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

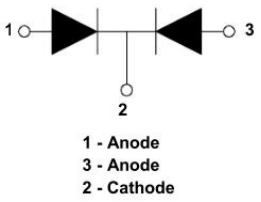
■特征 Features

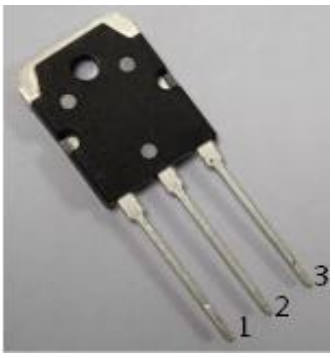
- 超快恢复时间
  Ultra fast Recovery Times
- 软恢复特性
  Soft Recovery Characteristics
- 低正向电压
  Low Forward Voltage
- 低漏电流
  Low Leakage Current
- 额定雪崩能量
  Avalanche Energy Rated

■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℃ 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	T_C=100℃	$I_{(AV)}$	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℃，单个二极管 Rating for fusing，1ms<t<10ms，Tj=25℃，Rating of per diode		I^2t	72.0	A^2s
结温 Junction temperature		Tj	-55～+150	℃
存储温度 Storage temperature		T_{STG}	-55～+150	℃
结电容 Junction capacitance @4V,1MHz		Cj	120	pF
引脚可承受温度（10s） Lead Temperature for 10 Sec		TL	260	℃

■电性特性 Electrical Characteristics @ Ta = 25℃ 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		V_F	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	I_R	/	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℃		Trr	20	25	ns

■热特性 Thermal Characteristics @ Ta = 25℃ 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	$R_{\theta JA}$	50.0	°C/W
结到壳体的热阻，带散热器 Junction-to-case thermal resistance with heat sink	$R_{\theta Jc}$	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

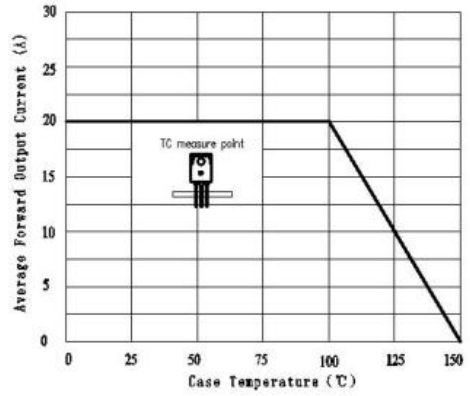


FIG.2 . Maximum Non-Repetitive Peak Forward Surge Current Per Bridge Element

图 2. 最大正向不重复峰值浪涌电流

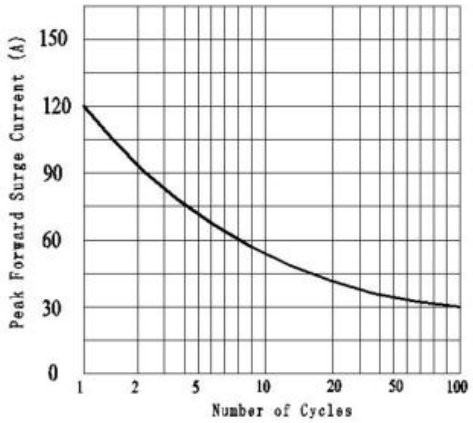


FIG.3.Typical Reverse Characteristics Per Bridge Element

图 3. 典型反向特性

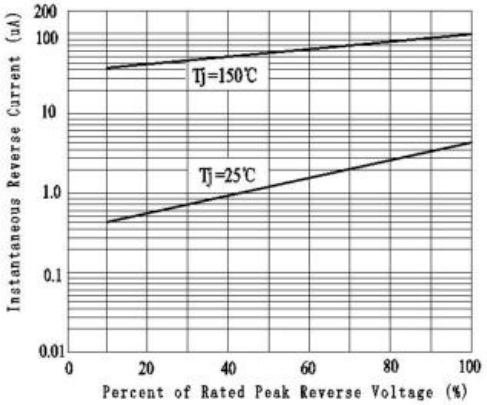


FIG.4.Typical Forward Characteristics Per Bridge Element

图 4. 典型正向特性

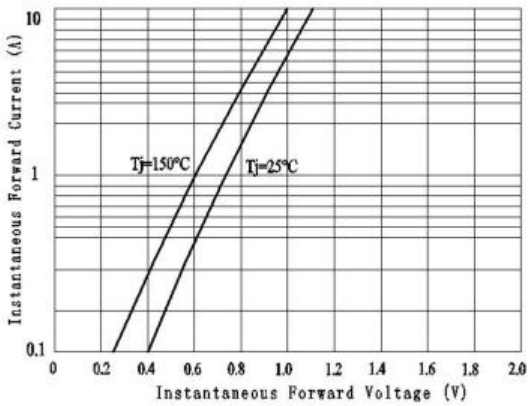
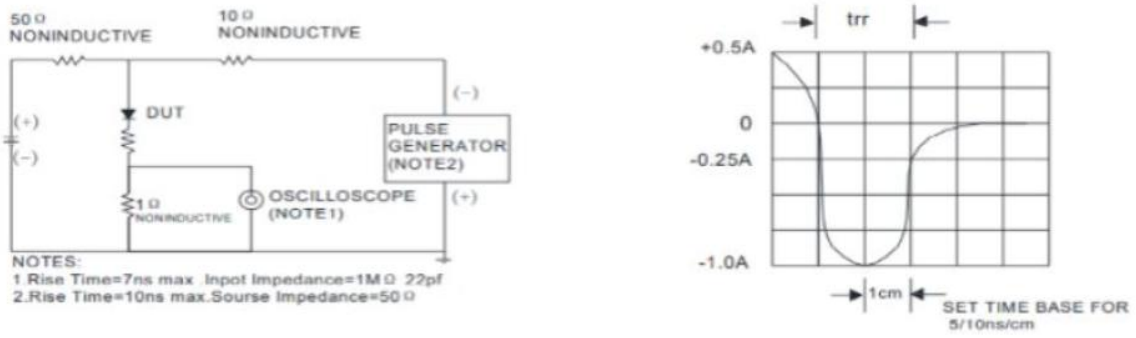
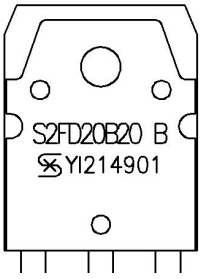


FIG.5. Diode Reverse Recovery Test Circuit and Waveform

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

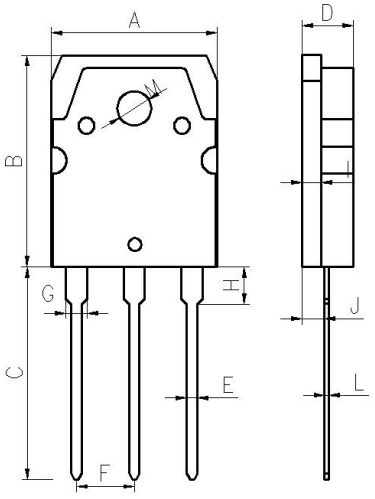
S2:双管产品，FD：快恢复系列

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		