

20A,200V 玻璃钝化快恢复二极管 20A,200V Glass Passivated Fast Recovery Diode

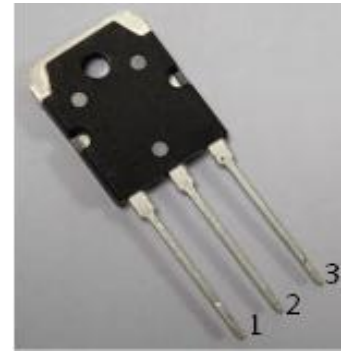
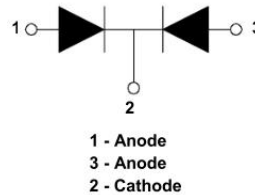
■特征 Features

- 超快恢复时间
Ultra fast Recovery Times
- 软恢复特性
Soft Recovery Characteristics
- 低正向电压
Low Forward Voltage
- 低漏电流
Low Leakage Current
- 额定雪崩能量
Avalanche Energy Rated

■应用范围 Applications

- 开关电源
Switch mode Power Supply
- 逆变器
Inverters
- 续流二极管
Free Wheeling Diode
- 电机控制器
Motor Controllers
- 变频器
Converters
- 功率因数校正
PFC

| 关键参数 KEY PARAMETERS | | |
|------------------------|-------------|------------|
| 参数 PARAMETER | 数值 VALUE | 单位 UNIT |
| $I_{F(AV)}$ | 20 | A |
| V_{RRM} | 200 | V |
| I_{FSM} | 120 | A |
| Package | TO-3P B | |



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

| 特征参数/测试条件 Characteristic / Test Conditions | 符号 SYMBOL | S2FD20B20 B | 单位 UNIT |
|---|--------------|-------------|------------------|
| 反向重复峰值电压 Maximum recurrent peak reverse voltage | V_{RRM} | 200 | V |
| 反向不可重复峰值电压 Reverse non-repetitive Peak Reverse Voltage | V_{RSM} | | V |
| 平均整流输出电流 Average rectified output current | $I_{(AV)}$ | 20 (10*2) | A |
| 最大正向浪涌电流, 10 ms 单半正弦波叠加在额定负载上 Peak surge forward current, 10 ms single half sine-wave superimposed on rated load | I_{FSM} | 120 | A |
| 热容值, 1ms<t<10ms, Tj=25°C, 单个二极管 Rating for fusing, 1ms<t<10ms, Tj=25°C, Rating of per diode | P^t | 72.0 | A ² s |
| 结温 Junction temperature | T_j | -55~+150 | °C |
| 存储温度 Storage temperature | T_{STG} | -55~+150 | °C |
| 结电容 Junction capacitance @4V,1MHz | C_j | 120 | pF |
| 引脚可承受温度 (10s) Lead Temperature for 10 Sec | TL | 260 | °C |

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

| 参数 PARAMETER | 条件 CONDITIONS | 符号 SYMBOL | 标准值 Typ | 最大值 Max | 单位 UNIT |
|---------------------------------|---|--------------|------------|------------|------------|
| 正向峰值电压 Peak Forward Voltage | IF=10A, Tj=25°C | VF | 0.95 | 1.1 | V |
| | IF=10A, Tj=125°C | | 0.9 | 1.0 | V |
| 反向峰值电流 Peak Reverse Current | VR=VRRM, 脉冲测试, 单个二极管的额定值 VR=VRRM, Pulse measurement, Rating of per diode | Tj=25°C | / | 5.0 | μA |
| | | Tj=125°C | / | 100.0 | |
| 反向恢复时间 Reverse Recovery Time | IF=0.5A, IRM=1A, IRR=0.25A, TC=25°C | Trr | 20 | 25 | ns |

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

| 参数 PARAMETER | 符号 SYMBOL | 额定值 RATED VALUE | 单位 UNIT |
|---|--------------|--------------------|------------|
| 结到环境的热阻 Junction-to-ambient thermal resistance | RθJA | 50.0 | °C/W |
| 结到壳体的热阻, 带散热器 Junction-to-case thermal resistance with heat sink | RθJC | 0.8 | °C/W |

■特性曲线 Characteristic Curve

FIG.1 . Derating Curve For Output Rectified Current

图 1. 电流降额曲线

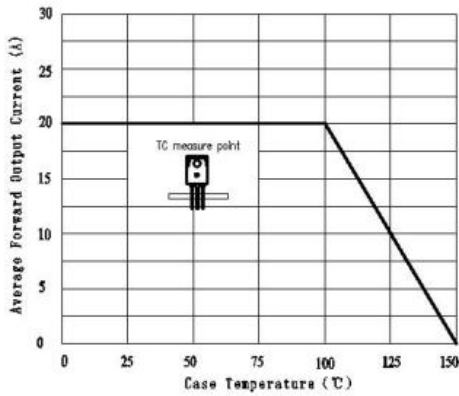


FIG.3. Typical Reverse Characteristics Per Bridge Element

图 3. 典型反向特性

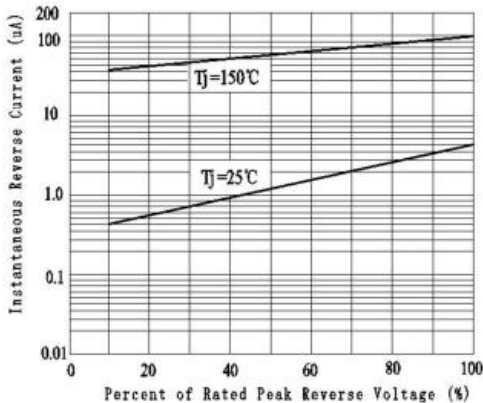


FIG.2 . Maximum Non-Repetitive Peak Forward Surge Current Per Bridge Element

图 2. 最大正向不重复峰值浪涌电流

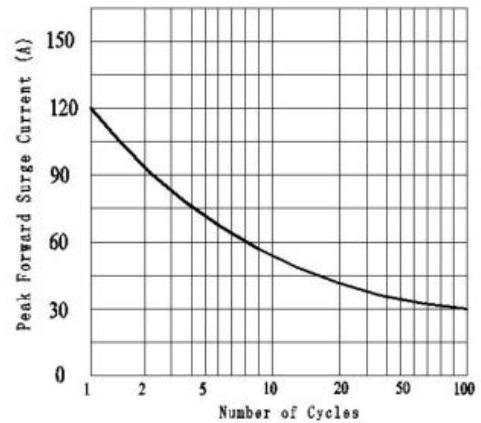


FIG.4. Typical Forward Characteristics Per Bridge Element

图 4. 典型正向特性

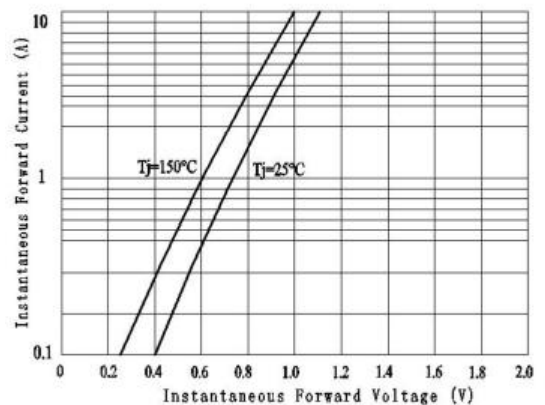
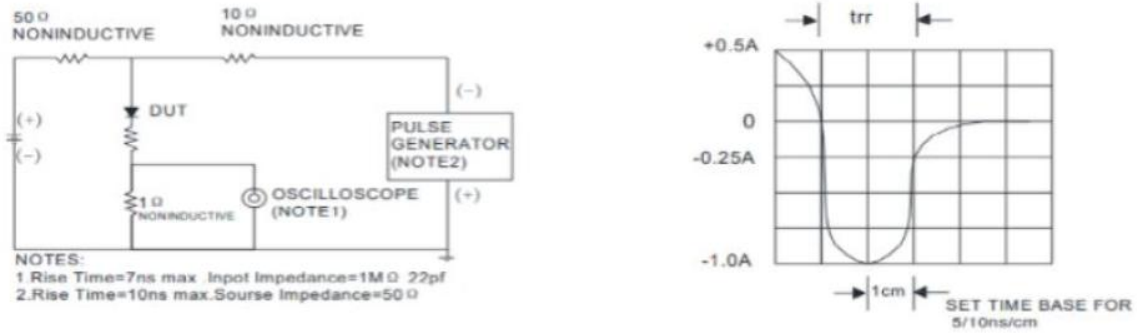
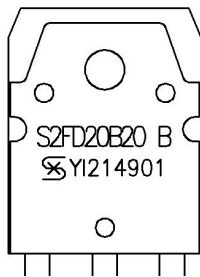


FIG.5. Diode Reverse Recovery Test Circuit and Waveform

图 5. 二极管反向恢复测试电路及波形



■ 标记图 Marking Diagram



: 公司LOGO

S2FD20B20 B: 标识代码

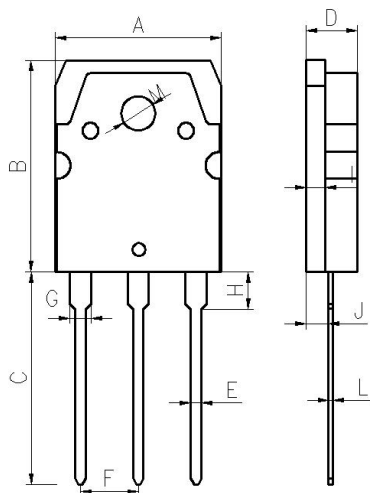
S2:双管产品, FD: 快恢复系列

20: 20A, B: TO-3PB封装

20: 200V, B: 小Trr产品

YI214901: 产品批次码

■ 尺寸图 Dimension Drawing



| Dim | min | max |
|-----|------|------|
| A | 15.1 | 16.1 |
| B | 19.4 | 20.4 |
| C | 19 | 20 |
| D | 4.3 | 5.3 |
| E | 0.8 | 1.2 |
| F | 5.25 | 5.65 |
| G | 1.8 | 2.2 |
| H | 2.7 | 3.1 |
| I | 1.4 | 1.6 |
| J | 1.8 | 2.8 |
| L | 1.3 | 1.5 |
| M | 3.3 | 3.6 |

Dimensions in millimeters

Notice

Unless otherwise specified in the data sheet, the product is designed and qualified as a standard commercial product and is not intended for use in applications that require extraordinary levels of quality and reliability, such as automotive, aviation/aerospace and life-support devices or systems. Any and all semiconductor products have certain probability to fail or malfunction, which may result in personal injury, death or property damage. Customer are solely responsible for providing adequate safe measures when design their systems. Leshan Share Electronic Co., Ltd. reserves the right to improve product design, function and reliability without notice.