福建省长兴电子有限公司
CHANGXING ELECTRONICS CO.,LTD.
福建省将乐县东门新村3号
NO.3 Dong Men New Village Jiangle Country, Fujian
电话：86-598-2329554 传真：86-598-2333554

石英晶体振荡器产品确认书
Quartz Crystal Oscillator Specification For Approval

产品型号： Model	2.5×2.0 OSC 125.000000MHz
客户名称： Customer	
客户编号： Customer's Part No.	
长兴编号： Product No.	4GSC125GM033L
发行日期： Issue Date	

承办：吴丽萍　　审核：杨启付　　批准：吕锡昌

内容：

1、Features 特点
2、Electrical Specifications电气参数
3、Dimensions外型尺寸
4、Test Diagram测试电路
5、Marking印码
6、Reflow Condition回流焊条件
7、Packing包装（EIA-481-2）
8、Reliability Specifications可靠性规范

客户 Conclusion:

□ Conditional Approval　□ Full Approval　□ Reject

会签意见	

APPROVED BY : _____ ISSUED DATE : _____

2.5x2.0x0.9mm SMD Crystal Oscillators LVPECL Output/4G Series

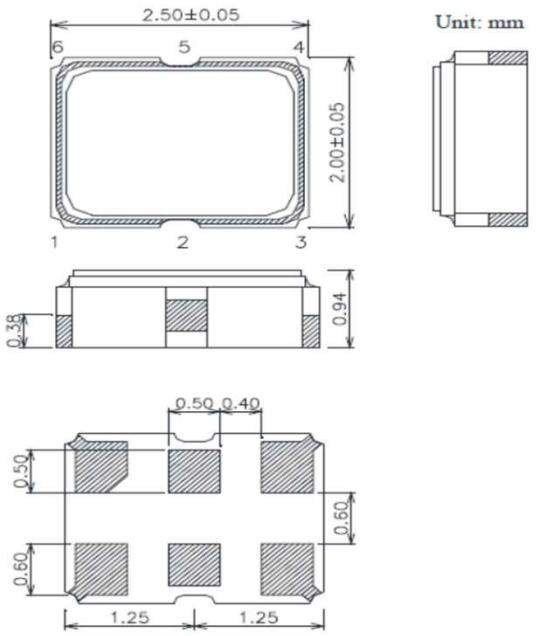
■ Features 特点

. Fundamental or 3rd Overtone solution.
. 3.3V and 2.5V operation operation available.
. LVPECL output, output frequencies 25 MHz to 200 MHz.
. Excellent low phase noise and jitter.
. Tri-state function available.
. Applications : Fibre Channel, Gigabit Ethernet, Serial ATA, Serial Attached SCSI, PCI-Express, SDH/SONET.
. RoHS compliant / Pb Free.

■ Electrical Specifications电气参数

	Parameters	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
1	Normal Frequency Range	-		-	125.000	-	MHz
2	Vibration Mode	-	3rd	-	-	-	-
3	Frequency Tolerance	△f/fn	@25±3℃	-10	-	+10	ppm
4	Frequency Stability	F/T	Over Operating Temp. Range	-30	-	+30	ppm
5	Operating Temperature	TA		-40	-	+85	℃
6	Storage Temperature	TSTG		-55	-	+125	℃
7	Operating Supply Voltage	Vcc	±5%		2.5~3.3		V
8	Start up time	Tosc	To 90% of Final Amplitude	-	-	10	mS
9	Supply Current	Icc		-	-	80	mA
Enable Feature			YES				
10	"H"Input Voltage	VIH		Vcc*0.7	-	-	V
11	"L"Input Voltage	VIL		-	-	Vcc*0.3	V
12	E/D(#1 引脚 E/D)	Logic 1 Or Floating input,Outputs enable; Logic 0 ,Outputs disable					
13	First Year Aging	-	@25℃	-3		+3	ppm
Output			LVPECL				
14	“H” Output Voltage	VOH	RL=50 ohms to (Vcc-2V)	Vcc-1.025	-	Vcc-0.88	V
15	“L” Output Voltage	VOL		Vcc-1.810	-	Vcc-1.62	V
16	Duty Cycle	Duty	@Vcc-1.3V	45	50	55	%
17	Rise and Fall Time	Tr/Tf	@20%-80%	-	-	0.5	nS
18	Phase Noise		10Hz	-	-		dBc
			100Hz	-	-		dBc
			1KHz	-	-		dBc
			10KHz	-	-		dBc
			100KHz	-	-		dBc
			1M	-	-		dBc
19	Jitter	RMS	12kHz to 20MH	-	-	0.4	ps
MSL: Level 1 (IPC/JEDEC J-STD-033C)							

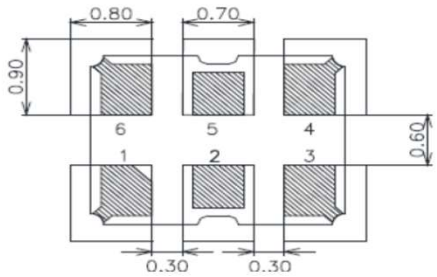
- Dimensions外型尺寸



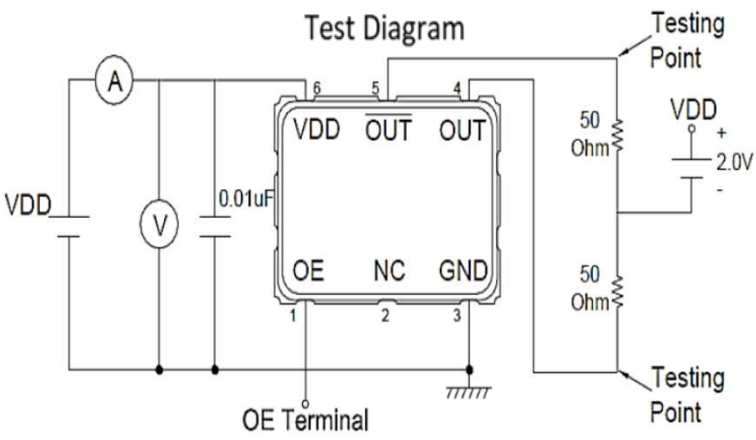
Pin Function:

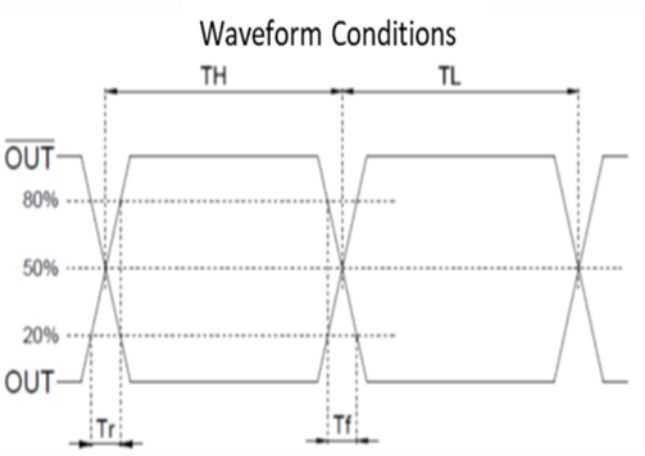
1. OE
2. NC
3. GND
4. OUT
5. $\overline{OUT}$
6. VDD

Land Pattern:

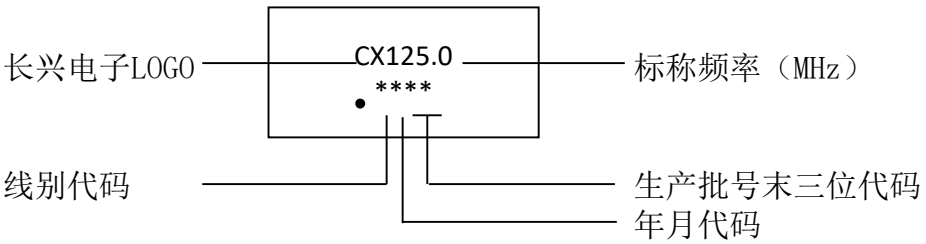


- Test Diagram测试电路





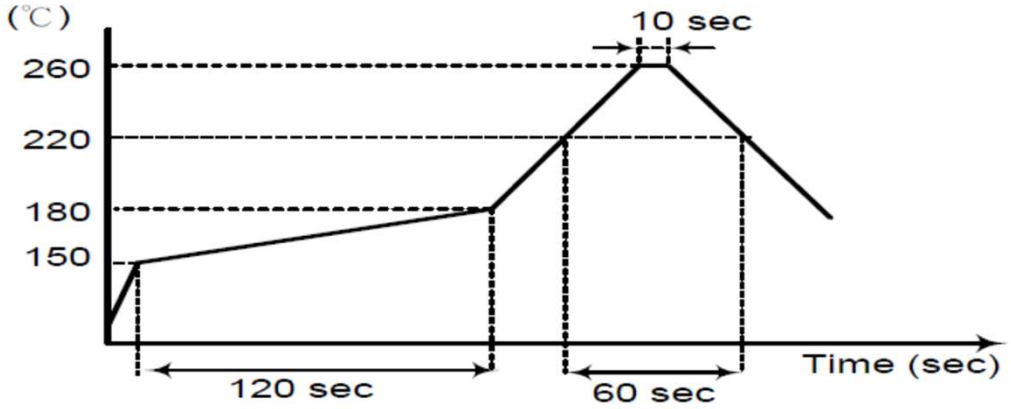
- Marking印码



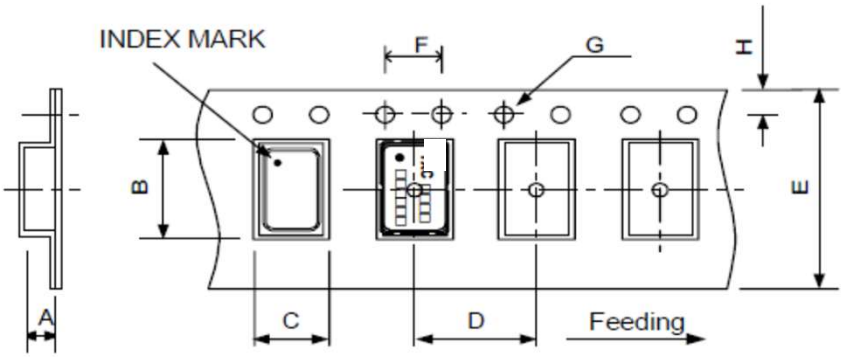
年月代码（四年一个周期）：

年份 \ 月份		一月	二月	三月	四月	五月	六月	七月	八月	九月	十月	十一月	十二月
2023	2027	a	b	c	d	e	f	g	h	j	k	l	m
2024	2028	n	p	q	r	s	t	u	v	w	x	y	z
2025	2029	A	B	C	D	E	F	G	H	J	K	L	M
2026	2030	N	P	Q	R	S	T	U	V	W	X	Y	Z

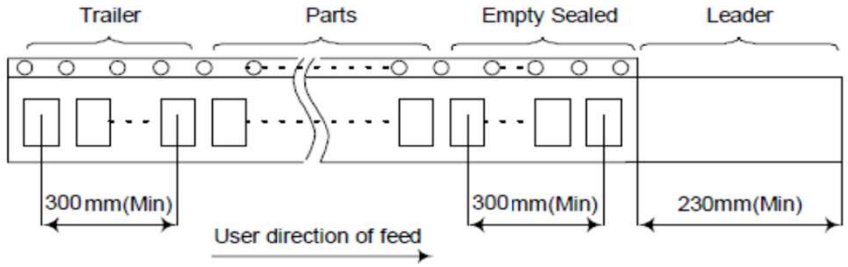
- Reflow Condition回流焊条件

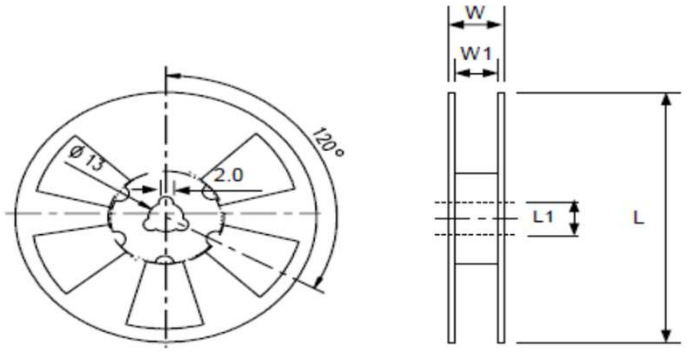


- Packing包装（EIA-481-2）



DIMENSIONS	A	B	C	D	E	F	G	H
UNIT : mm	1.00±0.1	2.70±0.1	2.25±0.1	4.00±0.1	8.0±0.2	4.00±0.1	1.55±0.05	1.75±0.1





DIMENSIONS	L	L1	W	W1	Standard Reel Quantity
UNIT : mm	178±1.0	13±0.5	11.5±0.2	8.0+1.0	3,000 pcs per reel(WHITE)

■ Reliability Specifications（可靠性规范）

<table>
<tr><th>Item</th><th>Condition</th><th>Reference</th><th>Specifications</th></tr>
<tr><td>Solderability</td><td>Solder bath temperature:260℃ , dwell time:5 seconds, Solder: 100% tin</td><td>IEC68-2-20:1979</td><td>A new uniform coating of solder shall cover a minimum of 95% of the surface being immersed.</td></tr>
<tr><td>Resistance to soldering heat</td><td>Solder temperature 260+/-3℃,Immersion time:10 S
Solder bath composition:100% tin</td><td>IEC68-2-58:1989</td><td>△F≤+/-5ppm</td></tr>
<tr><td>Vibration</td><td>The entire frequency range: 10Hz to 55Hz ,Amplitude:1.5mm
This motion shall be applied for a period of 2 h in each of 3 mutually perpendicular axes(a total of 6h)</td><td>IEC 68-2-21:1992</td><td>△F≤+/-5ppm</td></tr>
<tr><td>Drop test</td><td>Drop from 75cm height on 3cm hard wooden board for 6 times</td><td>IEC68-2-32:1990</td><td>△F≤+/-5ppm</td></tr>
<tr><td>Cold Storage</td><td>The quartz crystal unit shall be stored at a temperature of –40+/-3℃ for 1000 h.then it shall be subjected to standard atmospheric conditions for 1h after which measurement shall be made.</td><td>IEC68-2-6:1982</td><td>△F≤+/-5ppm</td></tr>
<tr><td>High temperature high humidity storage (steady state)</td><td>The quartz crystal unit shall be stored at a temperature of 40+/-2℃ with relative humidity of 95% for 1000h, then it shall be subjected to standard atmospheric conditions for 2h after which measurement shall be made.</td><td>IEC60068-2-1:1990</td><td>△F≤+/-5ppm</td></tr>
<tr><td>Thermal shock</td><td>The quartz crystal unit shall be subjected to 50 successive Change of temperature cycles. Each as shown in table below ,then it shall be subjected to standard atmospheric conditions for 1h after which measurement shall be made.
<table>
<tr><td></td><td>Temperature</td><td>Duration</td></tr>
<tr><td>1</td><td>-40+/-3℃</td><td>15minutes</td></tr>
<tr><td>2.</td><td>100+/-2℃</td><td>15minutes</td></tr>
<tr><td>3.</td><td>Transition time</td><td>Within 10 seconds</td></tr>
</table></td><td>IEC68-2-14:1986</td><td>△ F≤+/-5ppm</td></tr>
<tr><td>Sealing</td><td>Helium leakage detector shall used to measure the leakage rate of gas through any faulty seal. Pressure:500Kpa, duration:120 minutes.</td><td>IEC68-2-3:1984</td><td>Leakage rate≤ $1*10^{-9}$ $Pa.m^3/S$</td></tr>
<tr><td>High temperature Life test</td><td>The quartz crystal unit shall be stored at a temperature of 85+/-3℃ for 720h ,then it shall be subjected to standard atmospheric condition for 1h after which measurement shall be made.</td><td>IEC60068-2-2:1974</td><td>△F≤+/-5ppm</td></tr>
</table>