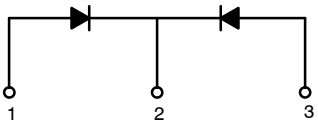
超快速双二极管
60 A, 200 V

FFA60UP20DN



1.Anode 2. Cathode 3. Anode

说明

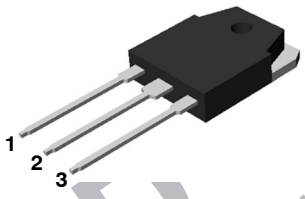
FFA60UP20DN 是具备低正向压降和强健 UIS 能力的超快速二极管。该器件在各种开关电源及其他电源开关应用中用作续流和箝位二极管。特别适合用于开关电源与焊接器和 UPS 等工业应用。

特性

- 超快速恢复, T_{rr} = 32 ns (@ I_F = 30 A)
- 最大正向电压, V_F = 1.15 V (@ T_C = 25°C)
- 反向电压：V_{RRM} = 200 V
- 雪崩能量额定值
- 符合 RoHS 标准

应用

- 功率开关电路
- 输出整流器
- 续流二极管
- SMPS
- 焊接器
- UPS



1.Anode 2.Cathode 3.Anode

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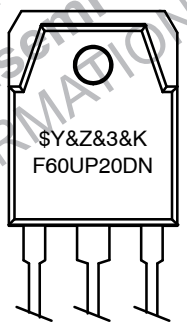
MARKING DIAGRAM



$Y = Logo
&Z = Assembly Plant Code
&3 = Date Code
&K = Lot Run Traceability Code
F60UP20DN = Specific Device Code

ORDERING INFORMATION

See detailed ordering and shipping information on page 2 of this data sheet.

绝对最大额定值

(每个二极管) T_C = 25°C 除非另有说明

参数	符号	额定值	单位
外部晶闸管的门极驱动	V_R	200	V
重复反向峰值电压	V_{RRM}	200	V
反向峰值工作电压	V_{RWM}	200	V
平均正向整流电流 (@ T_C = 100°C)	$I_{F(AV)}$	30	A
非重复浪涌峰值电流 60 Hz 单侧半正弦波	I_{FSM}	300	A
工作结温和存储温度	T_J, T_{STG}	−65 至 +175	°C

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

(参考译文)

如果电压超过最大额定值表中列出的值范围，器件可能会损坏。如果超过任何这些限值，将无法保证器件功能，可能会导致器件损坏，影响可靠性。

热性能

参数	符号	额定值	单位
结点 − 壳体的最大热阻	$R_{\theta JC}$	1.4	°C/W

电气特性
(每个二极管) T_C = 25°C 除非另有说明

符号	参数	单位	最小值	典型值	最大值	单位
V_F (Note 1)	最大瞬时正向电压	I_F = 30 A, T_C = 25°C I_F = 30 A, T_C = 100°C	– –	– –	1.15 1.0	V
I_R (Note 1)	最大瞬时反向电流	V_R = 200 V, T_C = 25°C V_R = 200 V, T_C = 100°C	– –	– –	10 100	μA
t_{rr}	反向恢复时间	I_F = 30 A, di_F/dt = 200 A/μs, V_R = 130 V	–	32	–	ns
I_{rr}	反向恢复电流		–	2.4	–	A
Q_{rr}	反向恢复电荷		–	38.4	–	nC
t_{rr}	最大反向恢复时间	I_F = 1 A, di_F/dt = 100 A/μs	–	–	40	ns
W_{AVL}	雪崩能量	L = 40 mH	2	–	–	mJ

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.
(参考译文)
除非另有说明，“电气特性”表格中列出的是所列测试条件下的产品性能参数。如果在不同条件下运行，产品性能可能与“电气特性”表格中所列性能参数不一致。
1. 脉冲测试：脉冲宽度 = 300 μs, 占空比 = 2%

测试电路与波形

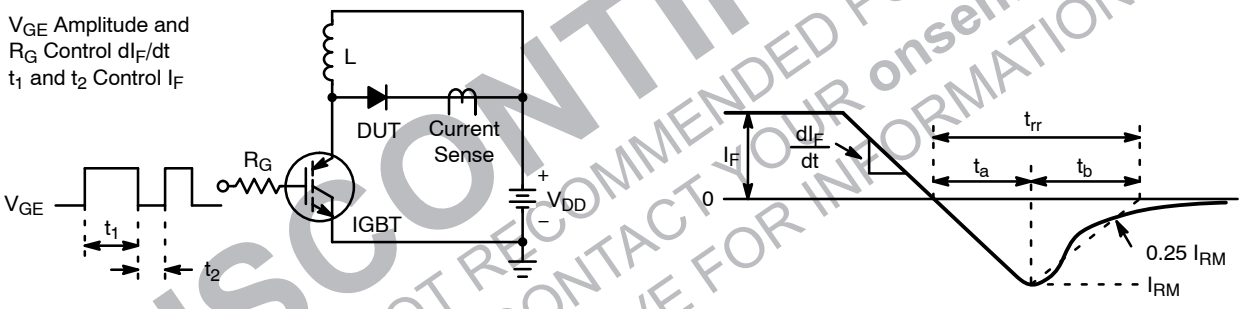


图 1. 二极管反向恢复测试电路与波形

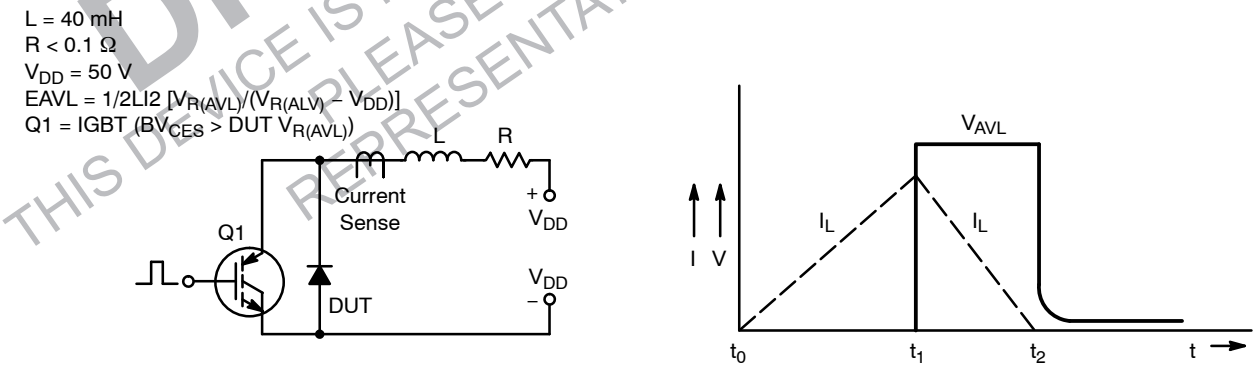


图 2. 非箝位感性开关测试电路与波形

封装标识与定购信息

器件编号	正面标记	封装	Shipping
FFA60UP20DNTU	F60UP20DN	TO−3P−3LD (Pb−Free)	30 Units / Tube

典型特性

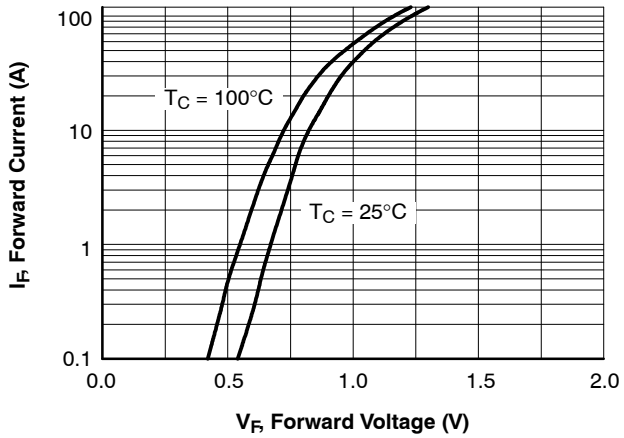


图 3. 典型正向电压降与正向电流的关系

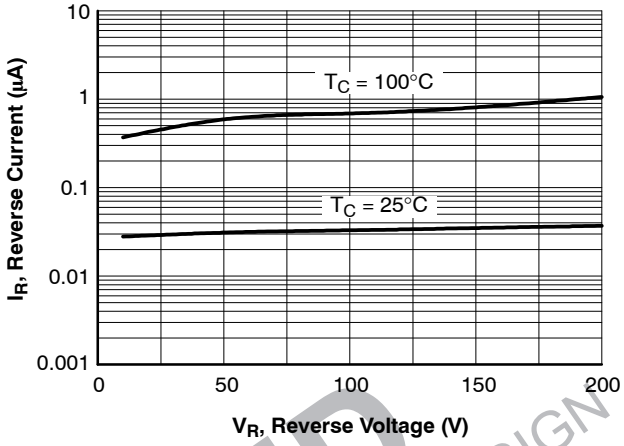


图 4. 典型反向电流与反向电压的关系

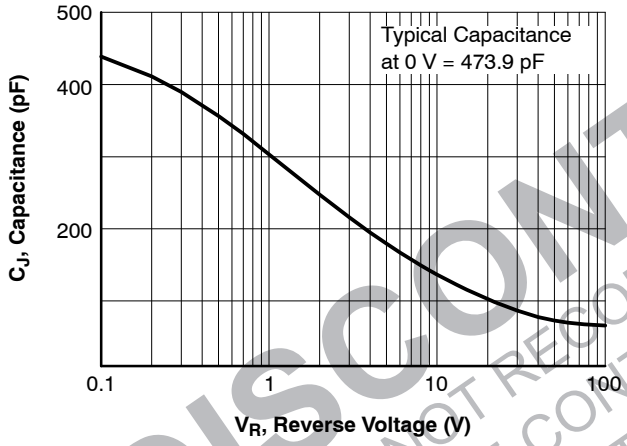


图 5. 典型结电容

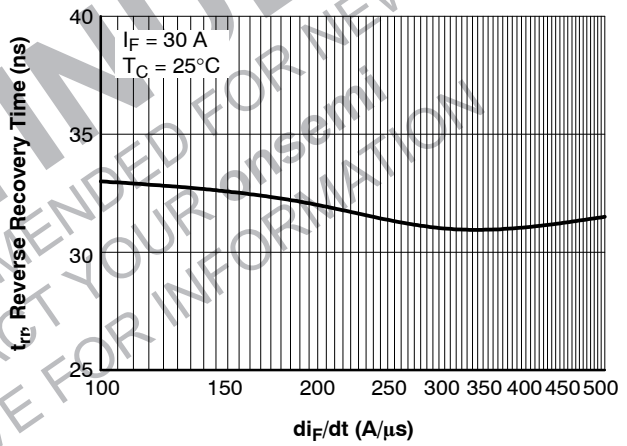


图 6. 典型反向恢复时间与 di_F/dt 的关系

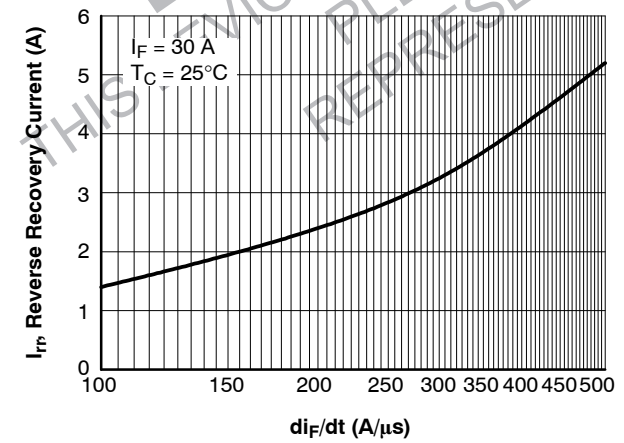


图 7. 典型反向恢复电流与 di_F/dt 的关系

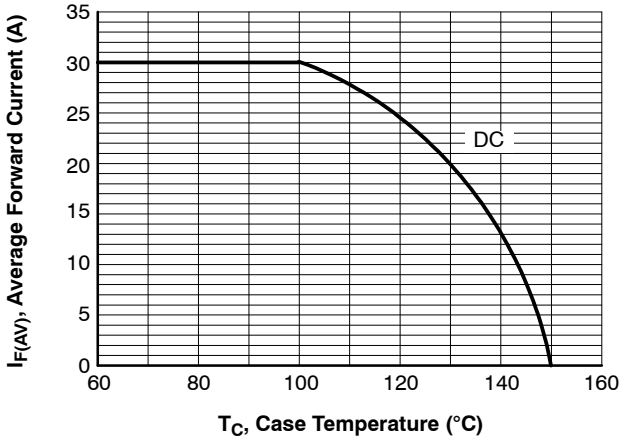


图 8. 正向电流降额曲线

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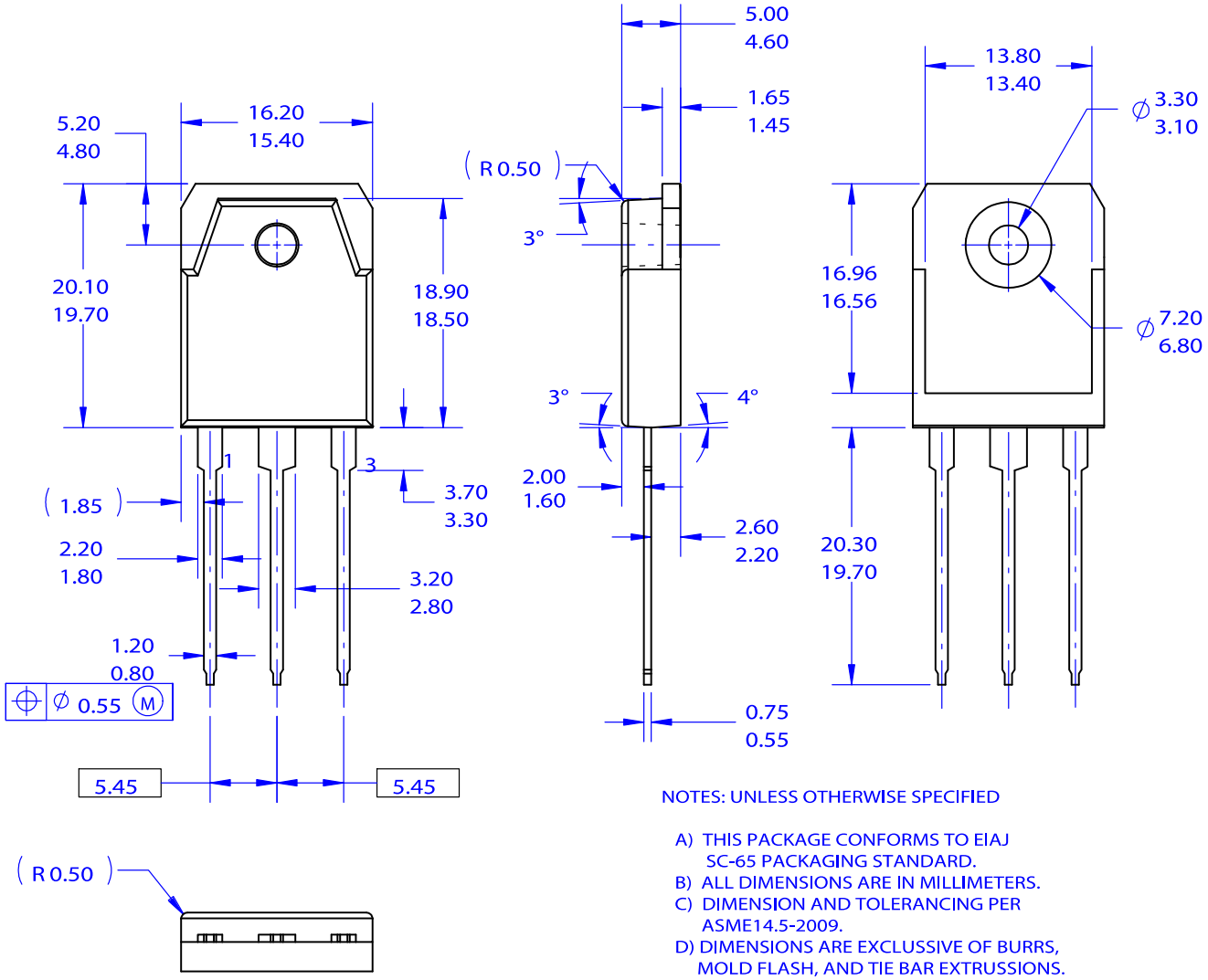
DATE 31 OCT 2016



NOTES: UNLESS OTHERWISE SPECIFIED

A) THIS PACKAGE CONFORMS TO EIAJ SC-65 PACKAGING STANDARD.
B) ALL DIMENSIONS ARE IN MILLIMETERS.
C) DIMENSION AND TOLERANCING PER ASME14.5-2009.
D) DIMENSIONS ARE EXCLUSSIVE OF BURRS, MOLD FLASH, AND TIE BAR EXTRUSSIONS.

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