

Pb Free Plating Product

## FFD08S60S\_F085



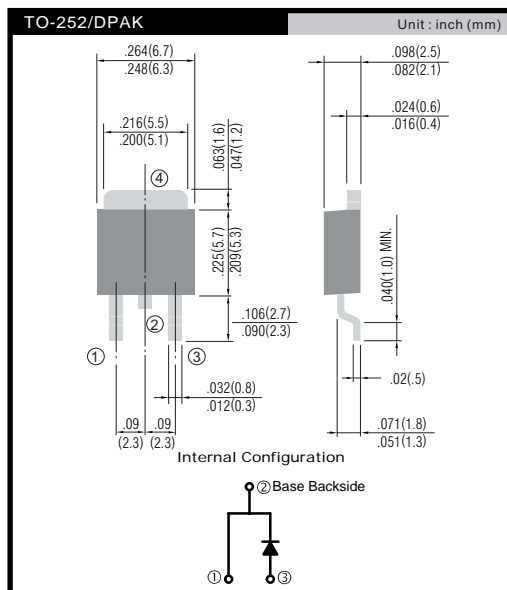
8Ampere,600Volt Single Surface Mount Type Stealth2 Fast Recovery Diode

### APPLICATION

- Freewheeling, Snubber, Clamp
- Inversion Welder
- PFC
- Plating Power Supply
- Ultrasonic Cleaner and Welder
- Converter & Chopper
- UPS

### PRODUCT FEATURE

- Ultrafast Recovery Time
- Soft Recovery Characteristics
- Low Recovery Loss
- Low Forward Voltage
- High Surge Current Capability
- Low Leakage Current



### GENERAL DESCRIPTION

FFD08S60S\_F085 using the latest FRED FAB process(or planar passivation pellet) with ultrafast and soft recovery characteristics.

### 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 Junction and Storage Temperature	-65 to + 150	$^\circ\text{C}$

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

$R_{\theta JC}$	Maximum Thermal Resistance, Junction to Case	3.0	$^\circ\text{C/W}$
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### Electrical Characteristics $T_C = 25^\circ\text{C}$ unless otherwise noted

Parameter	Test Conditions	Min	Typ	Max	Units
$V_{FM}^1$	$I_F = 8A,$ $I_F = 8A$	-	2.1	2.6	V
$I_{RM}^1$	$V_R = 600V,$ $V_R = 600V$	-	-	100 500	$\mu\text{A}$
$t_{rr}$	$I_F = 1A, di/dt = 100A/s, V_R = 30V$	-	-	25	ns
$t_{rr}$	$I_F = 8A, di/dt = 200A/s, V_R = 390V$ $T_C = 25^\circ\text{C}$	-	19	30	ns
$I_{rr}$		-	2.2	-	A
S factor		-	0.6	-	
$Q_{rr}$		-	21	-	nC
$t_{rr}$	$I_F = 8A, di/dt = 200A/s, V_R = 390V$ $T_C = 125^\circ\text{C}$	-	58	-	ns
$I_{rr}$		-	4.3	-	A
S factor		-	1.3	-	
$Q_{rr}$		-	125	-	nC
$W_{AVL}$	Avalanche Energy (L = 40mH)	20	-	-	mJ

#### Notes:

1. Pulse : Test Pulse width = 300us, Duty Cycle = 2%

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

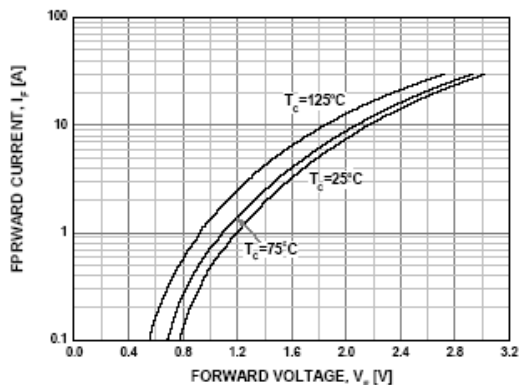


Figure 1. Typical Forward Voltage Drop

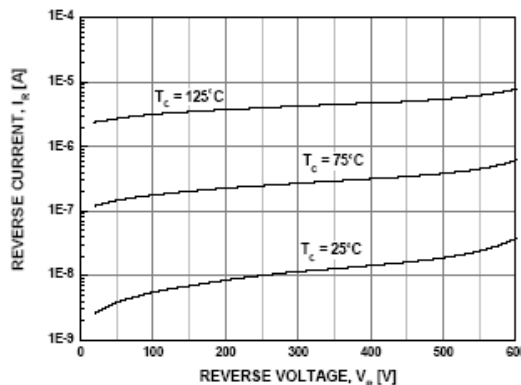


Figure 2. Typical Reverse Current

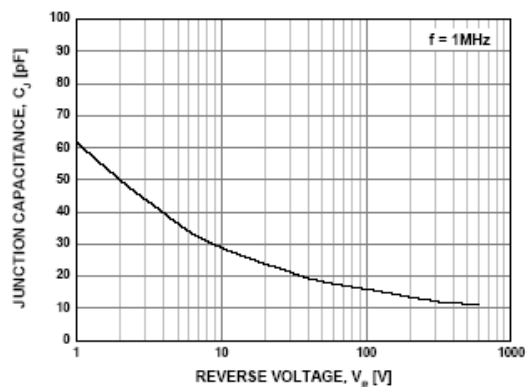


Figure 3. Typical Junction Capacitance

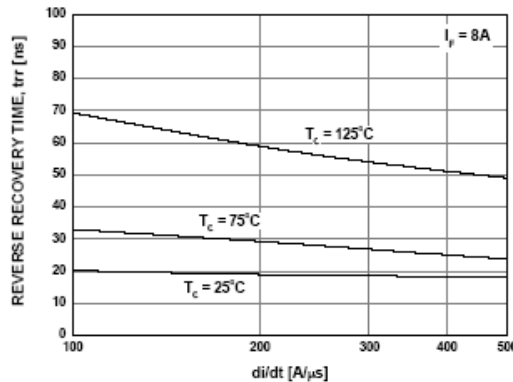


Figure 4. Typical Reverse Recovery Time

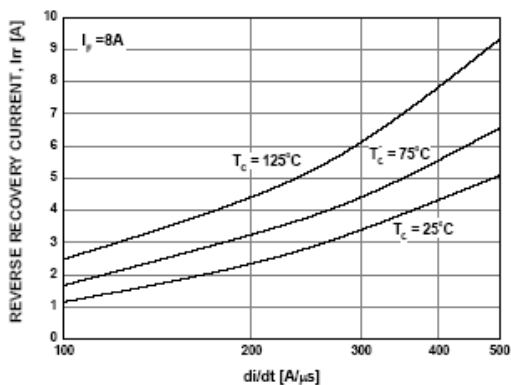


Figure 5. Typical Reverse Recovery Current

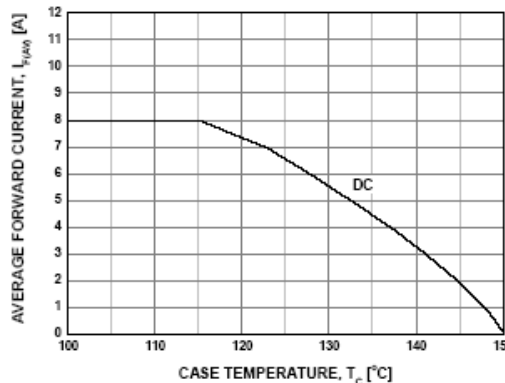


Figure 6. Forward Current Deration Curve

Test Circuit and Waveforms

