

Pb Free Plating Product

F08S60S



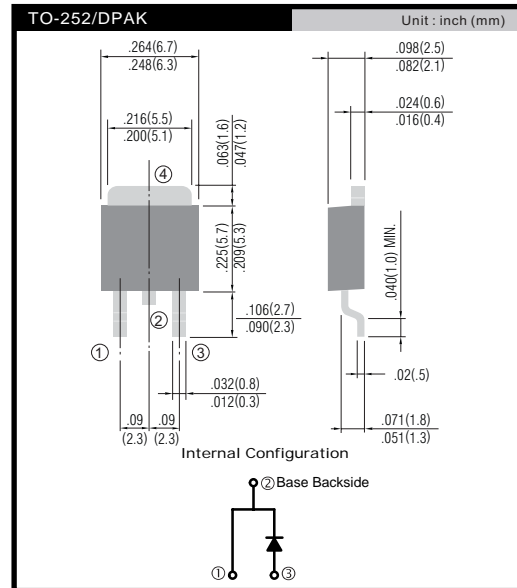
8Ampere,600Volt Single Surface Mount Type Stealth2 Fast Recovery Diode

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

F08S60S 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	μA
t_{rr}	$I_F = 1A, di/dt = 100A/s, V_R = 30V$	-	-	25	ns
t_{rr}	$I_F = 8A, di/dt = 200A/s, V_R = 390V$	-	19	30	ns
I_{rr}		-	2.2	-	A
S factor		-	0.6	-	
Q_{rr}		-	21	-	nC
t_{rr}		-	58	-	ns
I_{rr}	$I_F = 8A, di/dt = 200A/s, V_R = 390V$	-	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

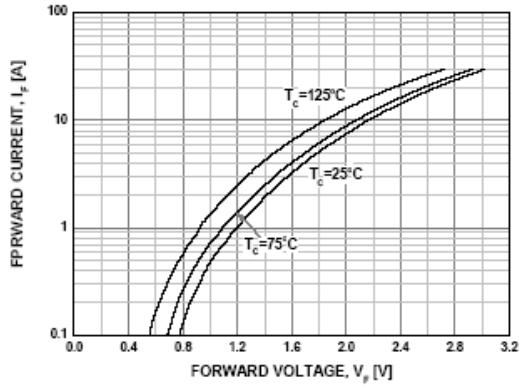


Figure 1. Typical Forward Voltage Drop

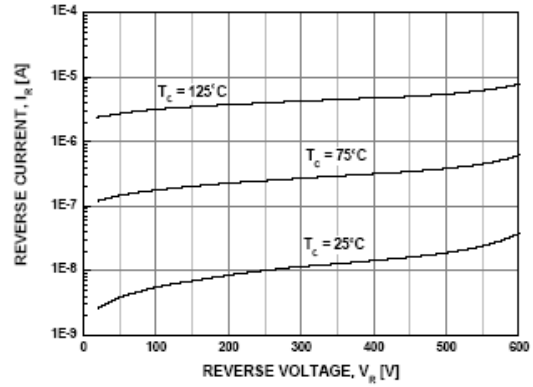


Figure 2. Typical Reverse Current

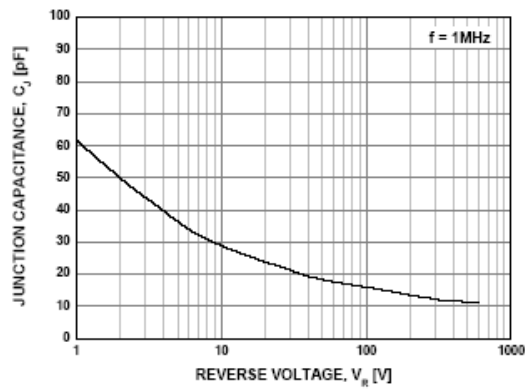


Figure 3. Typical Junction Capacitance

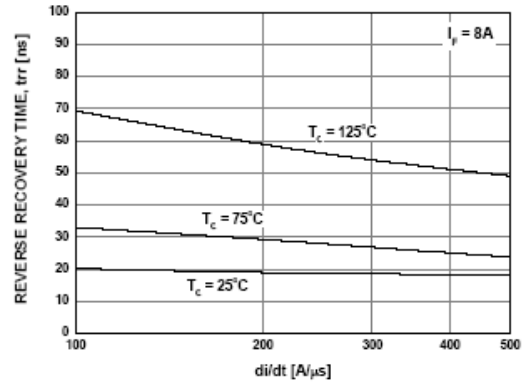


Figure 4. Typical Reverse Recovery Time

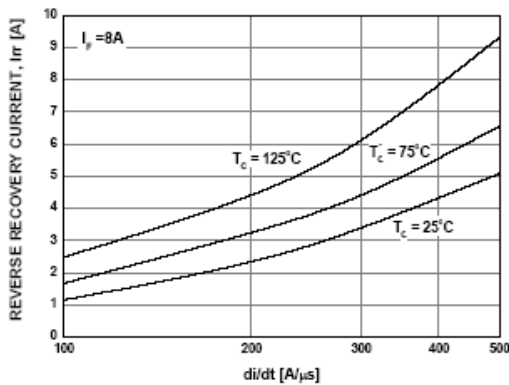


Figure 5. Typical Reverse Recovery Current

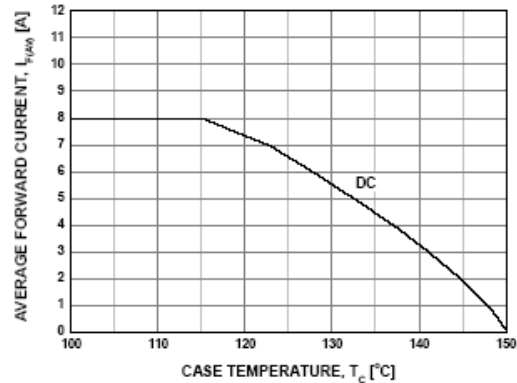


Figure 6. Forward Current Deration Curve

Test Circuit and Waveforms

