Pb Free Plating Product

F30UA60S

30Amperes,600Volts Single Insulated Package Ultra Fast Recovery Epitaxial Diode

APPLICATION

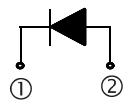
- Freewheeling, Snubber, Clamp
- Inversion Welder
- PFC
- Plating Power Supply
- Ultrasonic Cleaner and Welder
- Converter & Chopper
- UPS

PRODUCT FEATURE

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

ITO-220AC/TO-220F-2L

Internal Configuration



GENERAL DESCRIPTION

F30UA60S using the lastest FRED FAB process(or planar passivation pellet) with ultrafast and soft recovery characteristics.

Absolute Maximum Ratings T_C=25°C unless otherwise noted

Symbol	Parameter	Value	Units
V_{RRM}	Peak Repetitive Reverse Voltage	600	V
$I_{F(AV)}$	Average Rectified Forward Current @ T_C = 100°C	30	A
I_{FSM}	Non-repetitive Peak Surge Current 60Hz Single Half-Sine Wave	180	A
T_J, T_{STG}	Operating Junction and Storage Temperature	- 65 to +175	°C

Thermal Characteristics

Symbol	Parameter	Value	Units
$R_{\theta JC}$	Maximum Thermal Resistance, Junction to Case	2.5	°C/W

Electrical Characteristics T_C=25 °C unless otherwise noted

Symbol	Parameter		Min.	Typ.	Max.	Units
V_{FM} *	Maximum Instantaneous Forward Voltage I_F = 30A I_F = 30A	 T_C = 25 °C T_C = 100 °C			 2.2 2.0	V
I_{RM} *	Maximum Instantaneous Reverse Current @ rated V_R	 T_C = 25 °C T_C = 100 °C			 100 150	µA
t_{rr} I_{rr} Q_{rr}	Maximum Reverse Recovery Time Maximum Reverse Recovery Current Maximum Reverse Recovery Charge (I_F =30A, di/dt = 200A/µs)				90 8 360	ns A nC
W_{AVL}	Avalanche Energy		20			mJ

* Pulse Test: Pulse Width=300µs, Duty Cycle=2%

Typical Performance Characteristics

Figure 1. Typical Forward Voltage Drop vs. Forward Current

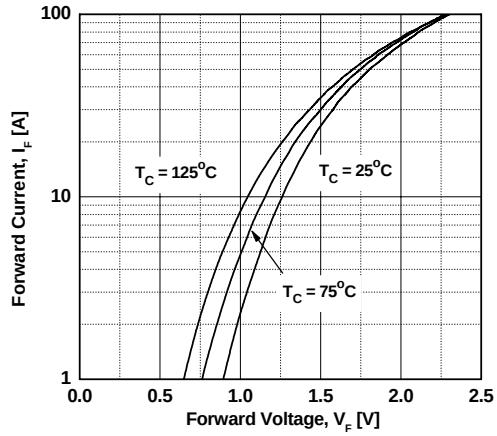


Figure 2. Typical Reverse Current vs. Reverse Voltage

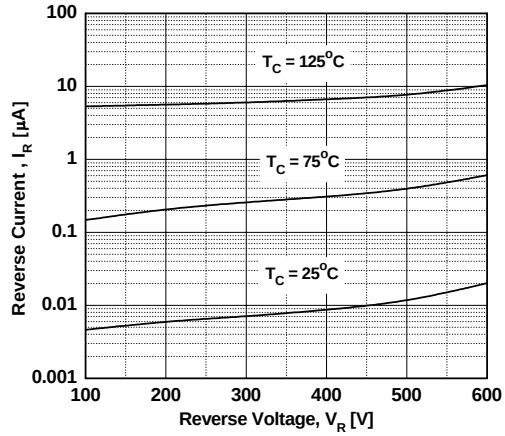


Figure 3.Typical Junction Capacitance

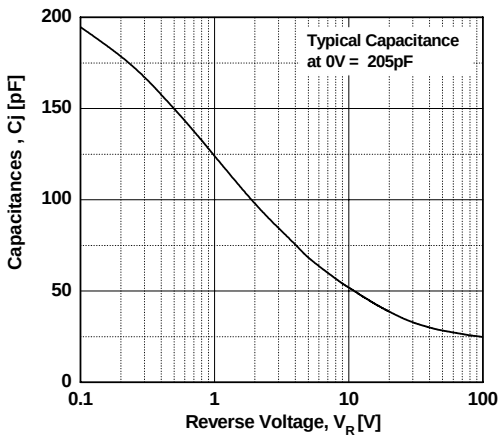


Figure 4. Typical Reverse Recovery Time vs. di/dt

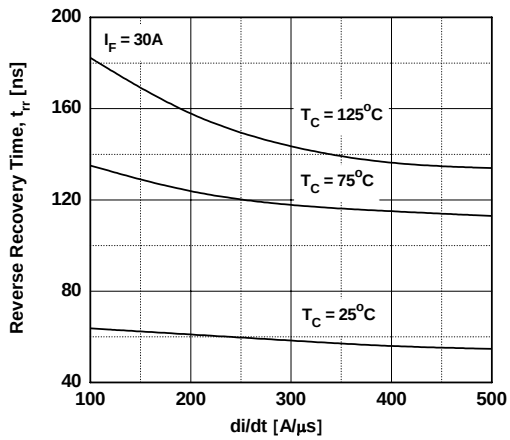


Figure 5. Typical Reverse Recovery Current vs. di/dt

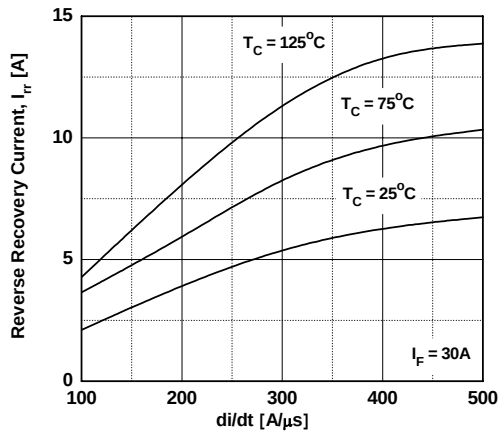
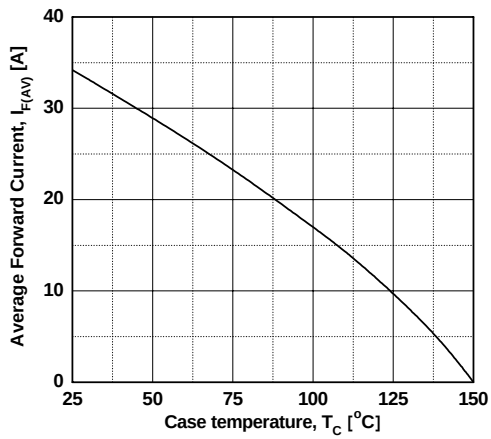
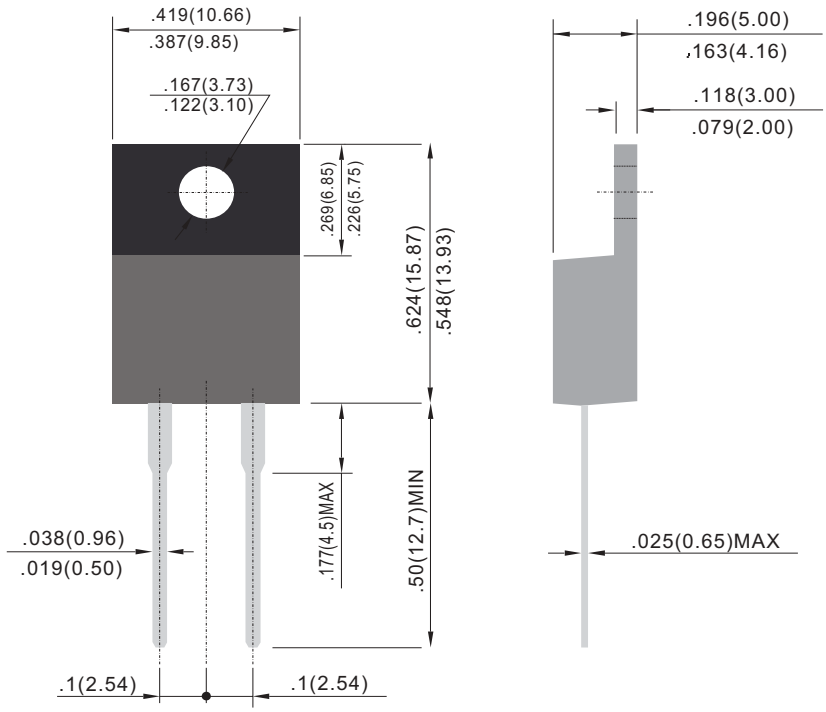


Figure 6. Forward Current Derating Curve



ITO-220AC/TO-220F-2L Package Outline:



Unit : inch (mm)