

## 25A,200V 玻璃钝化快恢复二极管 25A,200V Glass Passivated Fast Recovery Diode

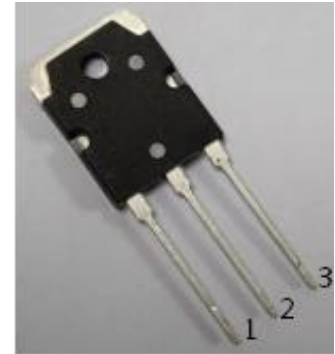
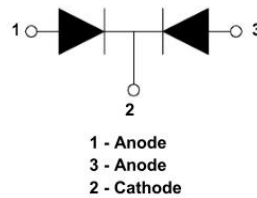
### ■特征 Features

- 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
$I_{F(AV)}$	25	A
$V_{RRM}$	200	V
$I_{FSM}$	120	A
Package	TO-3PB	



### ■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	S2FD25B20 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	$I_{(AV)}$	25 (12.5*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	$I^2t$	72.0	A <sup>2</sup> 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=12.5A, Tj=25°C	V <sub>F</sub>	1.0	1.2	V
	IF=12.5A, Tj=125°C		0.9	1.1	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	T <sub>rr</sub>	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	R <sub>θJA</sub>	50.0	°C/W
结到壳体的热阻, 带散热器 Junction-to-case thermal resistance with heat sink	R <sub>θJC</sub>	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

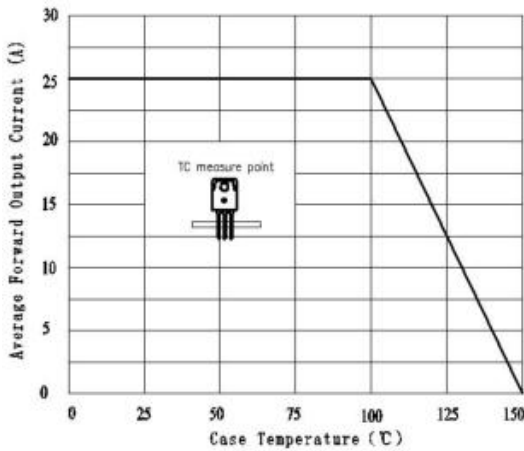


FIG.3. Typical Reverse Characteristics Per Bridge Element

图 3. 典型反向特性

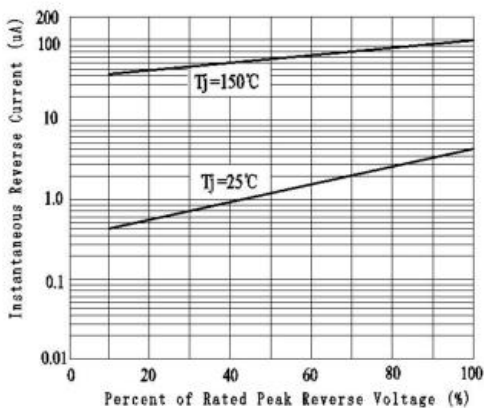


FIG.2 . Maximum Non-Repetitive Peak Forward Surge Current Per Bridge Element

图 2. 最大正向不重复峰值浪涌电流

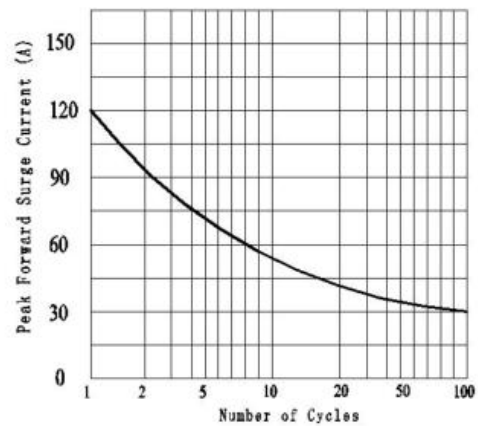


FIG.4. Typical Forward Characteristics Per Bridge Element

图 4. 典型正向特性

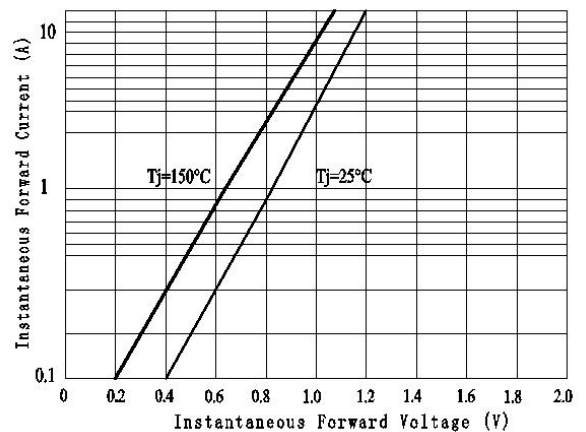
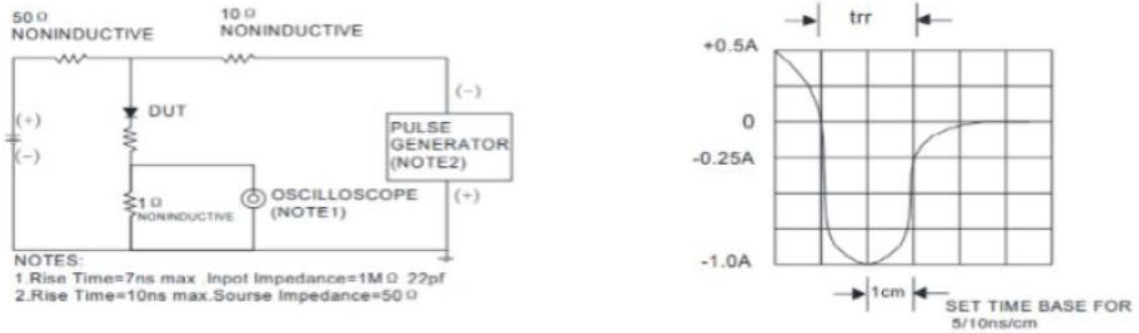
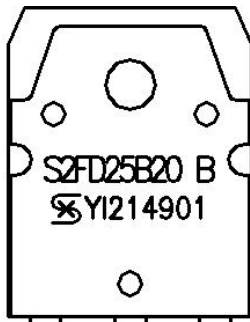


FIG.5. Diode Reverse Recovery Test Circuit and Waveform

图 5. 二极管反向恢复测试电路及波形



■ 标记图 Marking Diagram



: 公司LOGO

S2FD25B20 B: 标识代码

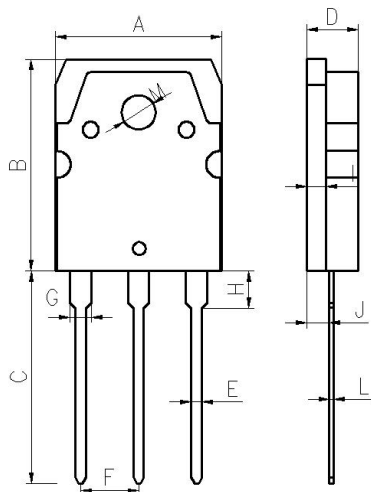
S2:双管产品, FD: 快恢复系列

25: 25A, 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

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