

日期: 2009.5.20

产品规格书

SPECIFICATION FOR APPROVAL



用户名称	CUSTOMER:	Quartz 1
产品描述	DESCRIPTION:	FM206
产品部品号	MANUFACTURER PART NO.:	FTX- Frequency- Load Cap- Package Type (FTX32.768K12.5FM206)
用户部品号	CUSTOMER PART NO:	
使用于机型	USED IN MODEL:	

承 认 APPROVAL		
工程部 TECHNOLOGY DEPT.	品质部 QUALITY DEPT.	采购部 PURCHASING DEPT.
Jiang Di		



深圳市福浪电子有限公司

FRONTER ELECTRONICS CO., LTD

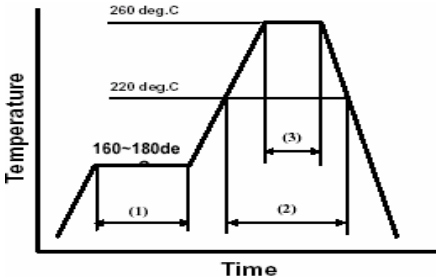
地址 ADD: 深圳市福田区深圳大道 6021 号喜年中心 1112~1117 室
RM.1112-1117, 11/F., XINIAN CENTER, NO.6021, SHENNAN RD.,
SHENZHEN, CHINA.518040

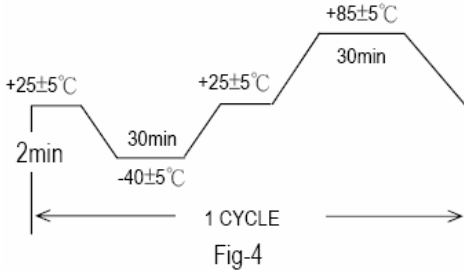
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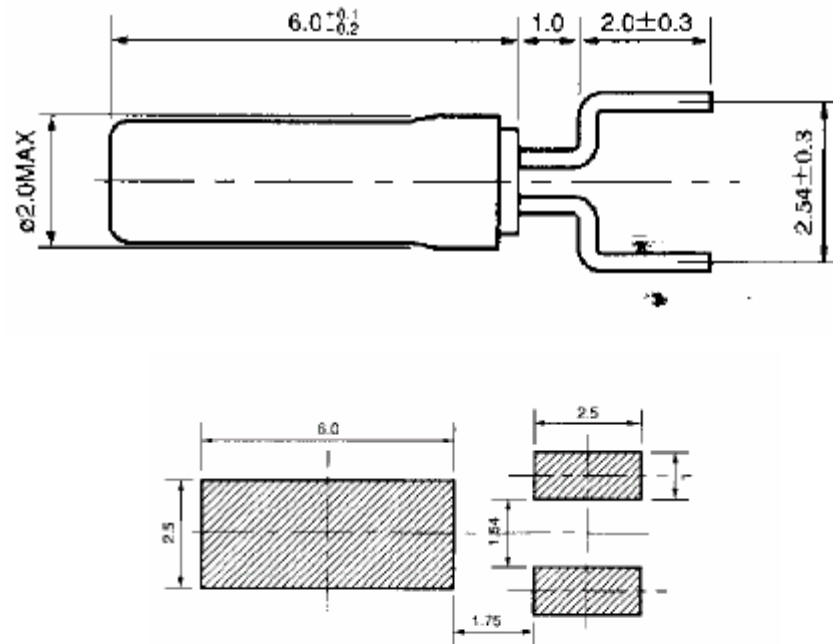
石英晶体谐振器规格书 SPECIFICATION OF QUARTZ CRYSTAL		
1. TYPE 型号		FM206
2. GENETAL 一般性能		
2.1 NOMINAL FREQUENCY (Fo) 标称频率		32.000KHz to 120.000KHz, 192KHz
2.2 OPERATING TEMPERATURE RANGE (To) 工作温度范围		-55 °C to+125 °C
2.3 STORAGE TEMPERATURE RANGE (Ts) 储存温度		-55 °C to+125 °C
2.4 TEST SET 测量仪器		S&A 250B
3. ELECTRICAL CHARACTERISTICS:电气性能		
(This test shall be performed under the conditions of temperature at 25°C± 2°C, humidity 60% max)		
本试验在温度 25°C± 2°C,相对湿度 60%以下的环境下进行		
3.1 FREQUENCY TOLERANCE (Δf) 室温频差		± 10ppm max 25°C± 2°C
3.2 FREQUENCY STABILITY VS TEMP. 温度频差		± 400ppm max
3.3 RQUIVALENT RESISTANCE (Rr) 等效电阻		30K Ω max (32KHz—50KHz) 25K Ω max (50KHz—74KHz) 22K Ω max(74KHz—100KHz) 15K Ω max(100KHz-120KHz)
3.4 LOAD CAPACITANCE (CL) 负载电容		12.5Pf Std. 6Pf to ∞
3.5 SHUNT CAPACITANCE (C0) 静态电容		1.1pF Typical (1.5pf max)
3.6 DRIVE LEVEL (DL) 激励电平		1.0 μ W
3.7 INSULATION RESISIANCE (Ri) 绝缘电阻		100M Ω Min (100 ± 15 Vdc)
3.8 AGING 老化率		± 3ppm max/Year

4. 机 械 试 验 条 件 MECHANICAL CHARACTERISTICS															
NO.	项 目 ITEM	条 件 CONDITIONS	规 格 SPECIFICATIONS												
4.1	漏气试验 Leaking Test (non-destructive)	酒精加压, 压力 25N/cm ² , 时间 5 分钟 The resonator is to be soaked in the alcohol and enforced with the pressure of 25N/cm ² for 5 minutes Next , the resonator shall be tested after being taken out and dried with a dryer.	绝缘电阻须大于 500MΩ The Ir between the wire and the shell must be more than 500MΩ.												
4.2	跌落试验 Drop Tset (Destructive)	高度 60cm, 自由落体于 3cm 木板上, 3 次 dropping three times from the height of 30 cm onto hard wooden board of thickness more than 30mm.	无可见损伤, 测试值满足表一 No visible damage, and measured Values shall meet Table 1.												
4.3	振动试验 Vibration Test (Destructive)	频率 10-55Hz, 振幅 1.5mm, 时间: 每个方向 3 分钟。 Frequency: 10-55Hz , Amplitude 1.5mm 3 minutes in each of X,Y,Z 3 mutually perpendicular direction.	无可见损伤, 测试值满足表一 No visible damage, and measured Values shall meet Table 1.												
4.4	可 焊 性 Solder ability Test (Destructive)	从引线末端至距底部 2MM 处放入 230°C±5°C 焊槽内, 时间: 2±0.5 秒。 The terminal lead wire is to be soaked in a 230°C±5°C tin trough for 2±0.5 seconds.	沾锡面 ≥ 90%. 测试值满足表一 Tin over the wire ≥ 90% and measured Values shall meet Table 1.												
4.5	耐焊接热 Resistance to Solder Heat (Destructive)	After resonator is soldered for 1 time in following temperature conditions, and then be placed in natural condition for 24-25 hours. Resonator shall be measured.  <table border="1" data-bbox="528 1646 1026 1765"> <tbody> <tr> <td>(1)</td><td>Preheat</td><td>160~180°C</td><td>120sec.</td></tr> <tr> <td>(2)</td><td>Primary heat</td><td>220°C</td><td>60sec.</td></tr> <tr> <td>(3)</td><td>Peak</td><td>260°C</td><td>10sec. Max.</td></tr> </tbody> </table>	(1)	Preheat	160~180°C	120sec.	(2)	Primary heat	220°C	60sec.	(3)	Peak	260°C	10sec. Max.	无可见损伤, 测试值满足表一 No visible damage, and measured Values shall meet Table 1.
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深圳市福浪电子有限公司 FRONTER ELECTRONICS CO., LTD.															
用户部品号 CUSTOMER P/N															
描 述 DESCRIPTION		FM206 (Typical: 32.768KHz 12.5pf +/-10ppm)													
日 期 DATE		20095.20													

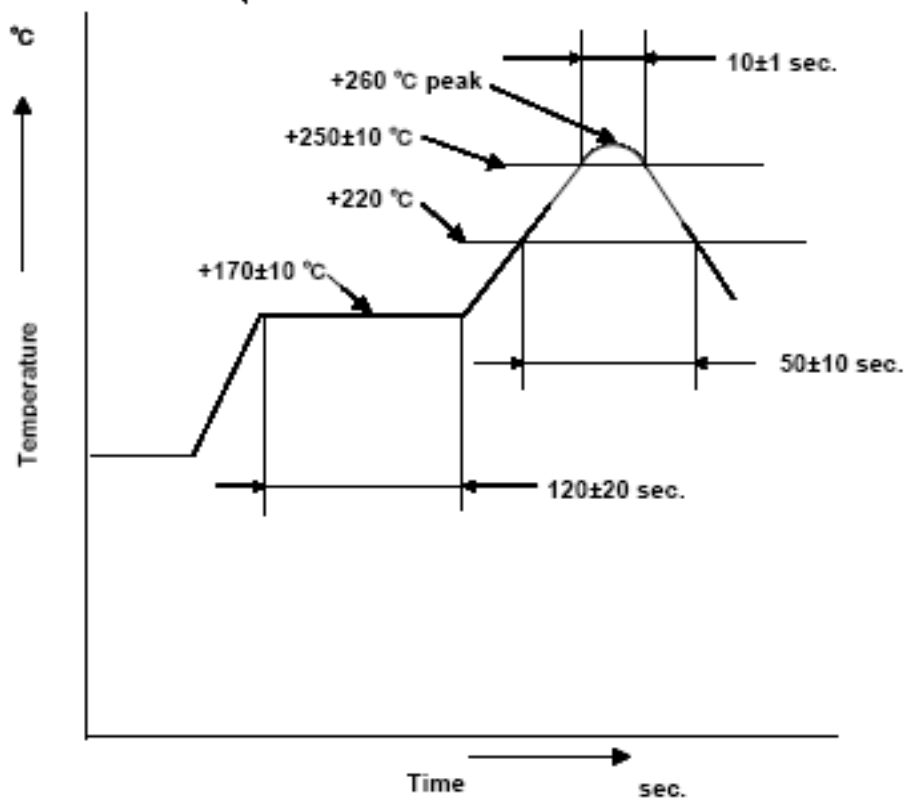
5. 环 境 试 验 条 件			
ENVIRONMENTAL CHARACTERISTICS			
5.1	耐低温性 Low Temperature Enduring	在-25℃±3℃ 下,放置 24 小时,取出后在常温下恢复 2 小时。 The samples crystal is to be tested after being placed in the environment of -25℃±3℃ for 24 hours, and recovered to room temperature.	无可见损伤,测试值满足表一 No visible damage, and measured Values shall meet Table 1.
5.2	耐高温性 High Temperature Enduring	在+70℃±2℃ 下,放置 24 小时,取出后在常温下恢复 2 小时。 The samples crystal is to be tested after being heated at +70℃+2℃ for 24 hours, and cooled to room temperature for 2 hours.	无可见损伤,测试值满足表一 No visible damage, and measured Values shall meet Table 1.
5.3	湿热 Humidity	在+40℃±2℃, 90~95%RH 下放置 96 小时,取出后在常温下恢复 2 小时。 Keep the resonator at 40±2℃ and 90-95% R.H. for 96 hours. Then place it in natural condition for 2 hour.	无可见损伤,测试值满足表一 No visible damage, and measured Values shall meet Table 1.
5.4	温度循环 Temperature shock	Temperature shaft from low to high, high to low For 3 times. And then put the resonator in natural Condition for 2 hour. 	无可见损伤,测试值满足表一 No visible damage, and measured Values shall meet Table 1.
■ CHARGE OF CHARACTERISTICS			
Table 1			
Frequency change (△f/fo)		10%	Reference to the initial value
C.I. (R)		15%	Reference to the initial value
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6. DIMENSIONS: (UNIT: mm)

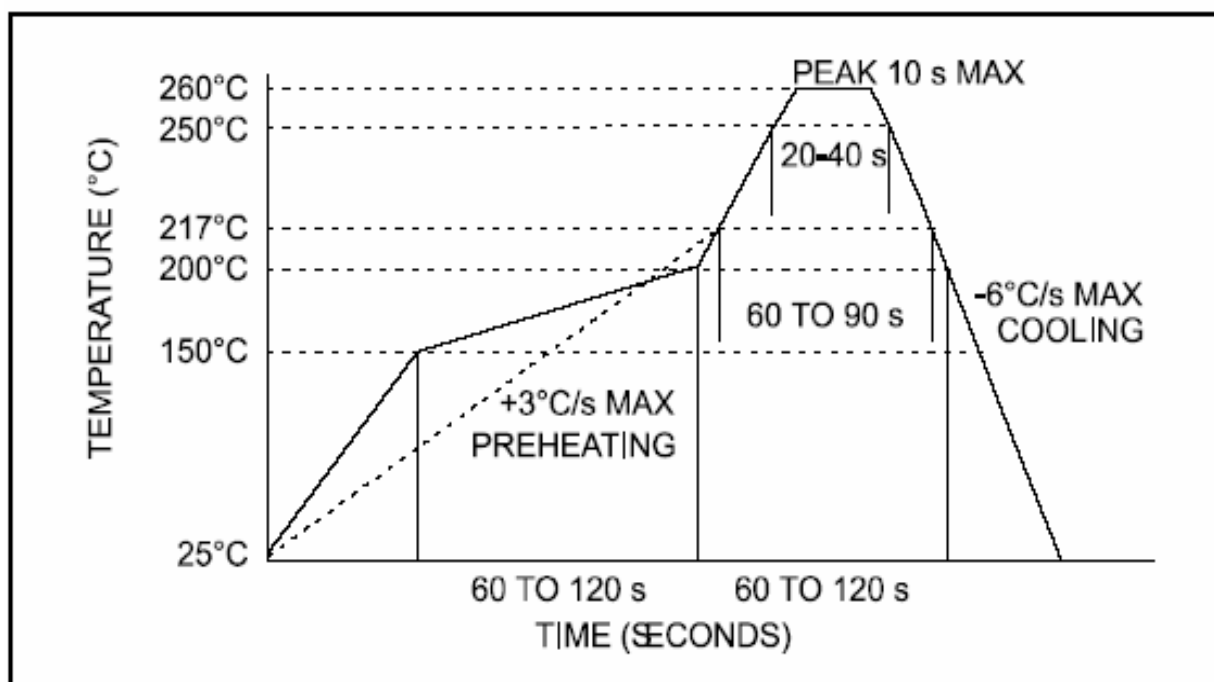
FIG.1



Reflow Profile

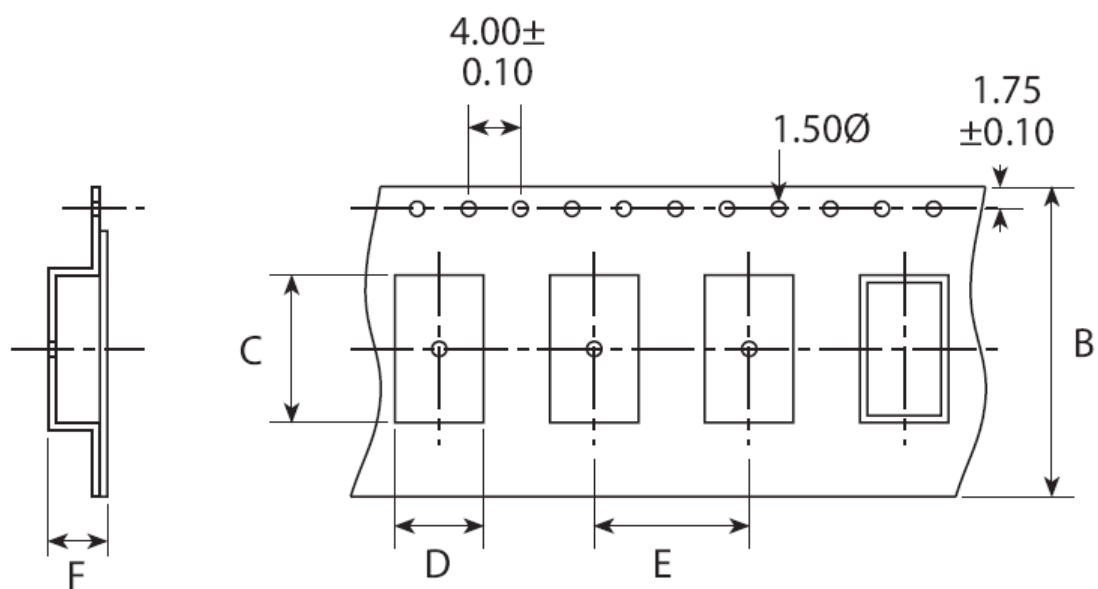


7. ● REFLOW SOLDERING PROFILE



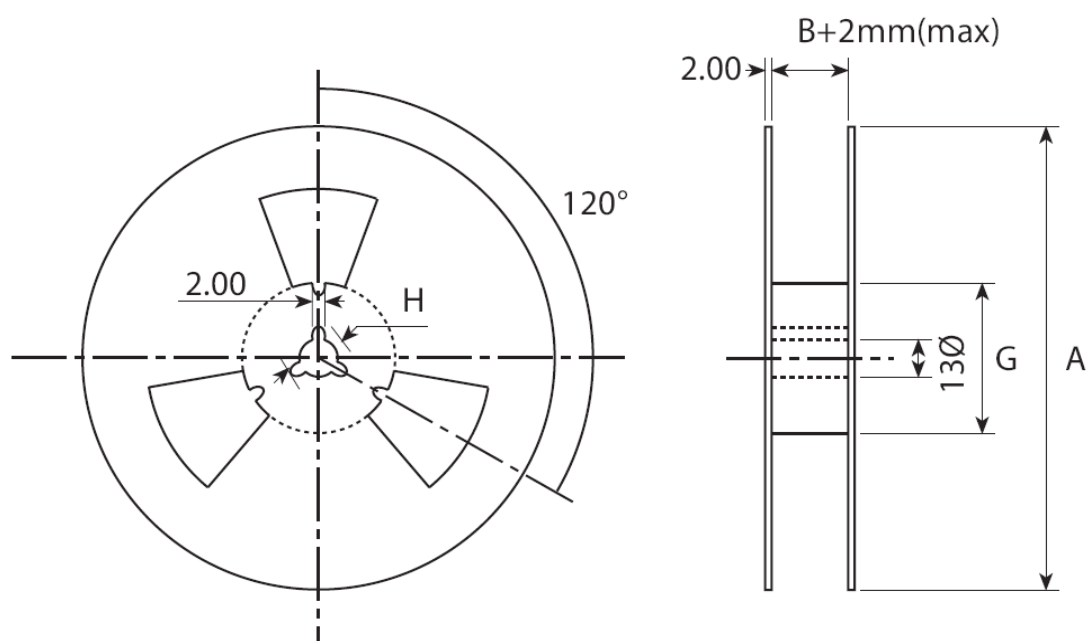
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8. Taping Specification



	A	B	C	D	E	F	G
FM206	178±2.0	16.0±0.3	8.4±0.1	4.0±0.1	8.0±0.1	2.8±0.1	60.5±1.0

Reel Quantity: 1,000pcs



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