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2013 年 11 月

FFPF20UP60DN

20 A、 600 V 超快速双二极管

特性

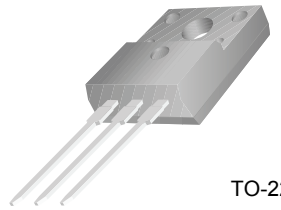
- 超快速恢复 t_{rr} = 70 ns (@ I_F = 10 A)
- 最大正向电压， V_F = 2.2 V (@ T_C = 25°C)
- 600 V 反向电压和高可靠性
- 雪崩能量额定值
- 符合 RoHS 标准

应用

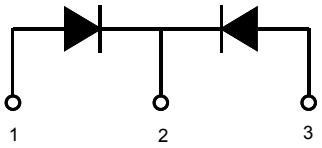
- 一般用途
- SMPS, 功率开关电路
- 用于连续模式功率因数校正器中的升压二极管

说明

FFPF20UP60DN 是一款具有低正向压降的超快速双二极管。该器件在各种开关电源及其他电源开关应用中用作续流和箝位二极管。它特别适合用于开关电源和工业应用。



TO-220F



1. 阳极 2. 阴极 3. 阳极

绝对最大额定值 T_C = 25°C 除非另有说明

符号	参数	额定值	单位
V_{RRM}	重复反向峰值电压	600	V
V_{RWM}	反向峰值工作电压	600	V
V_R	直流阻断电压	600	V
$I_{F(AV)}$	正向平均整流电流 @ T_C = 103°C	10	A
I_{FSM}	非重复浪涌峰值电流 60 Hz 单侧半正弦波	50	A
T_J, T_{STG}	工作和存储温度范围	-65 至 +150	°C

热性能

符号	参数	最大值	单位
$R_{\theta JC}$	结点 - 壳体的最大热阻	7	°C/W

封装标识与定购信息

器件编号	正面标记	封装	包装方法	卷尺寸	带宽	数量
FFPF20UP60DNTU	FFPF20UP60DN	TO-220F	塑料管	不适用	不适用	50

电气特性 T_C = 25°C 除非另有说明

符号	参数		最小值	典型值	最大值	单位
V_F1	I_F = 10 A I_F = 10 A	T_C = 25°C T_C = 100°C	- -	- -	2.2 2.0	V
I_R1	V_R = 600 V V_R = 600 V	T_C = 25°C T_C = 100°C	- -	- -	100 500	μA
t_{rr}	I_F = 10 A, di_F/dt = 200 A/μs, V_R = 390 V	T_C = 25°C	-	53	70	ns
t_{rr} I_{rr} Q_{rr}	I_F = 1 A, di_F/dt = 100 A/μs, V_R = 30 V	T_C = 25°C	- - -	30 1.5 20	40 2 30	ns A nC
W_{AVL}	雪崩能量 （L = 40 mH）		10	-	-	mJ

注意：
1: 脉冲：测试脉宽 = 300 μs, 占空比 = 2%

测试电路与波形

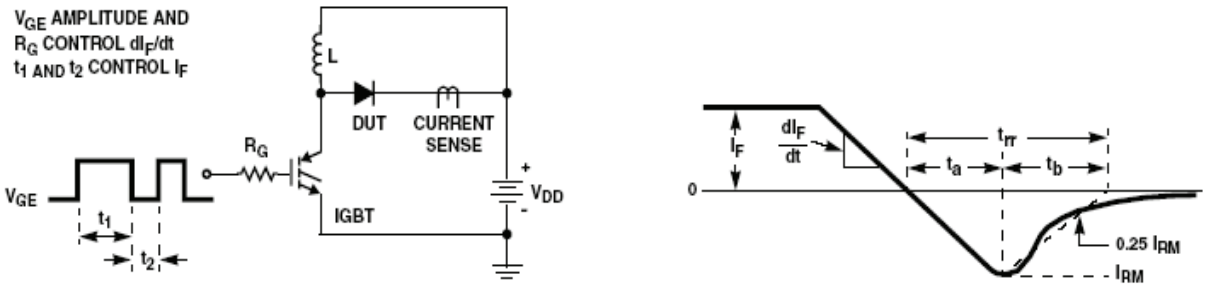


图 1. 二极管反向恢复测试电路与波形

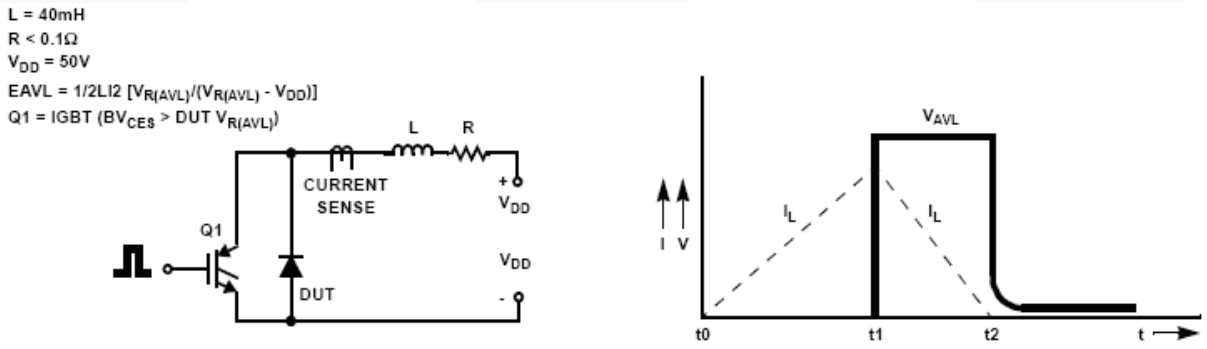


图 2. 非箝位感性开关测试电路与波形

典型性能特征

图 3. 典型正向电压降与正向电流的关系

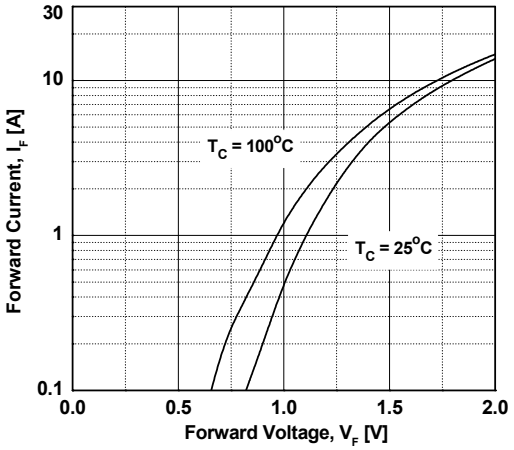


图 4. 典型反向电流与反向电压的关系

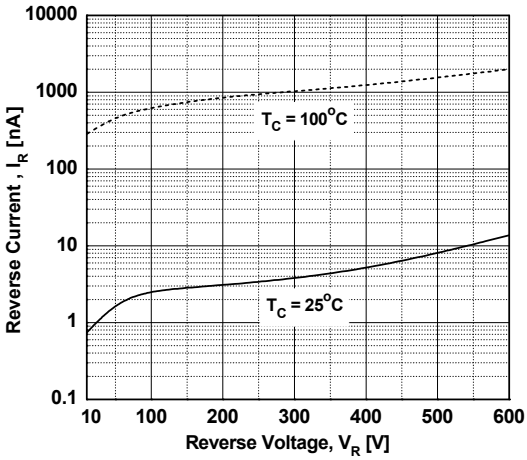


图 5. 典型结电容

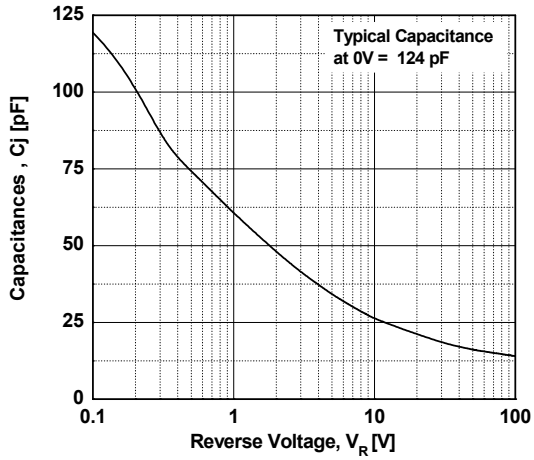


图 6. 典型反向恢复时间与 di_F/dt 的关系

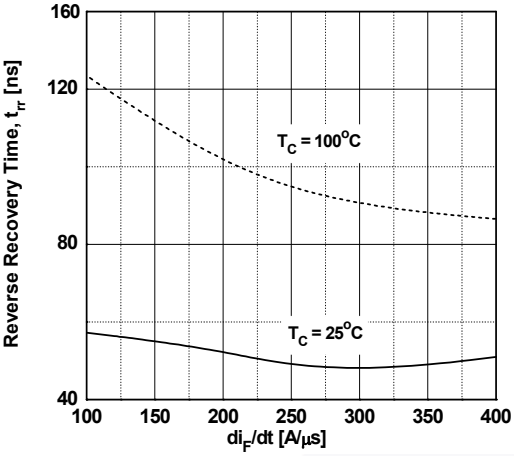


图 7. 典型反向恢复电流与 di_F/dt 的关系

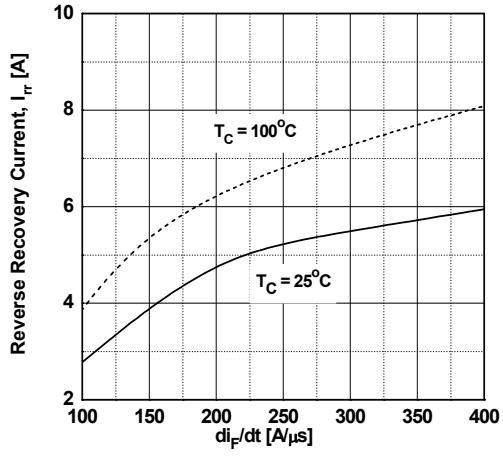
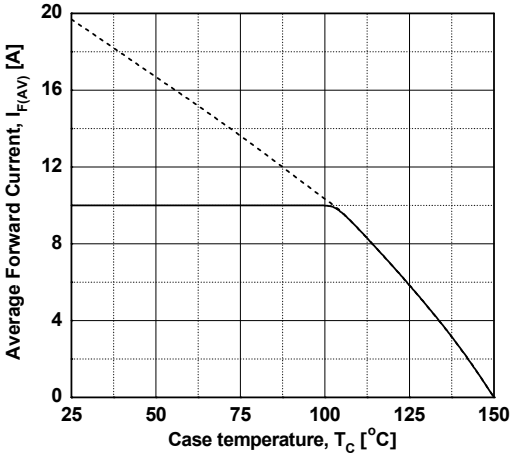


图 8. 正向电流降额曲线



封装尺寸

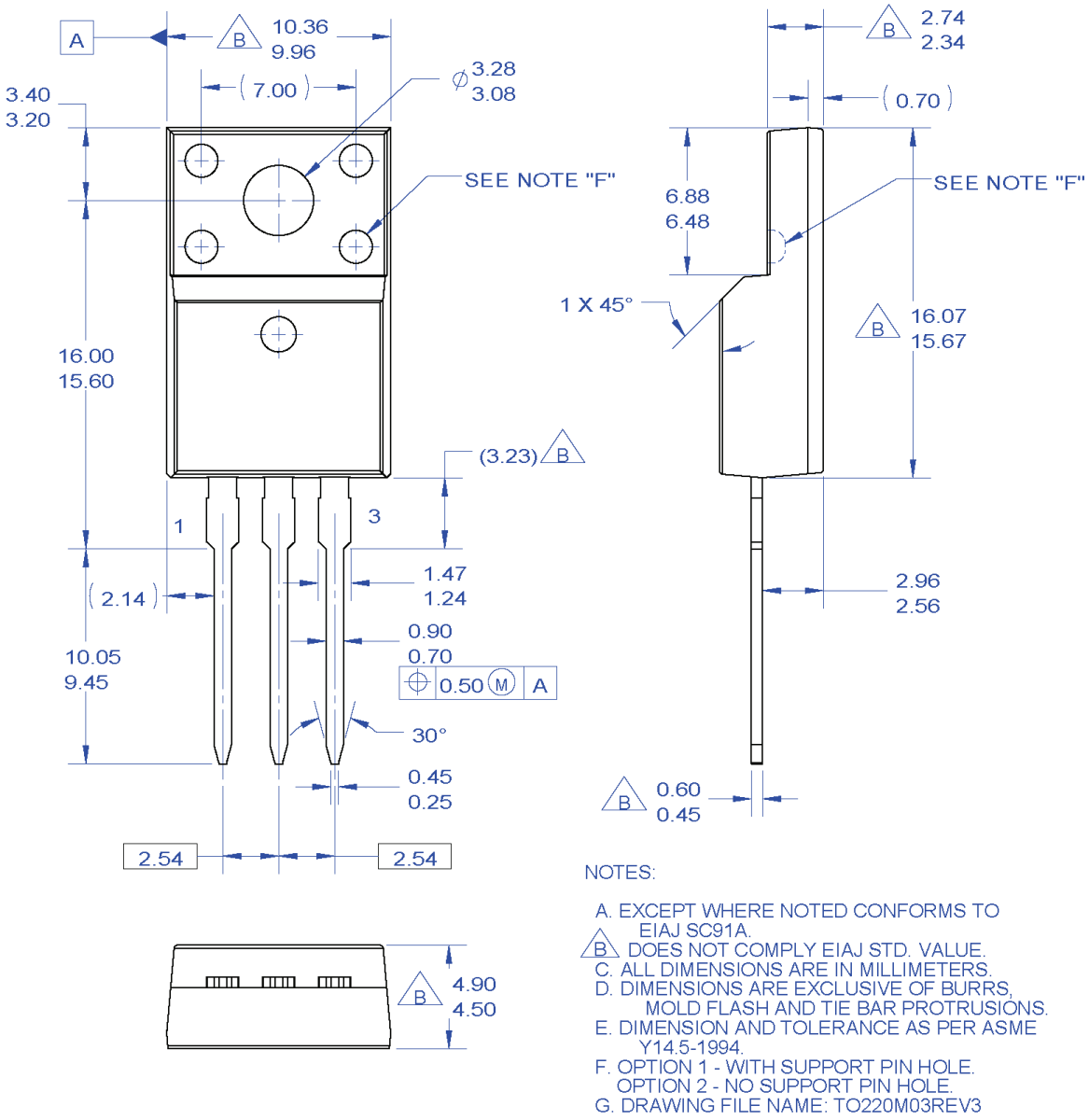


图 9. TO-220F 3L - TO220, MOLDED, 3LD, FULL PACK, EIAJ SC91, STRAIGHT LEAD

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