALTH™ II Rectifier**

The FFPF08S60SN 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



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**Absolute Maximum Ratings**  $T_C = 25^\circ C$  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 @ $T_C = 60^\circ C$	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	$^\circ C$

**Thermal Characteristics**

Symbol	Parameter	Ratings	Units
$R_{\theta JC}$	Maximum Thermal Resistance, Junction to Case	6.8	$^\circ C/W$

**Package Marking and Ordering Information**

Device Marking	Device	Package	Reel Size	Tape Width	Quantity
F08S60SN	FFPF08S60SNTU	TO220F-2L	-	-	50

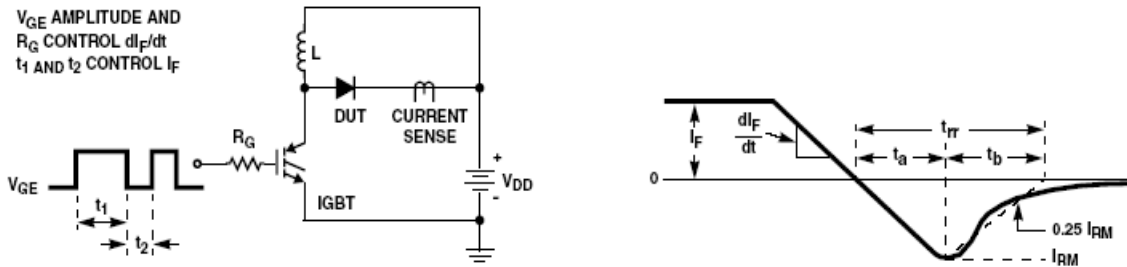
**Electrical Characteristics**  $T_C = 25^\circ\text{C}$  unless otherwise noted

Symbol	Parameter	Min.	Typ.	Max.	Units	
$V_{FM1}$	$I_F = 8\text{A}$ $I_F = 8\text{A}$	$T_C = 25^\circ\text{C}$	-	2.7	3.4	V
		$T_C = 125^\circ\text{C}$	-	2.1	-	
$I_{RM1}$	$V_R = 600\text{V}$ $V_R = 600\text{V}$	$T_C = 25^\circ\text{C}$	-	-	100	$\mu\text{A}$
		$T_C = 125^\circ\text{C}$	-	-	500	
$t_{rr}$	$I_F = 1\text{A}, di/dt = 100\text{A}/\mu\text{s}, V_R = 30\text{V}$	-	13	-	ns	
$t_{rr}$ $I_{rr}$ S factor $Q_{rr}$	$I_F = 8\text{A}, di/dt = 200\text{A}/\mu\text{s}, V_R = 390\text{V}$	$T_C = 25^\circ\text{C}$	-	15	25	ns
			-	2.5	-	A
			-	0.4	-	nC
			-	19	-	nC
$t_{rr}$ $I_{rr}$ S factor $Q_{rr}$	$I_F = 8\text{A}, di/dt = 200\text{A}/\mu\text{s}, V_R = 390\text{V}$	$T_C = 125^\circ\text{C}$	-	32	-	ns
			-	3.8	-	A
			-	0.7	-	nC
			-	62	-	nC
$W_{AVL}$	Avalanche Energy ( $L = 40\text{mH}$ )	10	-	-	mJ	

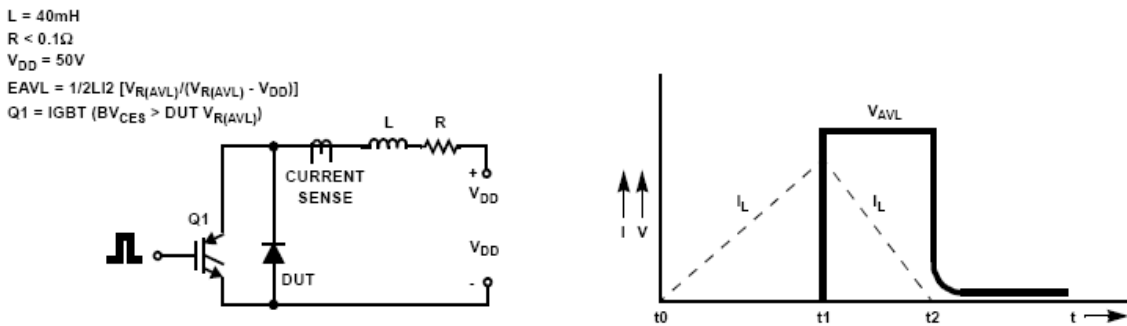
**Notes:**

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

**Trr test circuit and waveform**

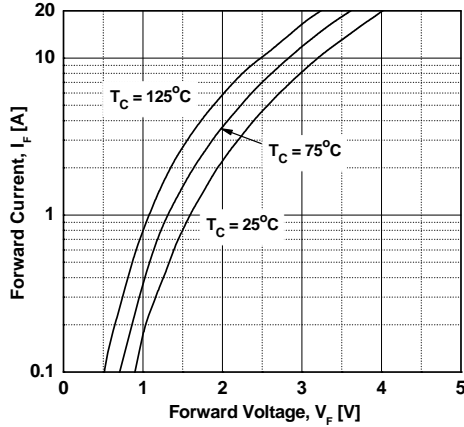


**Avalanch energy test circuit and waveform**

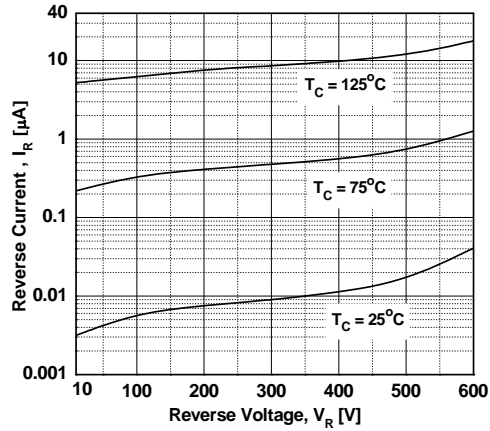


## Typical Performance Characteristics

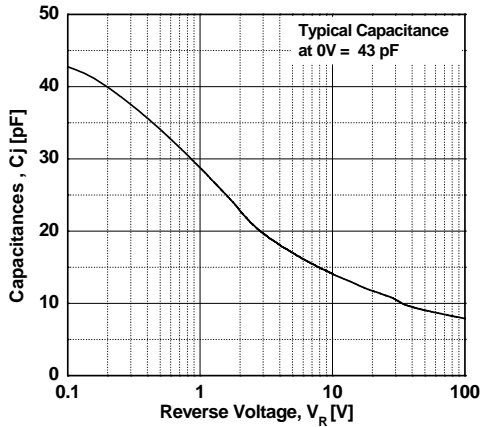
**Figure 1. Typical Forward Voltage Drop vs. Forward Current**



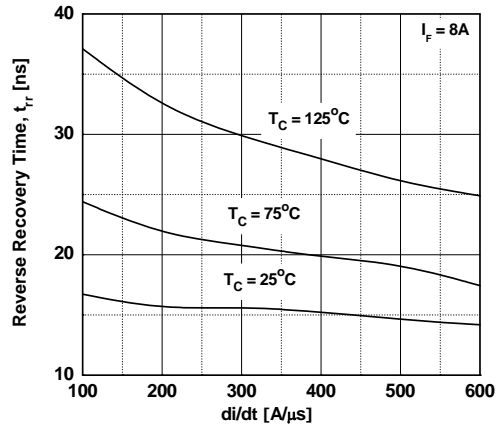
**Figure 2. Typical Reverse Current vs. Reverse Voltage**



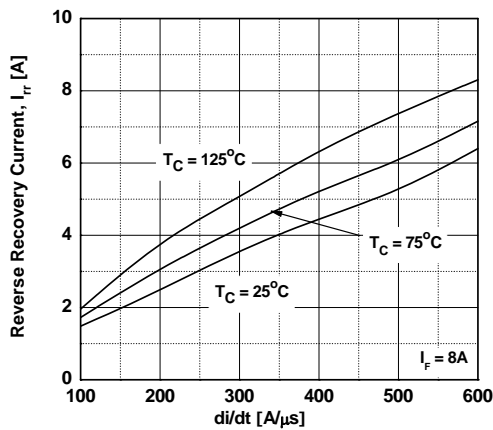
**Figure 3. Typical Junction Capacitance**



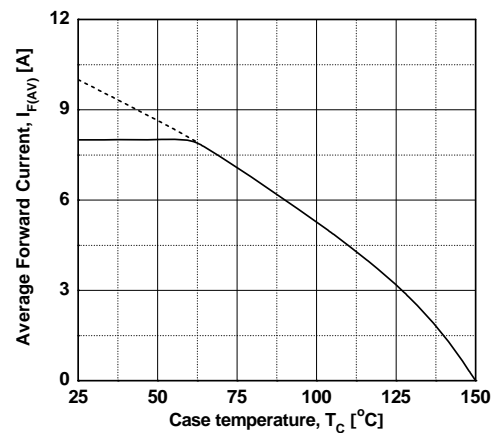
**Figure 4. Typical Reverse Recovery Time vs. di/dt**



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

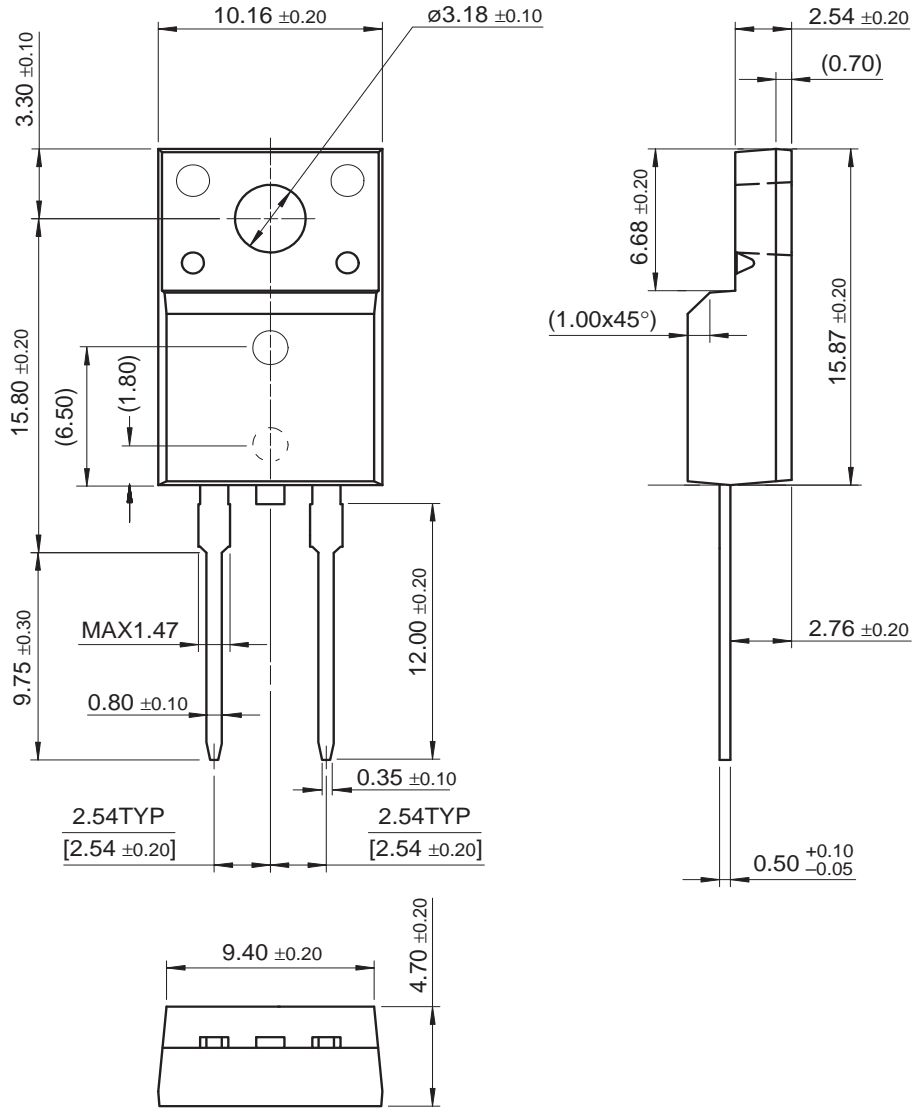


**Figure 6. Forward Current Derating Curve**



Mechanical Dimensions

TO220F 2L

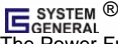






Dimensions in Millimeters



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| CorePLUS™                                                                         | Global Power ResourceSM                                                           | POWEREDGE®                 |  SYSTEM GENERAL®     |
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Rev. I33