

## 60A/600V 快恢复二极管 60A/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

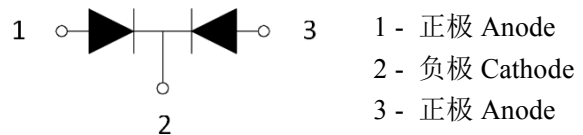
### ■机械参数 Mechanical Data

- 安装扭矩: 8.0kgf.cm  
Mounting torque: 8.0kgf.cm max
- 重量: 约 6.7 克  
Weight : About 6.7 grams

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

| 特征/测试条件<br>Characteristic / Test Conditions   | 符号<br>SYMBOL | 典型值<br>TYP | 单位<br>UNIT |
|---|--------------|------------|------------|
| 反向重复峰值电压<br>Maximum recurrent peak reverse voltage  | VRRM         | 600        | V          |
| 最大平均正向电流<br>Maximum Average Forward Current   | IF(AV)       | 60(30*2)   | A          |
| 最大正向浪涌电流, 8.3ms 单半正弦波叠加在额定负载上<br>Peak surge forward current, 8.3ms single half sine-wave superimposed on rated load | IFSM         | 300        | A          |
| 存储温度<br>Storage Temperature Range   | TSTG         | -55 ~ +150 | °C         |
| 耐焊接热, 高温持续 10 秒<br>Resistance to Soldering Heat, Lead Temperature for 10 Sec  | TL           | 260        | °C         |

| 关键参数<br>KEY PARAMETERS |             |            |
|------------------------|-------------|------------|
| 参数<br>PARAMETER        | 数值<br>VALUE | 单位<br>UNIT |
| IF(AV)                 | 60          | A          |
| VF                     | 1.7         | V          |
| VRRM                   | 600         | V          |
| TRR                    | 45          | ns         |
| Package                | TO-247      |            |



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

| 特征/测试条件<br>Characteristic / Test Conditions                                |                                     | 符号<br>SYMBOL | 典型值<br>TYP | 最大值<br>MAX | 单位<br>UNIT |
|--|-------------------------------------|--------------|------------|------------|------------|
| 正向峰值电压<br>Peak Forward Voltage   | IF=30A, Tj=25°C                     | VF           | 1.7        |            | V          |
|  | IF=30A, Tj=150°C                    |              | 1.4        |            | V          |
| VR=VRRM, 脉冲测试, 单个二极管的额定值<br>VR=VRRM, Pulse measurement Rating of per diode | Tj=25°C                             | IR           | /          | 10         | μA         |
|  | Tj=150°C                            |              | /          | 500        |            |
| 反向恢复时间<br>Reverse Recovery Time  | IF=0.5A IRR=0.25A<br>IRM=1A TC=25°C | TRR          | 45         |            | ns         |

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

| 特征/测试条件<br>Characteristic / Test Conditions                         | 符号<br>SYMBOL | 典型值<br>TYP | 最大值<br>MAX | 单位<br>UNIT |
|---|--------------|------------|------------|------------|
| 结到管壳的热阻,有散热片<br>Junction to case Thermal Resistance, with heat sink | RθJC         | /          | 1.0        | °C/W       |

■ 特性曲线 Characteristic Curve

FIG.1 . Derating Curve For Output Rectified Current

图 1. 电流降额曲线

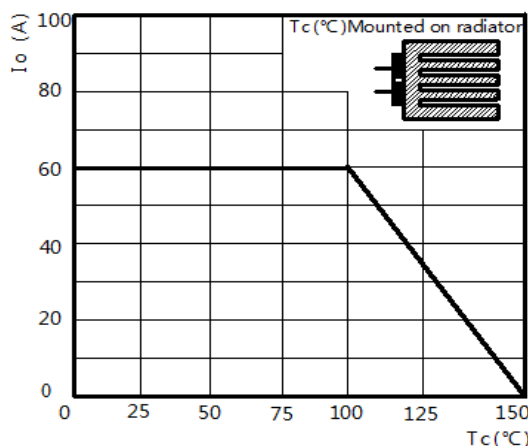


FIG3. Typical Reverse Characteristics Per Bridge Element

图 3. 典型反向特性

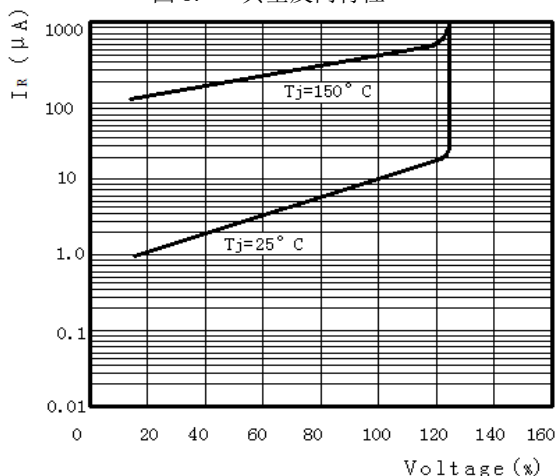


FIG.2 . Maximum Non-Repetitive Peak Forward Surge Current Per Bridge Element

图 2. 最大正向不重复峰值浪涌电流

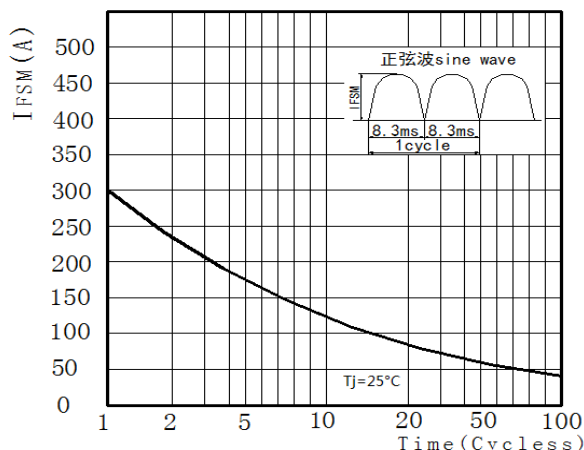
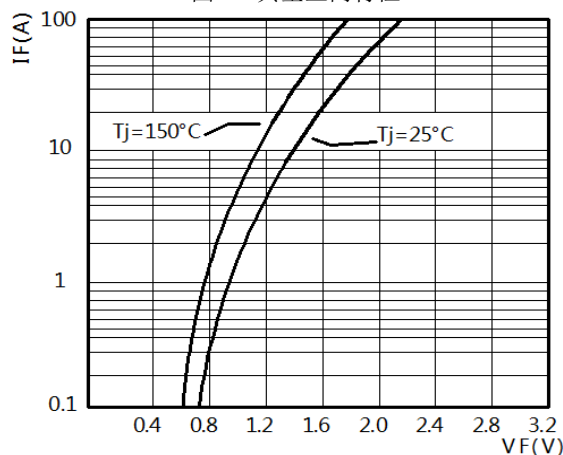
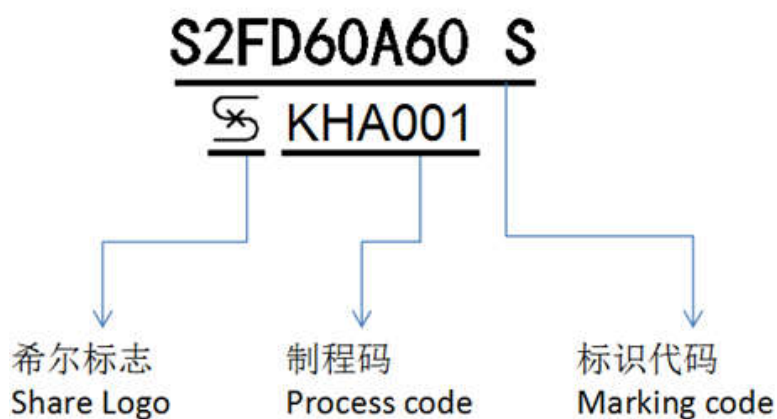


FIG4. Typical Forward Characteristics Per Bridge Element

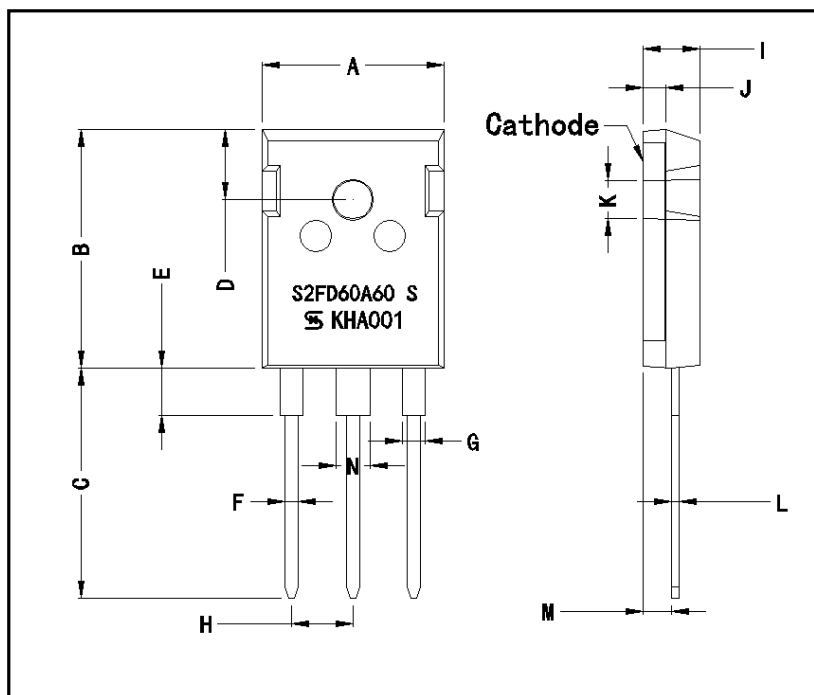
图 4. 典型正向特性



■ 标记图 Marking Diagram



■ 尺寸图 Dimension Drawing



| Dim. | Unit(mm) |       | Unit(inch) |      |
|------|----------|-------|------------|------|
|      | min      | max   | min        | max  |
| A    | 15.70    | 16.30 | 0.62       | 0.64 |
| B    | 20.70    | 21.30 | 0.81       | 0.84 |
| C    | 19.50    | 20.50 | 0.77       | 0.81 |
| D    | 5.70     | 6.70  | 0.22       | 0.26 |
| E    | 4.00     | 4.40  | 0.16       | 0.17 |
| F    | 1.00     | 1.40  | 0.04       | 0.06 |
| G    | 1.70     | 2.30  | 0.07       | 0.09 |
| N    | 2.70     | 3.30  | 0.11       | 0.13 |
| H    | 5.20     | 5.80  | 0.20       | 0.23 |
| I    | 4.70     | 5.30  | 0.19       | 0.21 |
| J    | 1.70     | 2.30  | 0.07       | 0.09 |
| K    | 3.20     | 3.80  | 0.13       | 0.15 |
| L    | 0.50     | 0.70  | 0.02       | 0.03 |
| M    | 2.20     | 2.60  | 0.09       | 0.10 |

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