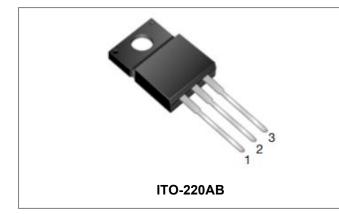


# STF10120C(R)

Technical Data Data Sheet N1362, Rev. A



# STF10120C(R) SCHOTTKY RECTIFIER



### **Circuit Diagram**

#### Common Cathode Cathode Anode Cathode Anode Cathode Anode Cathode Anode Cathode Cathode Ca

#### 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

#### **Applications**

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

#### Maximum Ratings:

Characteristics	Symbol	Condition	Max.	Units
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V <sub>RRM</sub> V <sub>RWM</sub> V <sub>R</sub>	-	120	V
Average Rectified Forward Current	I <sub>F (AV)</sub>	50% duty cycle @Tc=105°C, rectangular wave form	5(Per Leg) 10(Per Device)	А
Peak One Cycle Non-Repetitive Surge Current(Per Leg)	I <sub>FSM</sub>	8.3ms, Half Sine pulse, Tc=25°C	120	А

Cathode

#### **Electrical Characteristics:**

Characteristics	Symbol	mbol Condition		Max.	Units
Forward Voltage Drop(Per Leg)*	V <sub>F1</sub>	@ 5A, Pulse, TJ = 25℃	-	0.88	V
	V <sub>F2</sub>	@ 5A, Pulse, T」= 125℃	-	0.71	V
Reverse Current(Per Leg)*	I <sub>R1</sub>	$@V_R = rated V_{R,} T_J = 25^{\circ}C$	-	0.5	mA
	I <sub>R2</sub>	@V <sub>R</sub> = rated V <sub>R,</sub> T <sub>J</sub> = 125℃	-	35	mA
RSM Isolation Voltage (t = 1.0 second, R. H. < =30%, T <sub>A</sub> = 25 °C)		Clip mounting, the epoxy body away from the heatsink edge by more than 0.110" along the lead direction.	-	4500	
	V <sub>ISO</sub>	Clip mounting, the epoxy body is inside the heatsink.	-	3500	V
		Screw mounting, the epoxy body is inside the heatsink.	-	1500	

\* Pulse width < 300 μs, duty cycle < 2%

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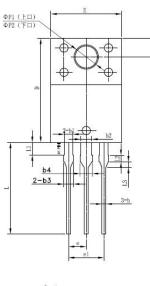


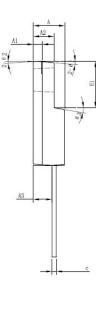
#### **Thermal-Mechanical Specifications:**

Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	TJ	-	-55 to +150	°C
Storage Temperature	T <sub>stg</sub>	-	-55 to +150	°C
Typical Thermal Resistance Junction to Case(Per Leg)	$R_{ ext{ heta}JC}$	DC operation	5.5	°C/W
Approximate Weight	wt	-	2	g
Case Style	ITO-220AB			

#### **Mechanical Dimensions ITO-220AB**

-



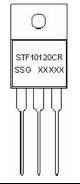


SYMBOL	Millimeters				
STWBOL	MIN.	TYP.	MAX.		
A	4.30	4.50	4.70		
A1	1.10	1.30	1.50		
A2	2.80	3.00	3.20		
A3	2.50	2.70	2.90		
b	0.50	0.60	0.75		
b1	1.10	1.20	1.35		
b2	1.50	1.60	1.75		
b3	1.20	1.30	1.45		
b4	1.60	1.70	1.85		
С	0.50	0.60	0.75		
D	14.80	15.00	15.20		
E	9.96	10.16	10.36		
е		2.55			
e1		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		
<b>ΦΡ2</b> (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

10

YΥ

ww L

F

= Device Type

```
= Package type
           = Forward Current (10A)
120
          = Reverse Voltage (120V)
C(R)
SSG
            = Configuration
           = SSG
           = Year
```

= Week

= Lot Number

Cautions: Molding resin

Epoxy resin UL:94V-0

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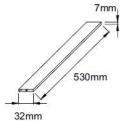


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# STF10120C(R)



#### **Tube Specification**



### **Ordering Information**

Device	Package	Shipping
STF10120C(R)	ITO-220AB	50 pcs/ tube
	(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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