

CRYSTAL UNITS SPECIFICATION

Product Type : SK - 6M

Model : 40.000MHz

Description : 6035/XTAL/40MHz/20pF/30ppm

SKC P/N : FSK6M40000M20

SPEC No. : 1 – 170417 – FSK6M40000M20



DATE : 17-Apr-17

Designer : *Aaron Lee*

Checked By : *Tom*

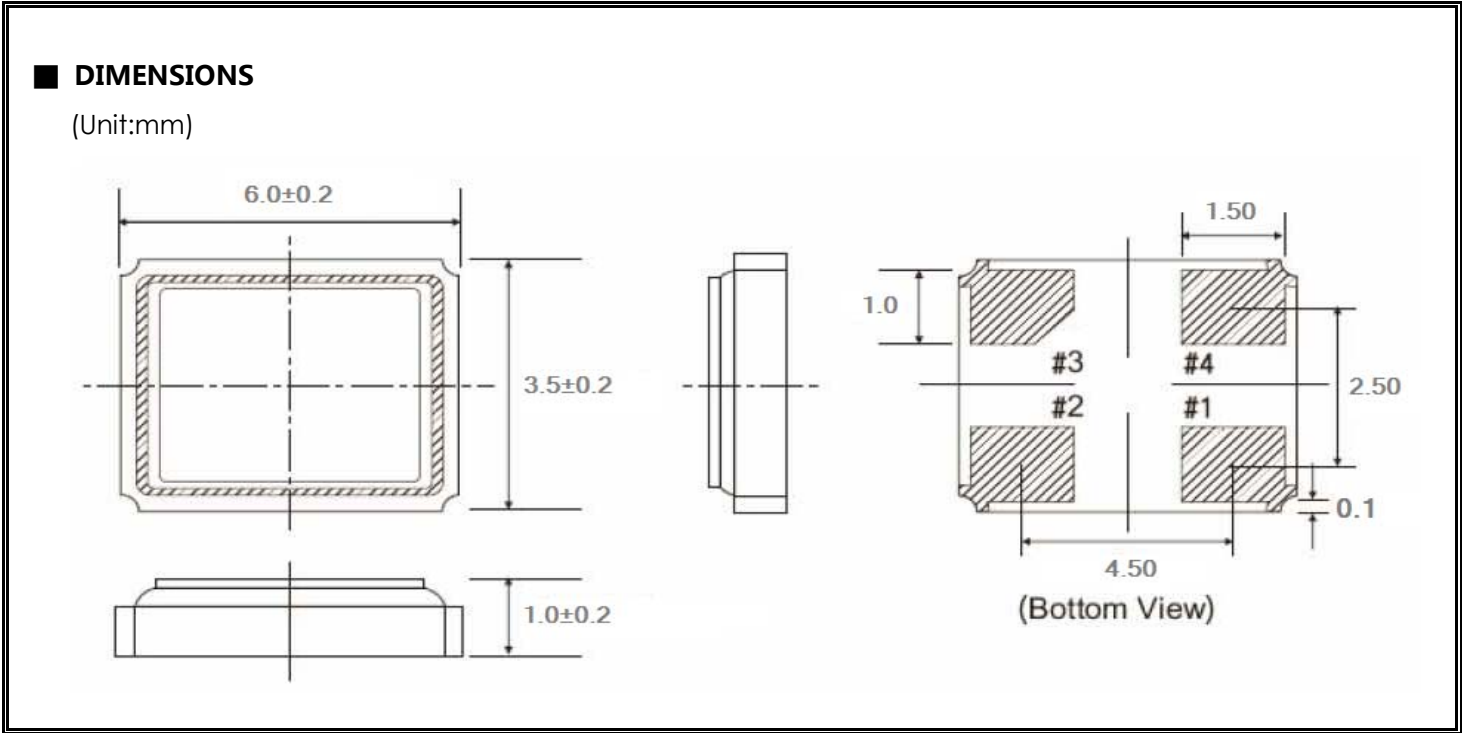
Approved By : *Sam*

REVISION HISTORY

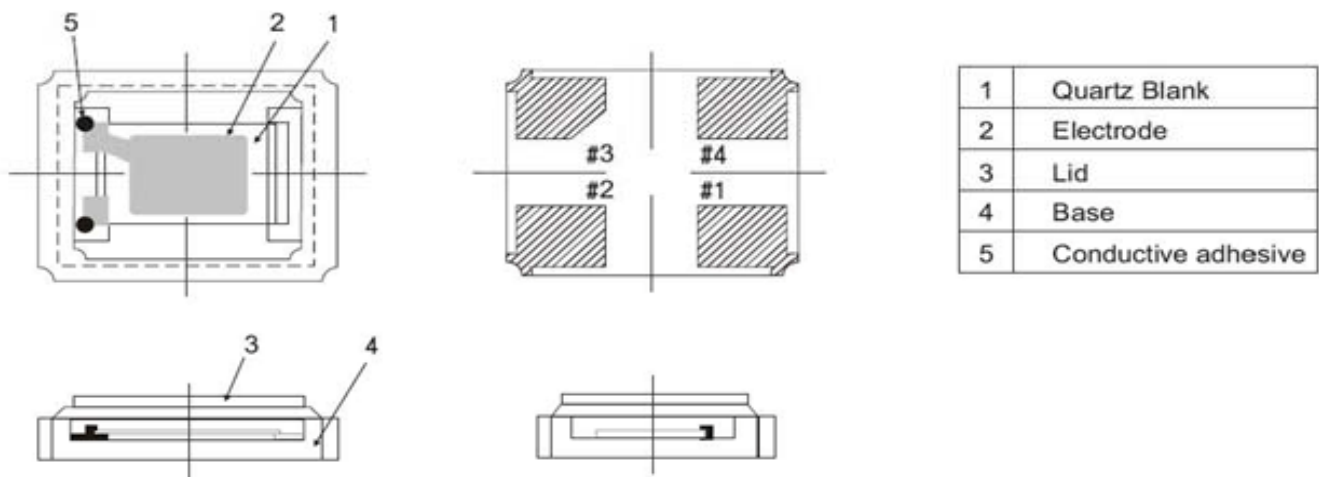
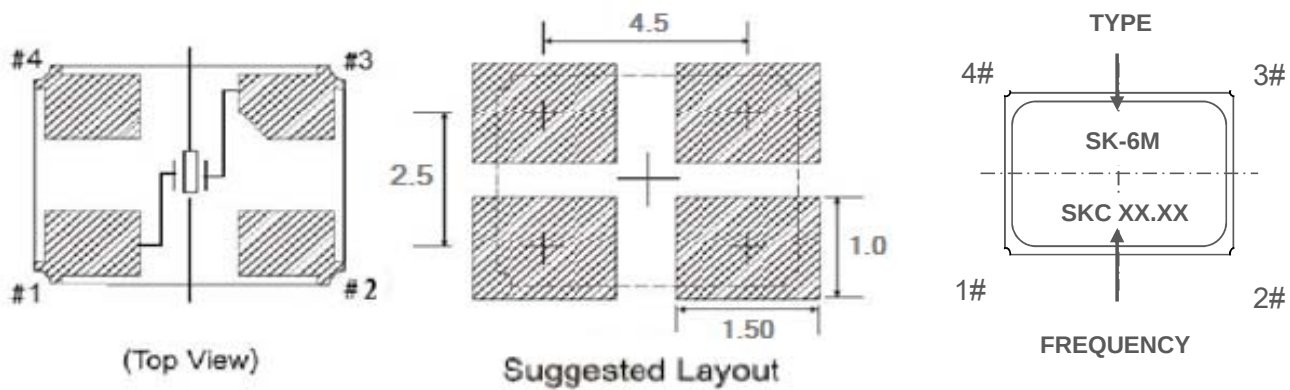
Rev	Revise Page	Revise Contents	Date	Ref. No.	Reviser
A	N/A	Initial Release	17-Apr-17	N/A	Aaron Lee

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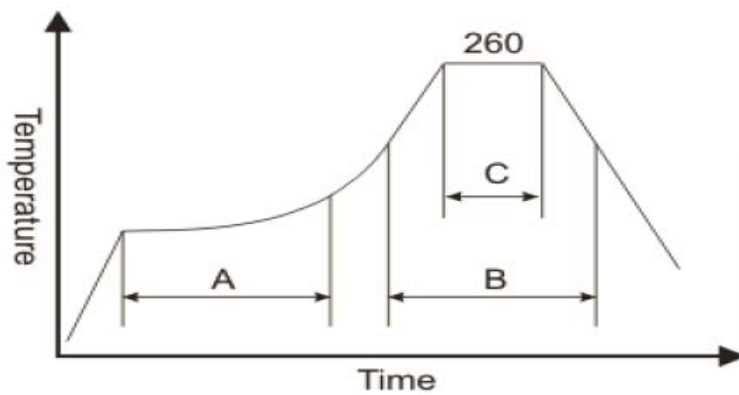
■ ELECTRICAL CHARACTERISTICS			
1	Holder type		SK-6M
2	Oscillation mode		■ Fundamental □ 3rd Overtone □ 5th Overtone
3	Crystal cutting type		AT CUT
4	Nominal frequency	FL	40.000MHz
5	Frequency stability	Tol	± 30 ppm (ref at 25℃)
6	Operating temperature range	TOPR	-20℃ to +70℃
7	Storage temperature range		-40℃ to +85℃
8	Temperature characteristic		± 30 ppm in item 6
9	Load capacitance	CL	20 PF ± 0.2PF
10	Equivalent series resistance	ESR	40 Ohms max.
11	Drive level	DL	200 uW MAX
12	Shunt capacitance	C0	7.0 PF max.
13	Aging rate per year		Less than ±3ppm / year
14	Insulation resistance		500M Ohms min. at DC 100V ± 10V
15	Test circuit		Measured in S&A 250B



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■ SUGGESTED REFLOW PROFILE



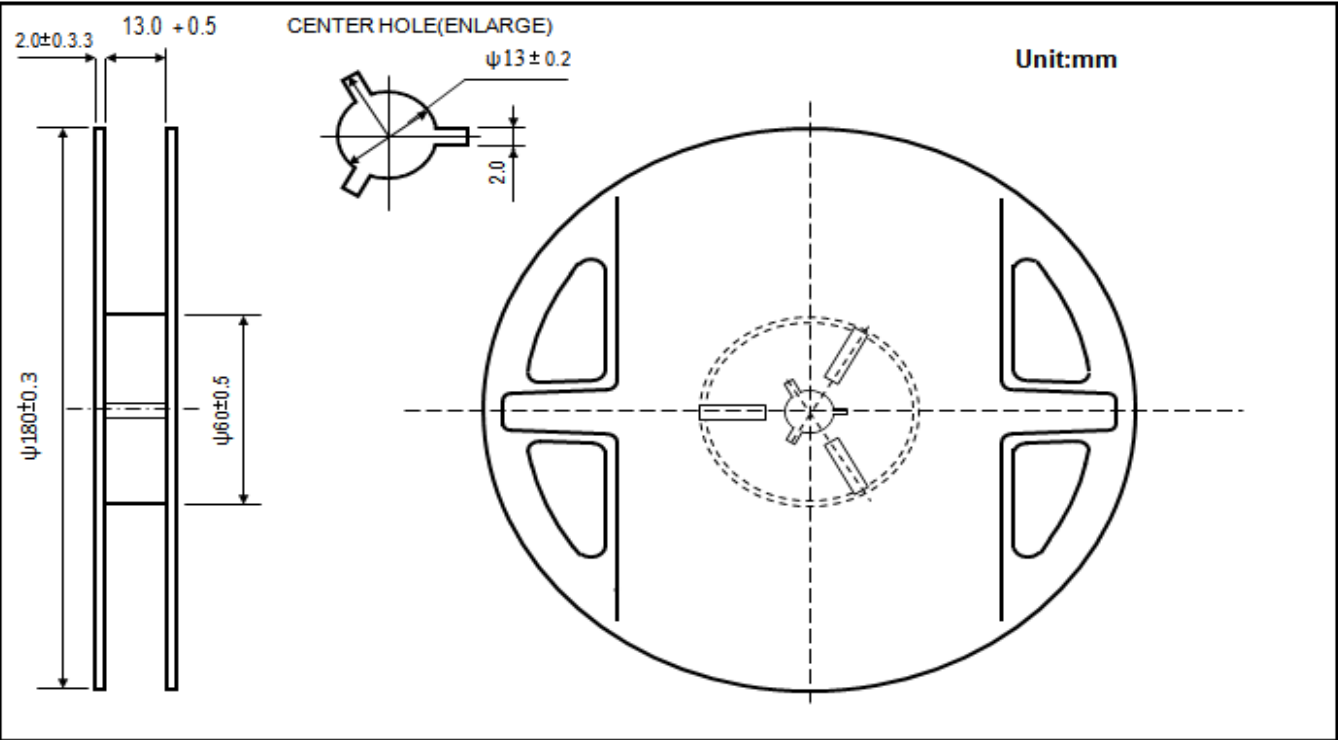
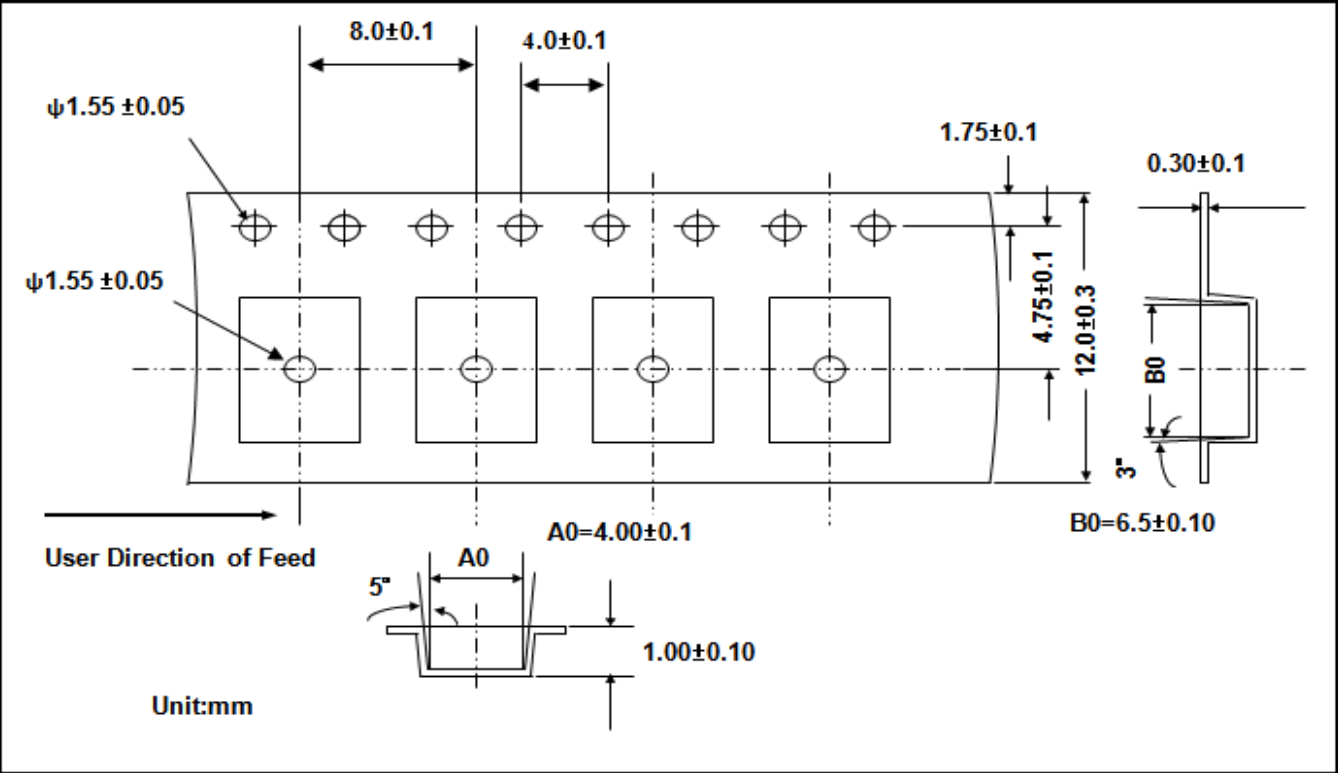
Note:

	Stage	Temperature	Time
A	Preheat	160~180°C	60~120 Sec
B	Primary Heat	220°C	60 Sec
C	Peak	260°C±5°C	10 Sec

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■ EMBOSS CARRIER TAPE & REEL

(1000pcs / per reel)



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A. MECHANICAL ENDURANCE : Provide that measurement shall be carried out after letting it alone in the room temperature for 1 hour.			
1	Item	CONDITIONS	SPECIFICATION
	Drop	Should be satisfied after dropping times from the high of 50cm onto hard wooden board of thickness more than 30mm.	Freq. drift ± 5 ppm max. Resistance less than $\pm 15\%$ or 2 ohms max.
2	Vibration	Should be satisfied after supplying following vibration. (1) Vibration frequency : 10~55Hz (2) Cycle : 1 to 2 min. (3) Full cycle : 1-5MM P-P. (4) Direction : X.Y.Z (5) Time : 2 hours / each direction Resistance less than $\pm 15\%$ or 2 ohms max.	Freq. drift ± 5 ppm max. Resistance less than $\pm 15\%$ or 2 ohms max.
3	Substrate Bending	Mount the specimen on substrate. Apply the following pressure Direction : see Fig-1 Speed : 0.5 mm/sec. Hours : 5 ± 1 sec. Amount of substrate : 3mm max.	Without mechanical damage such as breaks. Without electrode peeling. Electrical characteristics shall be satisfied.
4	Adhesion	Mount the specimen on substrate. Apply the following pressure Direction : see Fig-2 Weight ; 10N Hours : 10 ± 1 sec.	
5	Body strength	Mount the specimen on substrate. Apply the following pressure Direction : see Fig-3 Weight ; 10N Hours : 10 ± 1 sec.	

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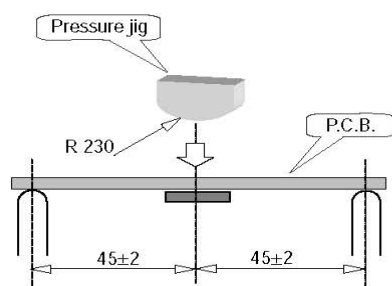


Fig-1

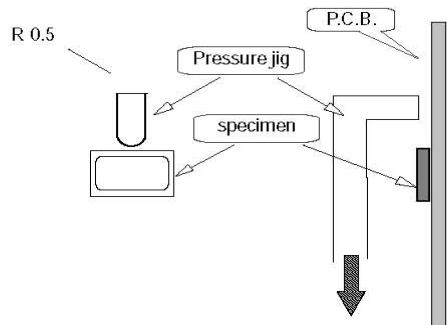


Fig-2

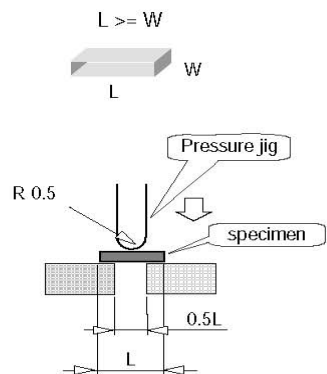
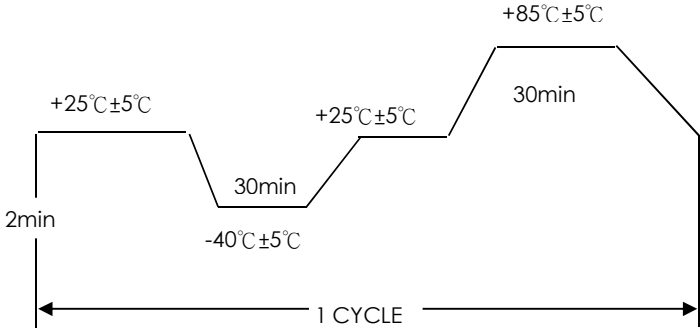


Fig-3

6	Item	CONDITIONS	SPECIFICATION									
	Seal	Less than 2.0×10^{-7} Pa-m ¹ /sec. by Helium leak detector. Also, no serial bubble is observed by Fluorinate tests.										
7	Solder ability	3 sec. Dip in 230°C±5°C solder. (Use ROSIN type flux for solder.)	More than 90% of lead shall be covered by solder.									
8	Resistance to Soldering heart	Run in Reflow Reflow soldering shall be allowed Only two(2) times.	Freq. Drift ±10ppm max. Resistance Drift ±20% max. or ± 3Ω									
Available for Lead Free Soldering Temperature Time <table><tr><td>1 Perheat</td><td>160~180 °C</td><td>60 - 120 sec.</td></tr><tr><td>2 Pirmary heat</td><td>220 °C</td><td>60 sec.</td></tr><tr><td>3 Peak</td><td>260 ± 5 °C</td><td>10 sec. Max.</td></tr></table>				1 Perheat	160~180 °C	60 - 120 sec.	2 Pirmary heat	220 °C	60 sec.	3 Peak	260 ± 5 °C	10 sec. Max.
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B. ENVIRONMENTAL ENDURANCE : Provide that measurement shall be carried out after letting it alone in the room temperature for 1 hour.			
1	Humidity	Should be satisfied after letting it alone at +60°C±2 °C in humidity of 90%±5% for 240 hours.	Freq. Drift±5ppm Max. Resistance Drift±15% Max. or ± 2Ω
2	Storage in low temperature	Should be satisfied after letting it alone at -30°C±2 °C for 240 hours.	Freq. Drift±5ppm Max. Resistance Drift±15% Max. or ± 2Ω
3	Storage in high temperature	Should be satisfied after letting it alone at +85°C±2 °C for 240 hours.	Freq. Drift±5ppm Max. Resistance Drift±15% Max. or ± 2Ω
4	Temperature cycle	Should be satisfied after supplying the following temperature cycle (20 cycles). (Refer to Fig-4). Temperature shift from low to high, high to low shall be done in 1°C /min.	Freq. Drift±5ppm Max. Resistance Drift±15% Max. or ± 2Ω
 Fig-4			