

ECEC

ECEC P/N: EF3276E013

No:

ECAB2303055

Date:

2023/3/10

SPECIFICATION OF QUARTZ CRYSTAL UNITS

1.HOLDER TYPE: MF3215 3.2*1.5
32.768 KHz

2. ELECTRICAL SPECIFICATIONS

Standard atmospheric conditions

Unless otherwise specified, the standard range of atmospheric conditions for making measurement

Ambient temperature : $25\pm 3^{\circ}\text{C}$
Relative humidity : 40% ~ 70%

If there is any doubt about the results ,measurement shall be made within the following limits .

Ambient temperature : $25\pm 3^{\circ}\text{C}$
Relative humidity : 40% ~ 70%

Electrical characteristics measured by S&A250B or equivalent .

The crystal is using NT CUT (Surface bending mode).

3.ELECTRICAL CHARACTERISTICS

	Parameters	SYM	Electrical Spec				Notes
			MIN	TYP	MAX	UNITS	
1	Nominal Frequency	FL	32.768000				KHz
2	Oscillation mode	-	Fundamental				-
3	Load Capacitance	CL	12.5				pF
4	Frequency Tolerance	-	± 10				ppm at $25\pm 3^{\circ}\text{C}$
5	Operating Temperature	-	-30	~	85	$^{\circ}\text{C}$	
6	Parabolic Coefficient	-	-0.02		-0.04	ppm/ $^{\circ}\text{C}^2$	
7	Equivalent Resistance Rr	Rr	-	-	65	K Ω	
8	Drive Level	DL	-	0.1		μW	
9	Shunt Capacitance C0	C0	-	-	1.6	pF	
10	Insulation Resistance	-	500	-	-	M Ω	at DC 100V
11	Aging	-	± 3				ppm Year
12	Storage Temperature Range	-	-55	~	125	$^{\circ}\text{C}$	

Notes:

1. Ultrasonic cleaning

General cleaning solutions or ultrasonic cleaning method may be used to clean our products. However, under certain circumstances, ultrasonic cleaning machine could generate resonance at the oscillation frequency of our products and thus deteriorate the electrical characteristics in devices, and even damage the overall structure of devices. Therefore, verification test is recommended before cleaning.

2.Ultrasonic welding

Avoid mounting and processing by Ultrasonic welding this method has a possibility of an excessive vibration spreading inside the crystal products and becoming the cause of characteristic deterioration and not oscillating.

3.Storage temperature description

Storage Temperature is only for the product itself,the temperature for the packing material is $5^{\circ}\text{C}\sim 40^{\circ}\text{C}$.

4. Recommended conditions for manual welding

Temperature: $350 \pm 10^{\circ}\text{C}$, Time: 3 sec max, Re-solder times: twice max.

■ FACTORY LOCATION

ECEC CORPORATION

No 555, Sec 2, Binghong Road Jinhua Zhejiang , P.R.C

JinHua East Crystal Electronic Co.,Ltd.DESIGN
郑紫薇INSPECTION
王晓东

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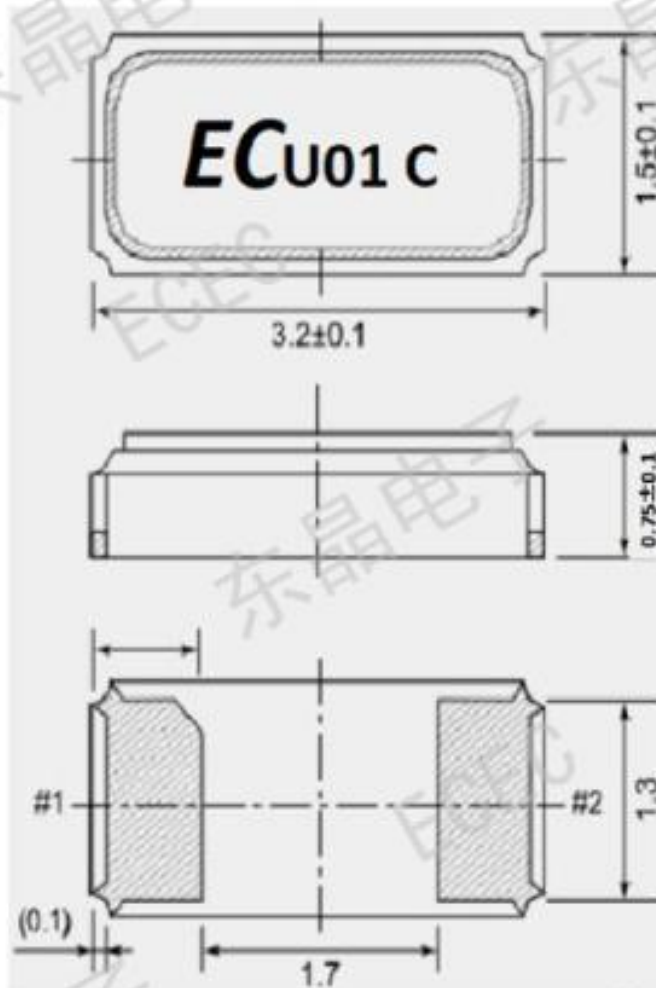
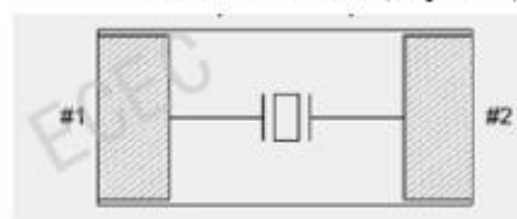
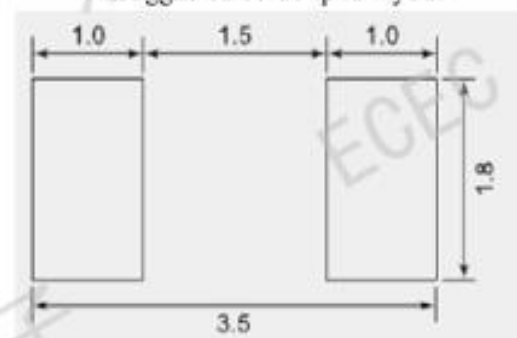
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4.DIMENSIONS AND MARKING**4-1 HOLDER TYPE**MF3215 3.2*1.5
32.768 KHz**4-2 DIMENSION (mm)*****Internal Connections(Top View)*****Suggested solder pad layout****JinHua East Crystal Electronic Co.,Ltd.****DESIGN**

郑紫薇

INSPECTION

王晓东