JYEG Tong fang Guoxin Electronics Co.,Ltd

ROHS COMPLIANT

APPROVAL SHEET

Customer : _____

Part Number: _____

JYEG Part No.: JYD3A1C7G5-10-24.000

Holder : SMD3225

Frequency: 24.000MHZ

Manufacturer: Jingyuan Electronics

Date: 2015/06/09

Prepared	Checked	Approved
Yang Tiesheng	Hao Jianjun	Zhang Liqiang

(For Customer Use)

Acceptable	Non-Acceptable

Revision History

No.	Revised Date	Change Content	Approved	Remark

1.This specification applies to SMD quartz crystal unit with a frequency of 24.000MHz.

2. Electrical characteristics

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Normal Frequency Range	F_n	-	-	24.000	-	MHz
Order of vibration	Fundamental					
Load capacitance	CL	-	-	10	-	pF
Initial Frequency Accuracy	FL	-	-10	-	10	ppm
Resonance resistance	RR	-	-	-	30	Ω
Drive level	DL	-	-	100	-	μW
Static capacitance	C0				2	pF
Motional capacitance	C1					fF
Insulation resistance	IR	DC 100V	500	-	-	MΩ
DLD	DLD2	0.01~100 uW (10points) 100~0.01 uW (10points)	-	-	-	Ω
	FDLD		-	-	-	ppm
	RLD2		-	-	30	Ω
	DLDH2		-	-	-	Ω
	FDLDH		-	-		ppm
Capacity ratio	C0/C1	-	-	-	-	-
Inductance	L					mH
Trim sensitivity	TS					ppm/pF
Autoeciousness	SPDB	±5300PPM of nominal Freq	-	-	-5.0	dB
Operating temperature range	T	±15PPM	-40	-	85	℃
Storage temperature range	-	-	-55	-	125	℃
Aging	-	-	-2	-	2	ppm

3. Construction

3.1 Crystal enclosure seal:

■ Seam seal ☐ resistance weld ☐ cold weld

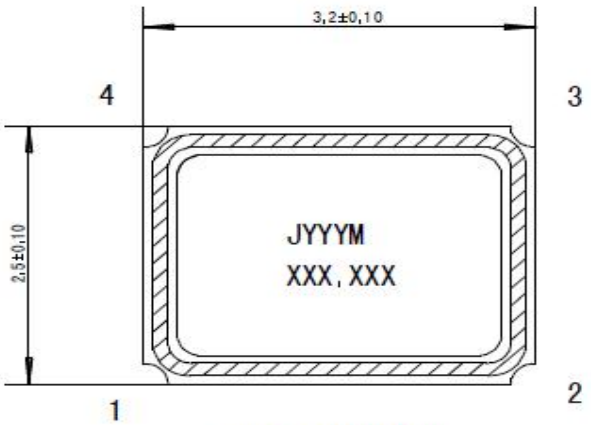
3.2 crystal enclosure medium

☐ nitrogen ■ vacuum ☐ dry air

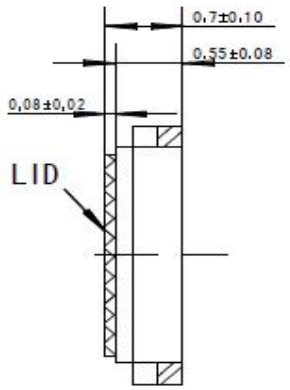
4.Dimension:

UNIT:mm

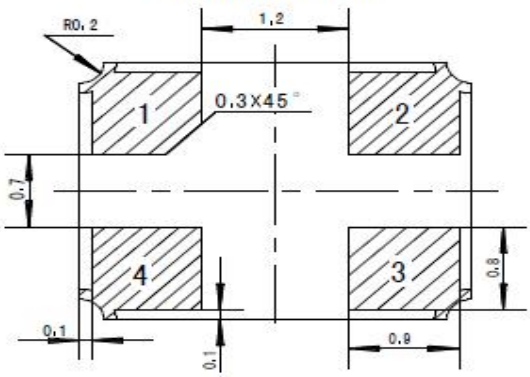
(TOP VIEW)



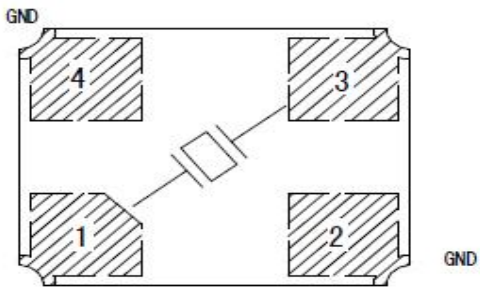
(SIDE VIEW)



(BOTTOM VIEW)

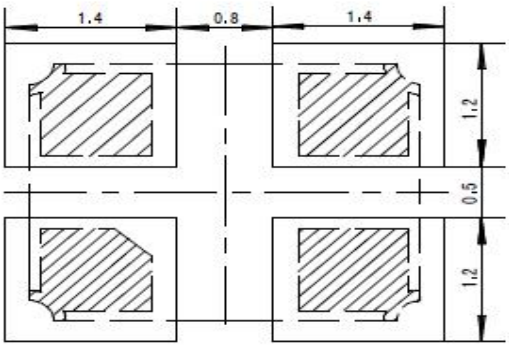


(CONNECTION)



MARK
JYYYM
XXX,XXX
NOTE:
YY=LAST TWO DIGITS OF YEAR
M=MONTH CODE,
XXX,XXX=FREQUENCY

(Recommended Soldering Pattern)



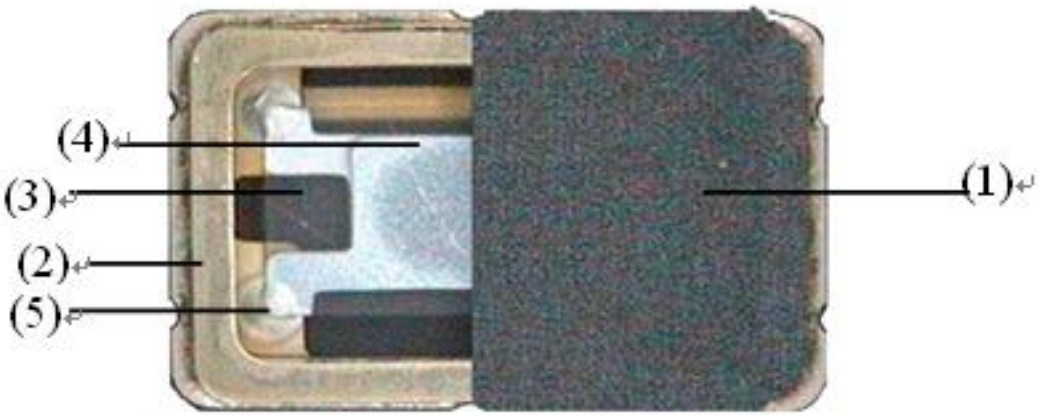
MONTH CODE

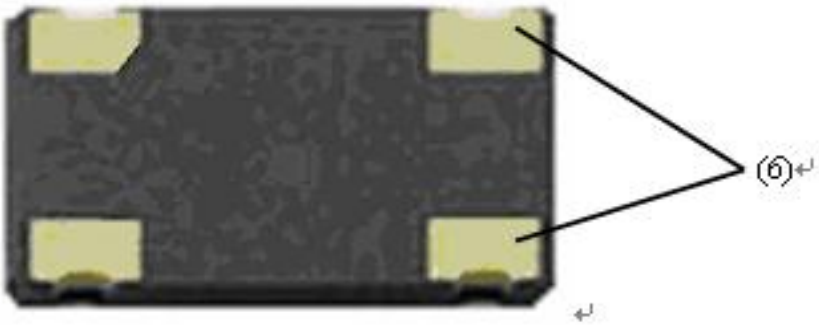
Jan	Fer	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
A	B	C	D	E	F	G	H	I	J	K	L

5. Marking

■ Laser Marking ☐ Ink Marking

6.Inside Structure





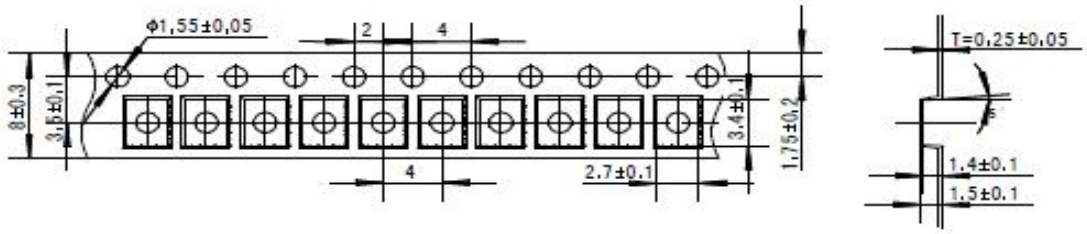
No.	Name	Material
(1)	Can	Fe-Co-Ni
(2)	Base	Ceramic
(3)	Blank	Quartz
(4)	Electrode	Ag
(5)	Epoxy	Silicon based
(6)	Soldering Pads	Au plated

7.Taping Dimension and Packing Instruction

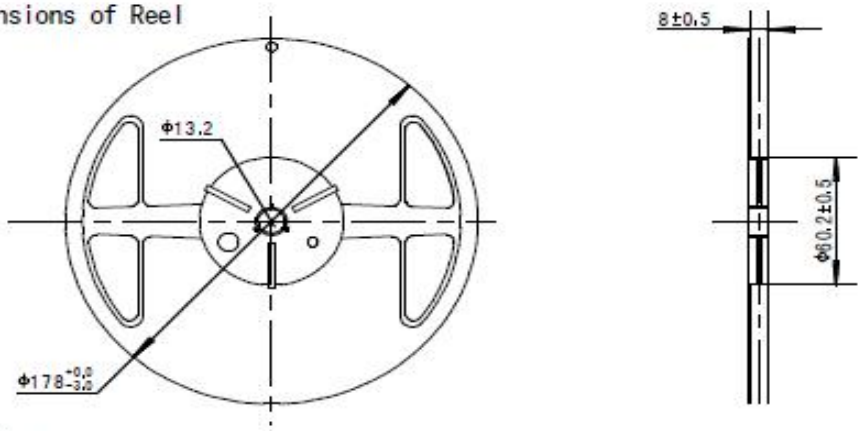
7.1

UNIT:mm

1.Dimensions of Carrier Tape

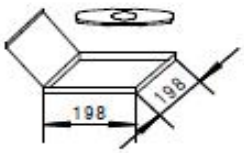


2.Dimensions of Reel

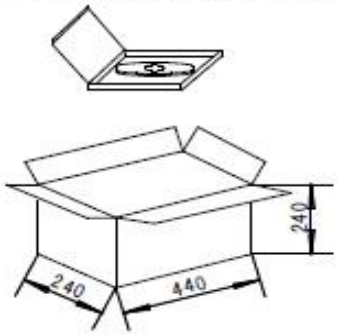


3,Packing

1 reel/box 1 reel=3000pcs



10 boxes/carton(the carton with bubble pad on four sides)



							同方国芯-晶源电子
V1.0	初版		2012-8-1				
版 本	修改内容	批 准	日 期				SMD3225-8-G包装尺寸图
设 计		2012-8-1		阶段标记	重量	比例	
审 核		2012-8-1				2:1	JY/TS2-011-JL2019
批 准		2012-8-1		共1张 第1张			

7.2

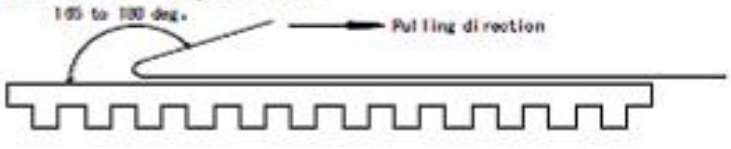
.Release strength of cover tape

It has to between 30g to 90g under following condition.

Pulling direction : 165 deg. to 180 deg.

Speed : 300mm/min.

Otherwise unless specified.



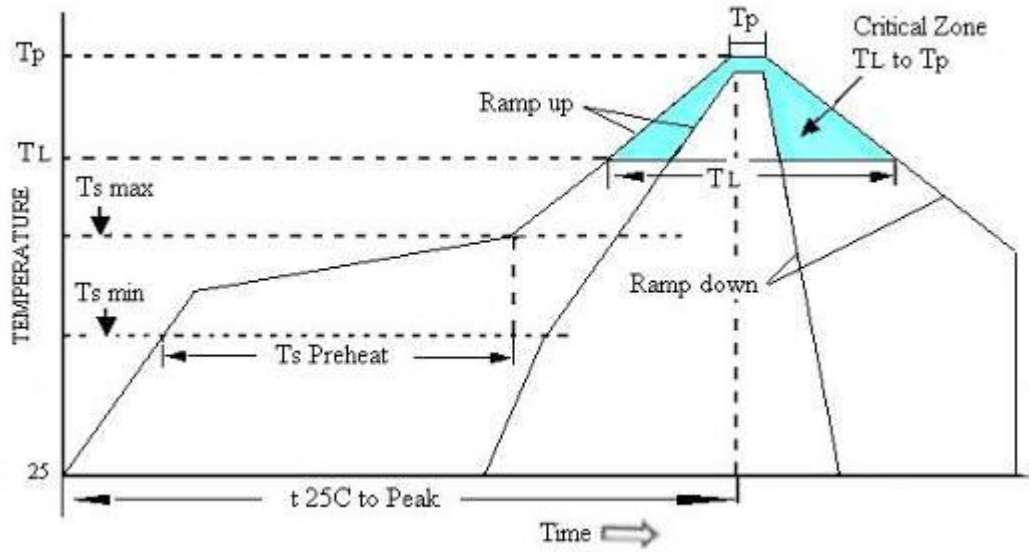
8.Reliability characteristic:

	Item	Condition	Specifications
8.1	Solderability	Solder bath temperature:260℃ , dwell time:5 seconds, Solder: 100% tin	A new uniform coating of solder shall cover a minimum of 95% of the surface being immersed.
8.2	Resistance to soldering heat	Solder temperature 260+/-3℃,Immersion time:10 S Solder bath composition:100% tin	△F≤+/-5ppm △R≤+/-15%+3Ω
8.3	Vibration	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)	△F≤+/-5ppm △R≤+/-15%+3Ω
8.4	Drop test	Drop from 75cm height on 3cm hard wooden board for 6 times	△F≤+/-5ppm △ R≤+/-15%+3Ω
8.5	Cold Storage	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.	△F≤+/-5ppm △R≤+/-15%+3Ω
8.6	High temperature high humidity storage (steady state)	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.	△F≤+/-5ppm △R≤+/-15%+3Ω

<table>
<tr><td>8.7</td><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>△F≤+/-5ppm
△R≤+/-15%+3Ω</td></tr>
<tr><td>8.8</td><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>Leakage rate≤ $1*10^{-9}$ $Pa.m^3/S$</td></tr>
<tr><td>8.9</td><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>△F≤+/-5ppm
△R≤+/-15%+3Ω</td></tr>
</table>

9.All products are RoHs compliant

10. Reflow Profile



High Temperature Infrared /Convection

Note:Temperature shown are applied to body of device

Ts max to T_L(Ramp-up Rate)	3℃/second max
Preheat Temperature Min(Ts Min) Temperature Typical(Ts Typ) Temperature Max.(Ts Max) Time(ts)	 150℃ 175℃ 200℃ 60-180 seconds
Ram-up Rate(T_L to Tp)	3℃/second Max
Time Maintained Above: --Temperature(T_L) --Time(T_L)	 217℃ 60-150seconds
Peak Temperature (Tp)	260℃ Max for 10 seconds
Time within 5℃ of actual peak(t_p)	20-40 seconds
Ramp-down Rate	6℃/seconds Max
Tune 25℃ to Peak Temperature(t)	8 minutes Max
Moisture Sensitivity Level	Level 1

High Temperature Manual Soldering

Note:Temperature shown are applied to body of device

260℃ Max for 10 seconds Max, 4 times Max