



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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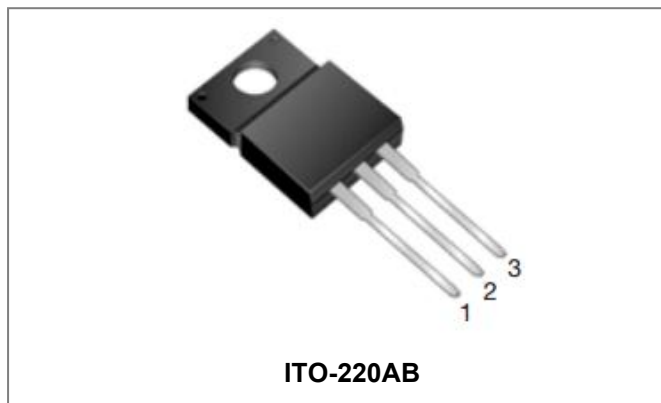
Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: [info@chipsmall.com](mailto:info@chipsmall.com) Web: [www.chipsmall.com](http://www.chipsmall.com)

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



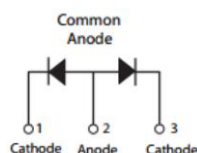
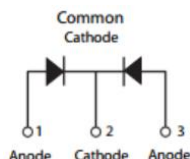
# **STF20120C(R) SCHOTTKY RECTIFIER**



## **Features**

- 150 °C T<sub>J</sub> operation
- Ultralow forward voltage drop
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- High frequency operation
- Guard ring for enhanced ruggedness and long term reliability
- Trench MOS Schottky technology
- This is a Pb – Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

## **Circuit Diagram**



## **Applications**

- Switching power supply
- Converters
- Free-Wheeling diodes
- Reverse battery protection

## **Maximum Ratings:**

Characteristics	Symbol	Condition	Max.	Units
Peak Repetitive Reverse Voltage	V <sub>RRM</sub>	-	120	V
Working Peak Reverse Voltage	V <sub>RWM</sub>	-		
DC Blocking Voltage	V <sub>R</sub>	-		
Average Rectified Forward Current	I <sub>F (AV)</sub>	50% duty cycle @T <sub>c</sub> =105°C, rectangular wave form	10(Per Leg) 20(Per Device)	A
Peak One Cycle Non-Repetitive Surge Current(Per Leg)	I <sub>FSM</sub>	8.3ms, Half Sine pulse, T <sub>c</sub> =25°C	150	A

## **Thermal-Mechanical Specifications:**

Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	T <sub>J</sub>	-	-55 to +150	°C
Storage Temperature	T <sub>stg</sub>	-	-55 to +150	°C
Typical Thermal Resistance Junction to Case(Per Leg)	R <sub>θJC</sub>	DC operation	5.5	°C/W
Approximate Weight	wt	-	2	g
Case Style	ITO-220AB			

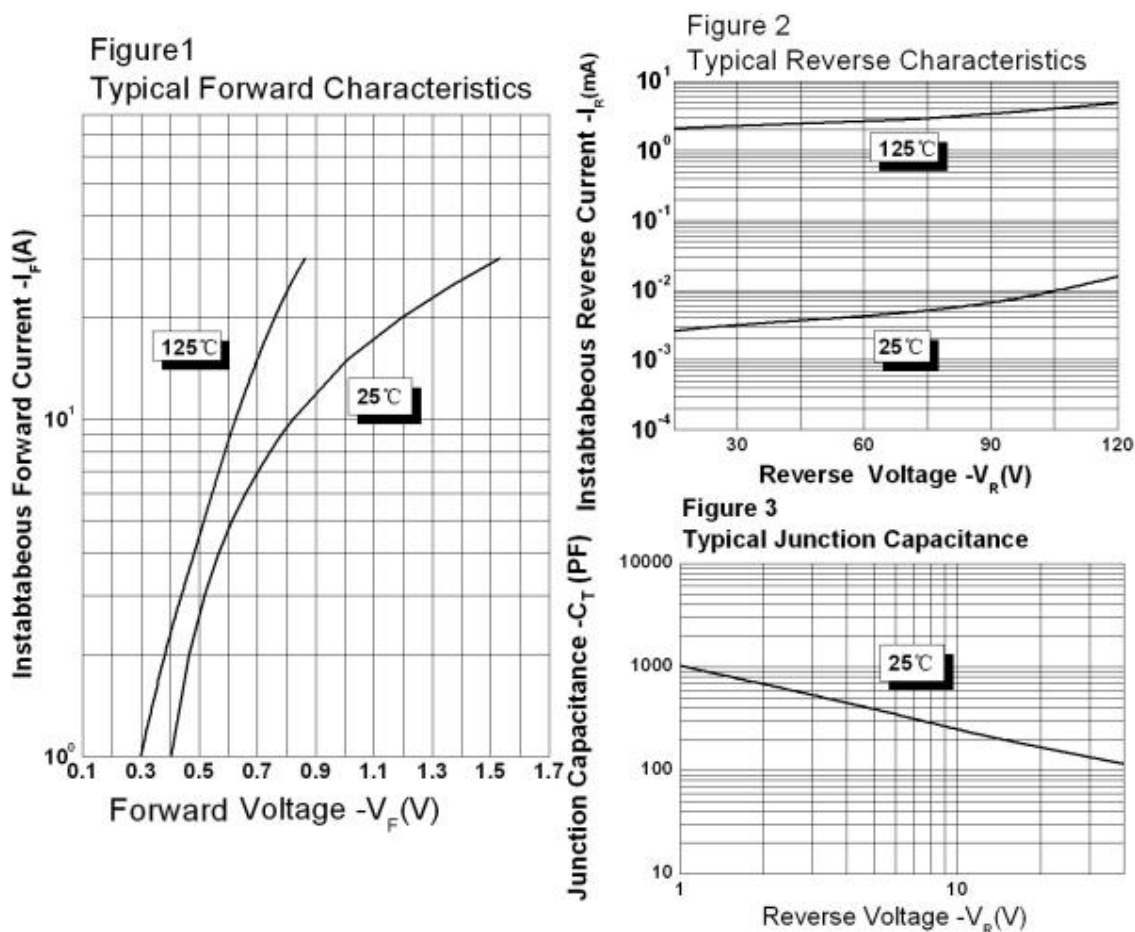


**Electrical Characteristics:**

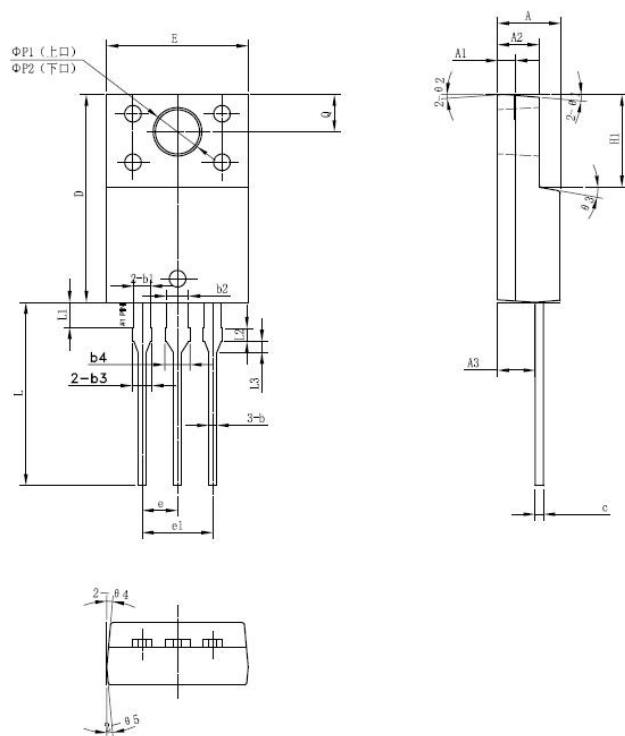
Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop(Per Leg)*	$V_{F1}$	@ 5A, Pulse, $T_J = 25^{\circ}\text{C}$ @ 10A, Pulse, $T_J = 25^{\circ}\text{C}$	0.61 0.82	- 0.90	V
	$V_{F2}$	@ 5A, Pulse, $T_J = 125^{\circ}\text{C}$ @ 10A, Pulse, $T_J = 125^{\circ}\text{C}$	0.51 0.62	- 0.72	V
Reverse Current(Per Leg)*	$I_{R1}$	@ $V_R = \text{rated } V_R$ , $T_J = 25^{\circ}\text{C}$	0.02	0.7	mA
	$I_{R2}$	@ $V_R = \text{rated } V_R$ , $T_J = 125^{\circ}\text{C}$	5	45	mA
Junction Capacitance	$C_T$	@ $V_R = 5\text{V}$ , $T_C = 25^{\circ}\text{C}$ , $f_{\text{SIG}} = 1\text{MHz}$	400	-	pF
RSM Isolation Voltage ( $t = 1.0$ second, R. H. $\leq 30\%$ , $T_A = 25^{\circ}\text{C}$ )	$V_{\text{ISO}}$	Clip mounting, the epoxy body away from the heatsink edge by more than 0.110" along the lead direction.	-	4500	V
		Clip mounting, the epoxy body is inside the heatsink.	-	3500	
		Screw mounting, the epoxy body is inside the heatsink.	-	1500	

\* Pulse width  $< 300 \mu\text{s}$ , duty cycle  $< 2\%$

**Ratings and Characteristics Curves**

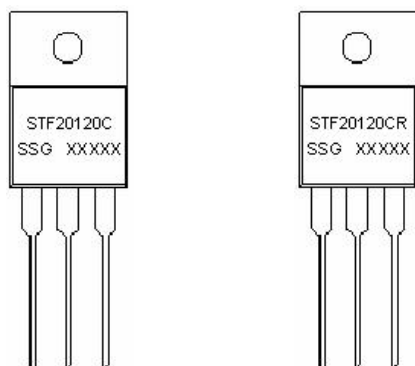


**Mechanical Dimensions ITO-220AB**



SYMBOL	Millimeters		
	MIN.	TYP.	MAX.
A	4.30	4.50	4.70
A1	1.10	1.30	1.50
A2	2.80	3.00	3.20
A3	2.50	2.70	2.90
b	0.50	0.60	0.75
b1	1.10	1.20	1.35
b2	1.50	1.60	1.75
b3	1.20	1.30	1.45
b4	1.60	1.70	1.85
c	0.50	0.60	0.75
D	14.80	15.00	15.20
E	9.96	10.16	10.36
e		2.55	
e1		5.10	
H1	6.50	6.70	6.90
L	12.70	13.20	13.70
L1	1.60	1.80	2.00
L2	0.80	1.00	1.20
L3	0.60	0.80	1.00
ΦP1(上口)	3.30	3.50	3.70
ΦP2(下口)	2.99	3.19	3.39
Q	2.50	2.70	2.90
Θ1		5°	
Θ2		4°	
Θ3		10°	
Θ4		5°	
Θ5		5°	

**Marking Diagram**

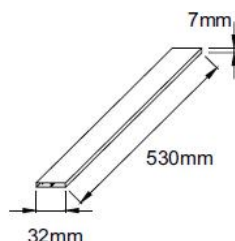


Where XXXXX is YYWWL

ST = Device Type  
F = Package type  
20 = Forward Current (20A)  
120 = Reverse Voltage (120V)  
C(R) = Configuration  
SSG = SSG  
YY = Year  
WW = Week  
L = Lot Number

**Cautions:** Molding resin  
Epoxy resin UL:94V-0

**Tube Specification**



**Ordering Information**

Device	Package	Shipping
STF20120C(R)	ITO-220AB (Pb-Free)	50 pcs/ tube

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel packaging specification.

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