

30A/600V 快恢复二极管 30A/600V Fast Recovery Diodes

■特征 Features

- 超快恢复时间
Ultrafast Recovery Times
- 软恢复特性
Softer Recovery Characteristics
- 低正向电压
Low Forward Voltage
- 低反向漏电流
Low reverse leakage current

■应用范围 Applications

- 续流二极管
Free Wheeling Diode
- 电机控制器
Motor Controllers
- 开关式电源
Switching mode power supply
- 转换器
Converters
- 逆变器
Inverters
- 缓冲二极管
Snubber Diode
- 功率因数校正
PFC:Power Factor Correction

关键参数 KEY PARAMETERS		
参数 PARAMETER	数值 VALUE	单位 UNIT
$I_{F(AV)}$	30	A
V_F	1.9	V
V_{RRM}	600	V
TRR	35	ns
Package	TO-220-F	



1 - 负极 Cathode
2 - 正极 Anode

■机械参数 Mechanical Data

- 安装扭矩: 8.0kgf.cm
Mounting torque: 8.0kgf.cm max
- 重量: 约 1.6 克
Weight : About 1.6 grams

■最大额定值 Maximum Ratings @ Ta = 25°C unless otherwise noted

特征/测试条件 Characteristic / Test Conditions	符号 SYMBOL	额定值 RATED VALUE	单位 UNIT
反向重复峰值电压 Maximum recurrent peak reverse voltage	VRRM	600	V
最大平均正向电流 Maximum Average Forward Current	$I_{F(AV)}$	30	A
最大正向浪涌电流, 8.3ms 正弦半波 Peak surge forward current, 8.3ms single half sine-wave superimposed on rated load	IFSM	300	A
结温、存储温度 Operating and Storage Temperature Range	TJ、TSTG	-55 ~ +175	°C
耐焊接热, 高温持续 10 秒 Resistance to Soldering Heat, Lead Temperature for 10 Sec	TL	260	°C
绝缘耐压, 端子与外壳之间外加交流电 1 分钟 Dielectric strength, terminals to case AC 1 minute	V_{dis}	2.5	KV

■ 电性特性 Electrical Characteristics @ Ta = 25°C unless otherwise noted

特征/测试条件 Characteristic / Test Conditions	符号 SYMBOL	典型值 TYP	最大值 MAX	单位 UNIT
正向峰值电压 Peak Forward Voltage	VF	IF=30A, Tj=25°C	1.9	2.3
		IF=30A, Tj=150°C	1.5	1.9
VR=VRRM, 脉冲测试, 单个二极管的额定值 VR=VRRM, Pulse measurement Rating of per diode	IR	Tj=25°C		10
		Tj=150°C		500
反向恢复时间 Reverse Recovery Time	TRR	IF=0.5A IRM=1A IRR=0.25A TC=25°C	35	40
反向恢复时间 Reverse Recovery Time	TRR	IF=12A, dIF/dt=300A/μs, VR=400V, TC=25°C	40	
反向恢复电流 Reverse Recovery Current	IRRM		8	A

■ 热特性 Thermal Characteristics @ Ta = 25°C unless otherwise noted

特征/测试条件 Characteristic / Test Conditions	符号 SYMBOL	典型值 TYP	最大值 MAX	单位 UNIT
结到管壳的热阻, 有散热片 Junction to case Thermal Resistance, with heat sink	RθJC	2.8		°C/W

■ 特性曲线 Characteristic Curve

FIG.1 . Derating Curve For Output Rectified Current

图 1. 电流降额曲线

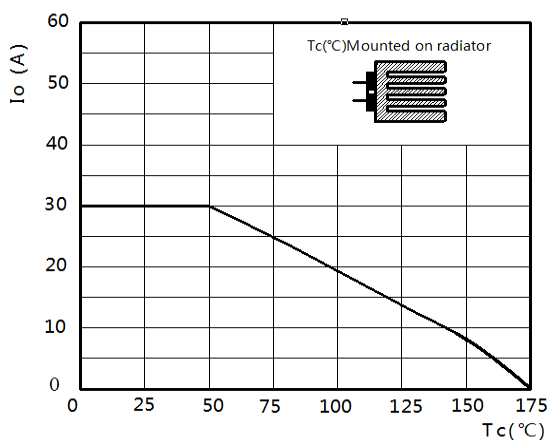


FIG.2 . Maximum Non-Repetitive Peak Forward Surge Current Per Bridge Element

图 2. 最大正向不重复峰值浪涌电流

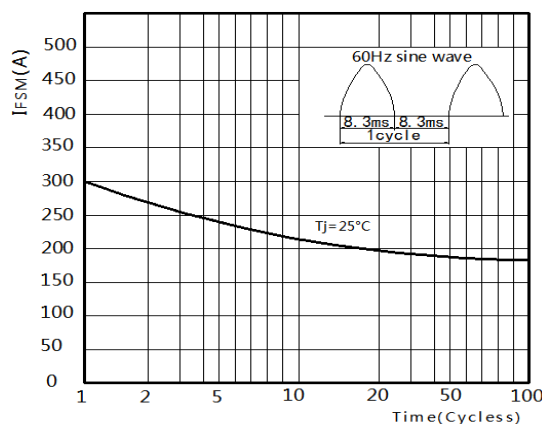


FIG3. Typical Reverse Characteristics Per Bridge Element

图 3. 典型反向特性

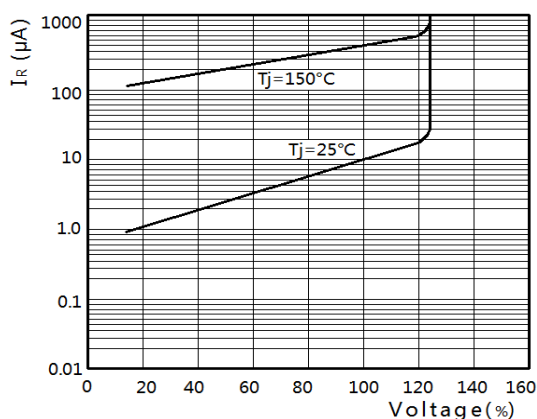
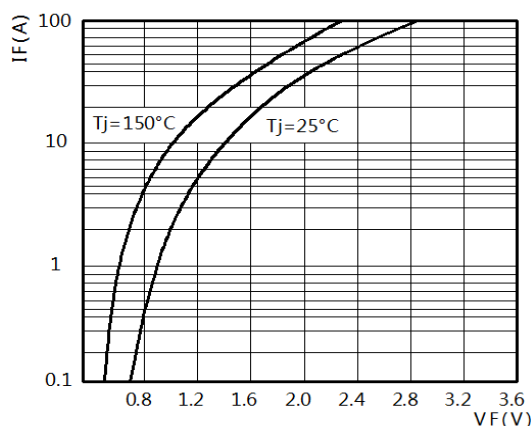
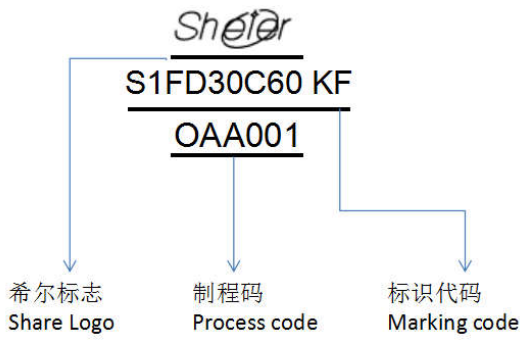


FIG4. Typical Forward Characteristics Per Bridge Element

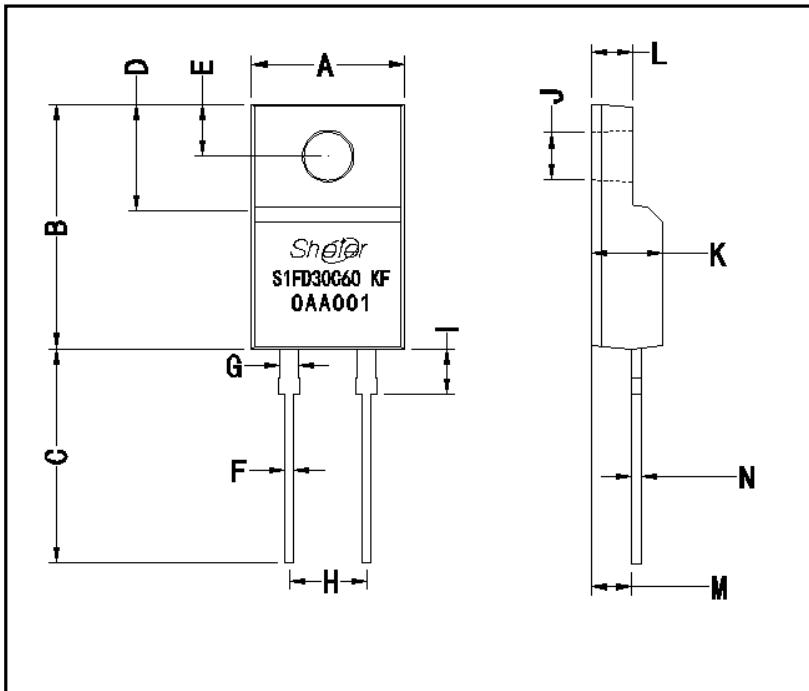
图 4. 典型正向特性



■ 标记图 Marking Diagram



■ 尺寸图 Dimension Drawing



Dim.	Unit(mm)		Unit(inch)	
	min	max	min	max
A	9.5	10.5	0.37	0.41
B	15.5	16.5	0.61	0.65
C	13.0	14.5	0.51	0.57
D	6.5	7.1	0.26	0.28
E	2.9	3.9	0.11	0.15
F	0.5	0.9	0.02	0.04
G	1.0	1.4	0.04	0.06
H	4.9	5.3	0.19	0.21
I	2.0	4.0	0.08	0.16
J	3.0	3.4	0.12	0.13
K	4.4	4.9	0.17	0.19
L	2.5	2.9	0.10	0.11
M	2.5	2.9	0.10	0.11
N	0.4	0.8	0.02	0.03

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