

Product Testing Report

(Evaluation of Customer's Board)



广东惠伦晶体科技股份有限公司

GUANGDONG FAITH LONG CRYSTAL TECHNOLOGY Co., Ltd.

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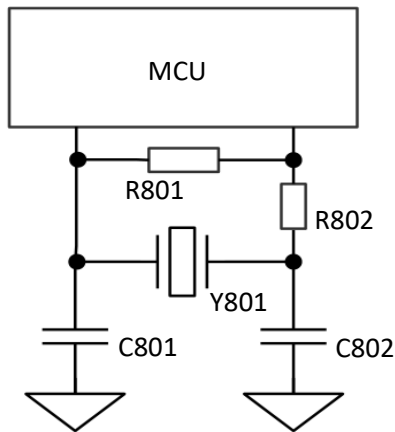
1. General Information

#	Items	Descriptions
1	Customer	富士康
2	Cst Board No.	T99X171T00
3	Application	-

2. Crystal unit Electric Characteristics

#	Items	Descriptions
1	Crystal unit type	SMD X'TAL 3.2*2.5(4PAD)
2	Part name	3S250F1057
3	Nominal Frequency	25MHz
4	Frequency Tolerance	±7ppm
5	Frequency Stability	±15ppm at -40~+100℃
6	Equivalent series resistance	50Ω
7	Drive Level	300uW
8	Load capacitance	12pF

3. Measurement Setup and Results (Y801)



Gloden sample FL : 3.77ppm

ESR : 10.68Ω

Power supply voltage : -

Measurement item	Instrument
Frequency	Keysight N9000A
Negative resistance	Keysight N9000A
Drive level	Keysight DSOX3054T
Start-up time	Keysight DSOX3054T

Characteristics at initial Cst Board

Present constants	$ -R $	Actual load	ΔF	Drive level
	(Ω)	(pF)	(ppm)	(uW)
Y801=Y802=18pF	541.29	11.63	3.30	206.30

•Negative resistance

The negative resistance for 25000176.86Hz at the initial circuit constants is 541.29Ω , which is enough to assure stable operation of the circuits.

•Circuit load capacitance and Frequency tolerance

The load capacitance of the oscillation circuit is 11.63pF. Therefore, the ΔF becomes 3.3ppm, This crystal has a tolerance specification of ± 7 ppm . Therefore the maximum room temperature tolerance range is - 3.7~10.3ppm. So, In consideration of Frequency Temperature characteristics , The crystal unit worst Frequency stability will be -18.7~25.3ppm.

•Drive level

The drive level of the oscillation circuit is less than 206.3μW. This is a good drive level, which causes no distortion, or micro dips in the curve of the frequency temperature characteristic .

•Conclusion

We recommend use of the product at the present constants. However, please check whether it is satisfactory enough in your company.

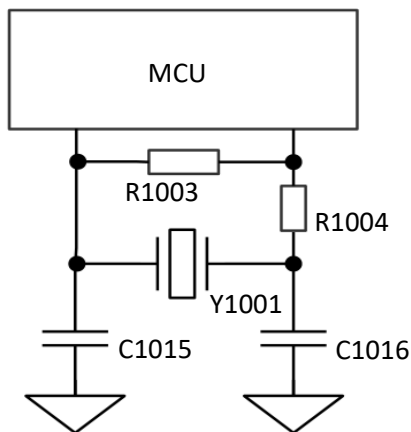
1. General Information

#	Items	Descriptions
1	Customer	富士康
2	Cst Board No.	T99X171T00
3	Application	-

2. Crystal unit Electric Characteristics

#	Items	Descriptions
1	Crystal unit type	SMD X'TAL 2.5*2.0(4PAD)
2	Part name	2S200F1002
3	Nominal Frequency	20MHz
4	Frequency Tolerance	±20ppm
5	Frequency Stability	±20ppm at -40~+85℃
6	Equivalent series resistance	100Ω
7	Drive Level	100uW
8	Load capacitance	8pF

3. Measurement Setup and Results (Y1001)



Gloden sample FL : 0.37ppm

ESR : 23.03Ω

Power supply voltage : -

Measurement item	Instrument
Frequency	Keysight N9000A
Negative resistance	Keysight N9000A
Drive level	Keysight DSOX3054T
Start-up time	Keysight DSOX3054T

Characteristics at initial Cst Board

Present constants	$ -R $	Actual load	ΔF	Drive level
	(Ω)	(pF)	(ppm)	(uW)
C1015=C1016=8.2pF	917.19	7.52	6.33	18.33

•Negative resistance

The negative resistance for 20000133.84Hz at the initial circuit constants is 917.19Ω , which is enough to assure stable operation of the circuits.

•Circuit load capacitance and Frequency tolerance

The load capacitance of the oscillation circuit is 7.52pF. Therefore, the ΔF becomes 6.33ppm, This crystal has a tolerance specification of ± 20 ppm . Therefore the maximum room temperature tolerance range is - 13.67~26.33ppm. So, In consideration of Frequency Temperature characteristics , The crystal unit worst Frequency stability will be -33.67~46.33ppm.

•Drive level

The drive level of the oscillation circuit is less than 18.33μW. This is a good drive level, which causes no distortion, or micro dips in the curve of the frequency temperature characteristic .

•Conclusion

We recommend use of the product at the present constants. However, please check whether it is satisfactory enough in your company.