

编号	SCTF2022LC918
日期	2022-9-19
版本	B01

# 承认书

## SPECIFICATION FOR APPROVAL

客户名称 Customer Name : 立创商城  
\_\_\_\_\_  
供应商物料名称 Part Name : 差分石英晶体振荡器  
\_\_\_\_\_  
产品描述 Description : OSC3225 100.000MHz 3.3V LVDS ±20ppm  
\_\_\_\_\_  
供应商物料料号 Part NO. : SX3M100.000B20F30DNN  
\_\_\_\_\_  
供应商名称 Supplier Name : 深圳市星通时频电子有限公司  
\_\_\_\_\_

PLEASE CONFIRM OUR SPECIFICATION。敬请确认规格书之内容。

CUSTOMER APPROVAL 客户审批		
物料代号 PART NO. _____		
使用于机型 USED IN MODEL: _____		
工程部	品质部	采购部

(敬请确认后返回一份, 谢谢!)

SUPPLIER APPROVAL 供应商审批		
DGN. 制表人	CKD. 校对	APP. 审核/印章
吴丽红	李霞	

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**产品规格书**  
**SPECIFICATION FOR APPROVAL**

1	Cover 封面.....	Page 1
2	Contents 目录.....	Page 2
3	Revised Page 修改页.....	Page 3
4	Specifications of Oscillator 规格书.....	Page 4
5	Test Circuit & Output Waveform 测试电路与输出波形.....	Page 5
6	Dimensions 尺寸图.....	Page 6
7	Product Structure & Marking 结构与印字.....	Page 7
8	Reflow Profiles 回流焊.....	Page 8
9	Reliability Specification 可靠性测试.....	Page 9
10	Package 包装.....	Page 10

SHENZHEN SCTF ELECTRONICS CO. , LTD		
DATE	Specification of Quartz Crystal Oscillator 石英晶体振荡器规格书	PAGE
2022-9-19	P/N: SX3M100.000B20F30DNN Spec. NO. : SCTF2022LC918	2



# 4 QUARTZ CRYSTAL UNIT SPECIFICATION

## ■ Electrical Specification 电气参数

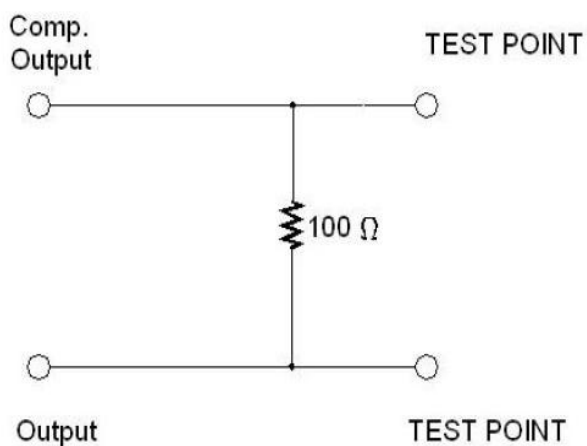
No.	Item	Symb.	Electrical Spec.	Unit	Notes
1	Holder Type 封装		SMD 3225		
2	Nominal Frequency 标称频率	Fo	100.000000	MHz	
3	Frequency Stability 常温频差	Fo_tol	± 20	ppm	T_use = + 25°C
4	Temperature Drift 温度频差	Fo_Tc	± 30	ppm	T_use = - 40°C ~ +85 °C
5	Operating Voltage 工作电压	V <sub>DD</sub>	3.3	V	± 5% max.
6	Output 输出模式		LVDS		
7	Output Load 负载		100	Ω	
8	Current Consumption 消耗电流	I <sub>cc</sub>	100 Max.	mA	At maximum supply voltage
9	Operating Temperature Range 工作温度范围	T_use	-40~+85	°C	
10	Storage Temperature Range 保存温度范围	T_stg	-55~+125	°C	
11	Duty Cycle 占空比	TH/T	45 ~ 55	%	
12	Rise / Fall Time 上升/下降沿时间	Tr/Tf	1.0 Max.	ns	
13	Low Output Voltage 低电平	VoL	0.9 Min.	V	
14	High Output Voltage 高电平	VoH	1.6 Max.	V	
15	Start-up Time 启动时间	S_T	3.0 Max.	ms	
16	Enable Voltage High (Logic 1) 使能高电平	V <sub>hi</sub>	70% V <sub>dd</sub> Min.	V	Logic "1" Or Floating input, Outputs enable; Logic "0", Outputs disable 输出使能OE是高电平1或者悬空,频率输出 输出使能OE是低电平0,则无频率输出
17	Enable Voltage Low (Logic 0) 使能低电平	V <sub>lo</sub>	30% V <sub>dd</sub> Max.	V	
18	RMS Phase Jitter 抖动		0.5 Max.	pSec	Period Jitter(12KHz-20MHz)
19	Aging 老化	f_age	± 3.0	ppm	First year at 25°C

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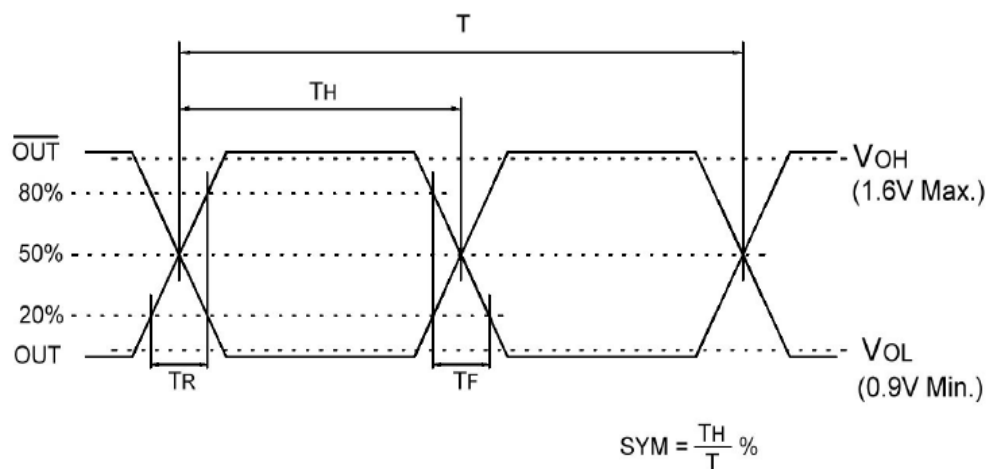
DATE	Specification of Quartz Crystal Oscillator 石英晶体振荡器规格书	PAGE
2022-9-19	P/N: SX3M100.000B20F30DNN Spec. NO. : SCTF2022LC918	4

## 5 TEST CIRCUIT & OUTPUT WAVEFORM

### ■ TESTING CIRCUIT 测试电路



### ■ WAVEFORM CONDITIONS 输出波形



SHENZHEN SCTF ELECTRONICS CO. , LTD

DATE

Specification of Quartz Crystal Oscillator  
石英晶体振荡器规格书

PAGE

2022-9-19

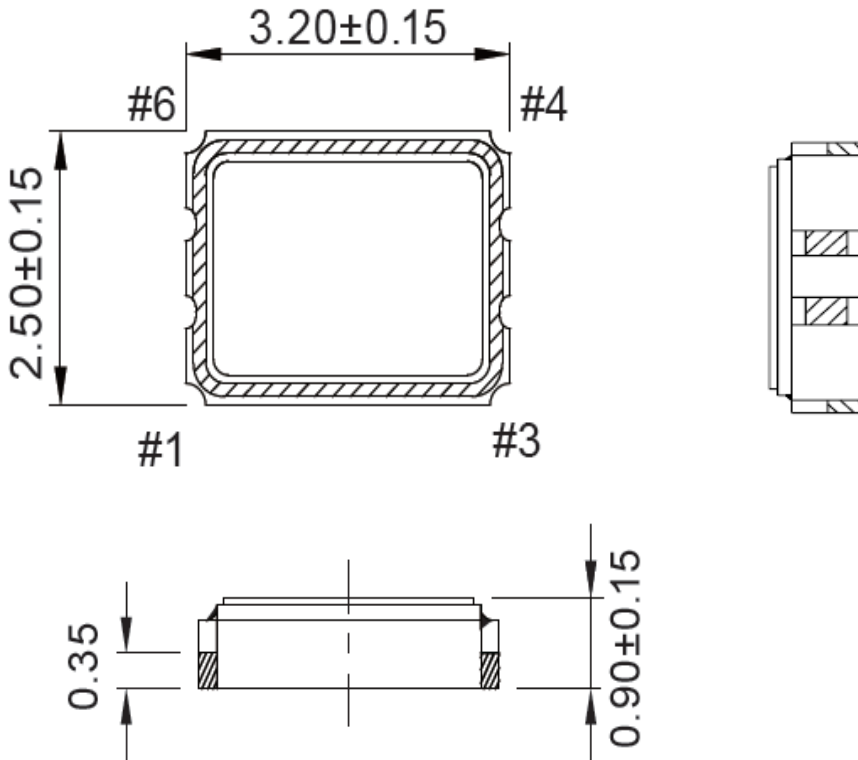
P/N: SX3M100.000B20F30DNN  
Spec. NO. : SCTF2022LC918

5

## 6 DIMENSIONS

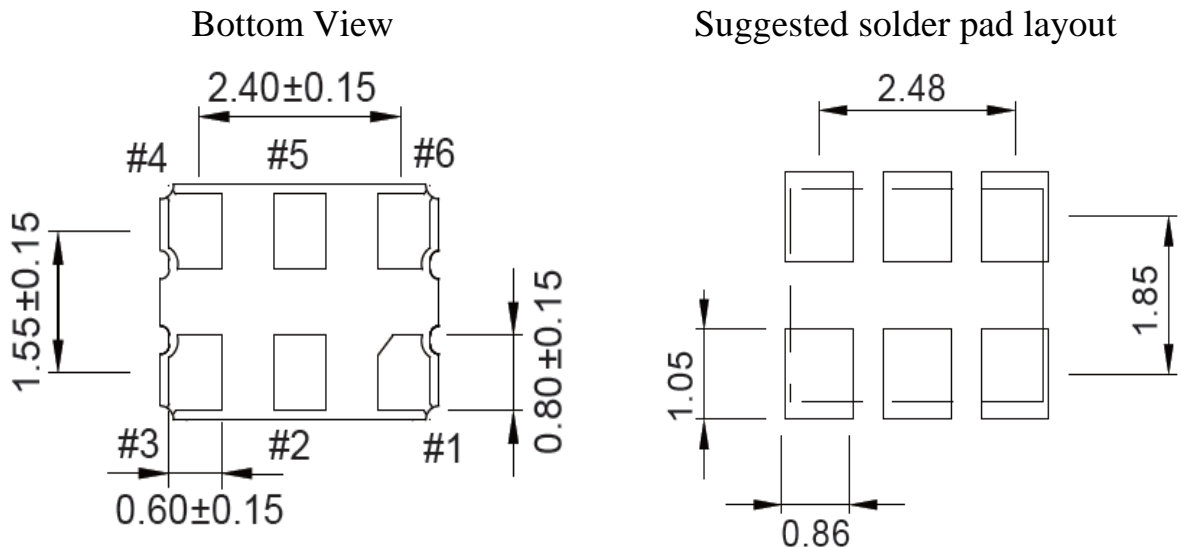
### ■ DIMENSIONS 产品尺寸

Units (单位): mm(毫米)



Pin	Function
#1	Tri-State
#2	N.C
#3	GND.
#4	Output
#5	Comp. Output
#6	V <sub>DD</sub>

### ■ Pad size 焊盘尺寸



SHENZHEN SCTF ELECTRONICS CO., LTD

DATE

Specification of Quartz Crystal Oscillator  
石英晶体振荡器规格书

PAGE

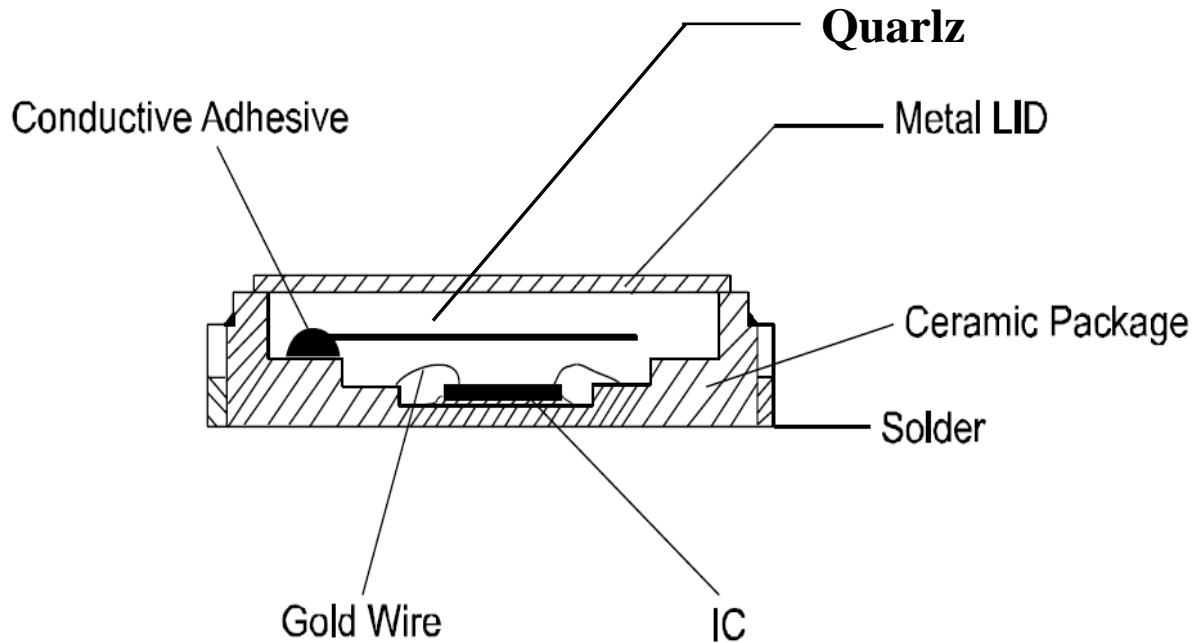
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P/N: SX3M100.000B20F30DNN  
Spec. NO. : SCTF2022LC918

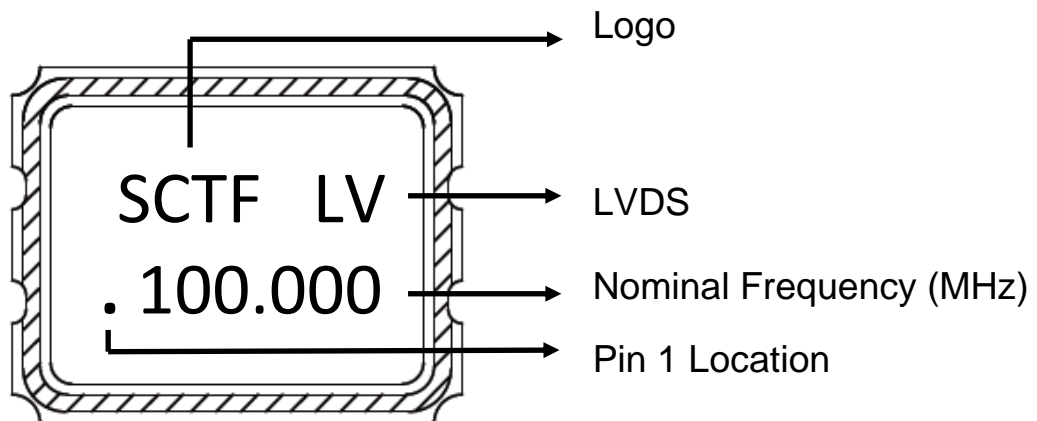
6

## 7 PRODUCT STRUCTURE & MARKING

### ■ Product Structure 产品结构



### ■ Marking 印字

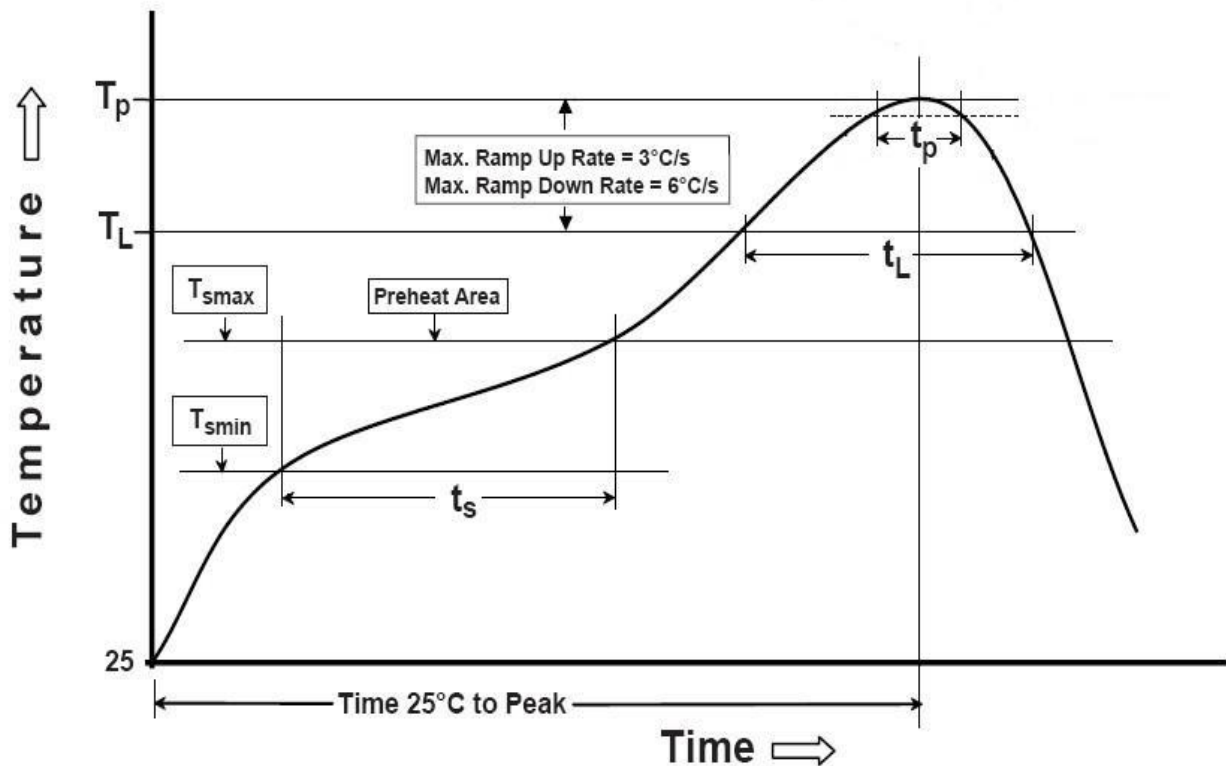


SHENZHEN SCTF ELECTRONICS CO., LTD		
DATE	Specification of Quartz Crystal Oscillator 石英晶体振荡器规格书	PAGE
2022-9-19	P/N: SX3M100.000B20F30DNN Spec. NO. : SCTF2022LC918	7

# 8 REFLOW PROFILES

## REFLOW PROFILES 回流焊条件

Profile Feature	Sn-Pb Eutectic Assembly	Pb-Free Assembly
Preheat/Soak		
● Temperature Min( $T_s$ min)	100 °C	150 °C
● Temperature Max ( $T_s$ max)	150 °C	200 °C
● Time ( $T_s$ min to $T_s$ max)	60-120 seconds	60-120 seconds
Ramp-up rate (TL to $T_p$ )	3 °C/second max.	3 °C/second max.
Time maintained above		
● Liquidous temperature (TL)	183 °C	217 °C
● Time ( $t_L$ ) maintained above TL	60-150 seconds	60-150 seconds
Peak package body temperature ( $T_p$ )	235 °C	260 °C
Time within 5 °C of the specified	20 seconds	30 seconds
Ramp-down rate ( $T_p$ to TL)	6 °C/second max.	6 °C/second max.
Time 25 °C to peak temperature	6 minutes max.	8 minutes max.
Suggest reflow times	2 Times max.	



SHENZHEN SCTF ELECTRONICS CO., LTD		
DATE	Specification of Quartz Crystal Oscillator 石英晶体振荡器规格书	PAGE
2022-9-19	P/N: SX3M100.000B20F30DNN Spec. NO. : SCTF2022LC918	8



## 9 RELIABILITY SPECIFICATION

### ■ Environmental and mechanical characteristics 可靠性参数

No.	项目 ITEM	条件 CONDITIONS	合格标准 BASIS OF VERDICT
1	跌落 DROP	100cm高处自由跌落到3cm厚木板上,3次 High:100cm;Thickness:3cm;3 times.	$\Delta FL \leq \pm 5PPM$
2	振动 VIBRATION	频率 Frequency:10~57.7Hz:幅度 Amplitude: $\pm 0.75mm$ 频率Frequency:57.7Hz~500Hz:加速度幅度acceleration rate:98m/s <sup>2</sup> 周期 Cycle time:10-500-10Hz: 15min 振动方向 Direction:X,Y, Z 振动时间 Duration: 每个方向2小时 2 h/direction.	$\Delta FL \leq \pm 5PPM$
3	温度变化 TEMPERATURE SHOCK	-40°C $\pm 2^\circ C$ (30min) $\leftrightarrow$ 85°C $\pm 2^\circ C$ (30min);循环10次 -40°C $\pm 2^\circ C$ (30min) $\leftrightarrow$ 85°C $\pm 2^\circ C$ (30min);For 10	$\Delta FL \leq \pm 5PPM$
4	湿热 HUMIDITY	cycles 温度:40°C $\pm 2^\circ C$ ;湿度90-95%;时间:96小时 Temp:40°C $\pm 2^\circ C$ ;Humidity:90-95%;Times:96h	$\Delta FL \leq \pm 5PPM$
5	低温 COLD RESISTANCE	温度:-40°C $\pm 2^\circ C$ ;时间:96小时 Temp:-40°C $\pm 2^\circ C$ ;Times:96h	$\Delta FL \leq \pm 5PPM$
6	高温1 HEAT RESISTANCE 1	温度:100°C $\pm 2^\circ C$ ;时间:96小时 Temp:100°C $\pm 2^\circ C$ ;Times:96h	$\Delta FL \leq \pm 5PPM$
7	高温2 HEAT RESISTANCE 2	温度:155°C $\pm 2^\circ C$ ;时间:2小时 Temp:155°C $\pm 2^\circ C$ ;Times:2h	$\Delta FL \leq \pm 5PPM$
8	高温3 HEAT RESISTANCE 3	温度:85°C $\pm 2^\circ C$ ;电压:3.3V/5.0V;时间:96小时 Temp:85°C $\pm 2^\circ C$ ;Voltage:3.3V/5.0V;Times:96h	$\Delta FL \leq \pm 5PPM$
9	回流焊 REFLOW	150°C $\pm 5^\circ C$ 保持120s后升到270°C $\pm 5^\circ C$ 保持10s, 升温 和保温时间小于200s, 常温放置1~2h后测定 Keep 150 °C $\pm 5^\circ C$ 120s and then rose to 270 °C $\pm 5^\circ C$ for 10s, warming and holding time is less than the 200s, placed at room temperature 1 ~ 2h after test	$\Delta FL \leq \pm 5PPM$
10	盐雾 SALT SPRAY	盐雾浓度:5%;温度:35°C;时间:24小时 Salt density:5%;Temp:35°C;Times:24h	目测无明显腐蚀现象 Visual no significant
11	老化 AGING	温度:85°C;时间:30天 Temp:85°C;Times:30days	$\Delta FL \leq \pm 5PPM$
12	气密性 LEAKAGE	氦气(0.6~0.65MPa):10分钟 He(0.6~0.65MPa):10min	$\leq 3*10^{-9}Pa \cdot m^3/s$
13	焊接 SOLDER	温度:260°C $\pm 5^\circ C$ Temp:260°C $\pm 5^\circ C$	浸锡率大于90% Soldering tin

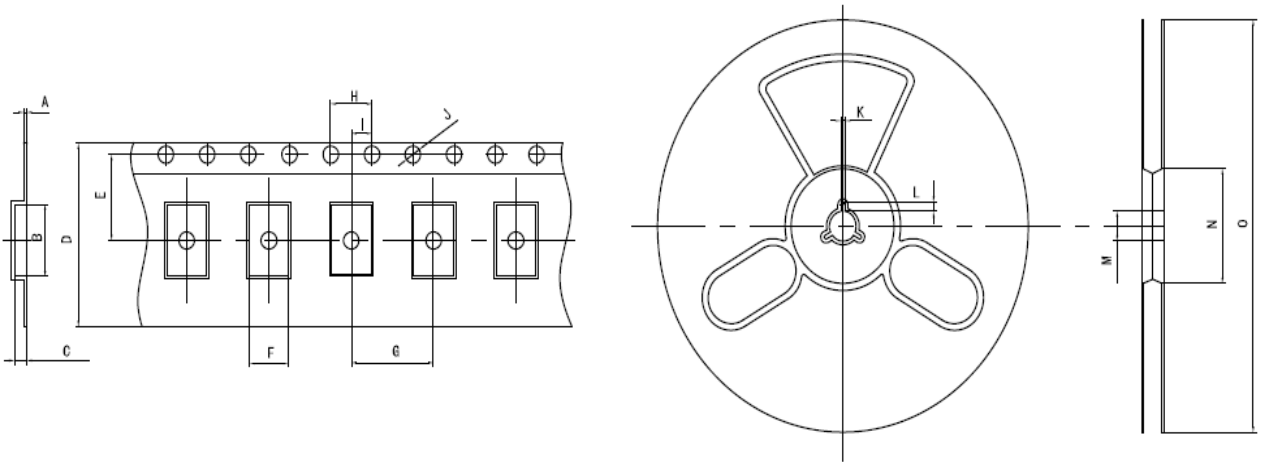
### SHENZHEN SCTF ELECTRONICS CO., LTD

DATE	Specification of Quartz Crystal Oscillator 石英晶体振荡器规格书	PAGE
2022-9-19	P/N: SX3M100.000B20F30DNN Spec. NO. : SCTF2022LC918	9

# 10 PACKAGE

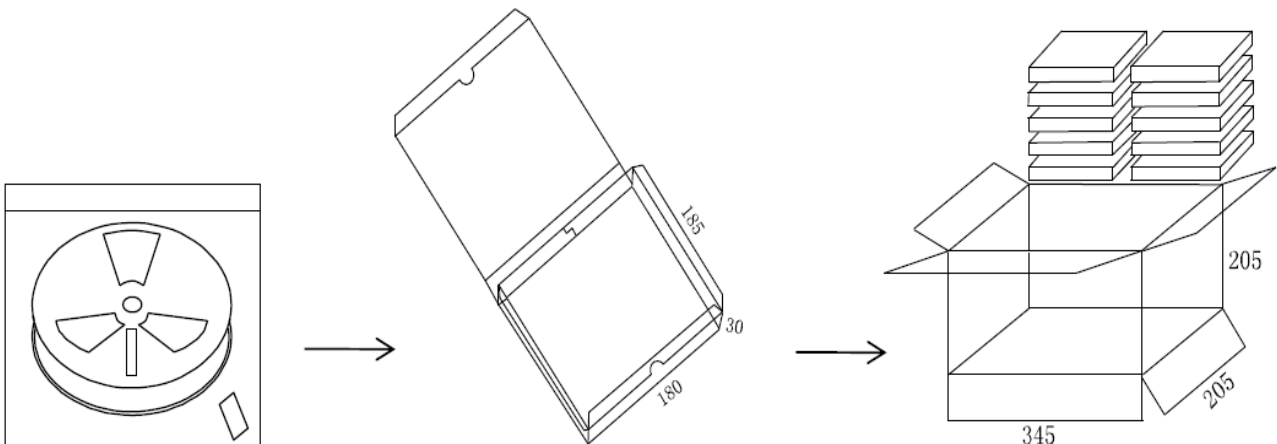
## ■ Taping Specifications 编带

UNIT(单位):mm(毫米)



TEYE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
3.2×2.5 SMD	0.25	3.60	1.30	8.00	3.50	2.90	4.00	4.00	2.00	1.50	2.00	4.00	13.00	60.00	180.00

## ■ Packaging specifications 包装



自封袋(Bag)  
3000只 = 1 轮  
3000pcs = 1 Reel

内包装(Inside package)  
1 轮=1 盒  
1 Reel=1 box

外包装(Outside Package )  
10 盒=1 箱  
10 box=1 carton

### SHENZHEN SCTF ELECTRONICS CO. , LTD

DATE	Specification of Quartz Crystal Oscillator 石英晶体振荡器规格书	PAGE
2022-9-19	P/N: SX3M100.000B20F30DNN Spec. NO. : SCTF2022LC918	10