CERAMIC RESONATOR SPECIFICATION

1. SCOPE

This specification shall cover the characteristics of the ceramic resonator ZTA4.000M for the clock oscillation of microprocessor ect.

2. SPECIFICATION NO;

3. FACTORY NO ZTT20.000MHZ

4. ELECTRICAL SPECIFICATION:

NO	Item	Requirements
4.1	Oscillation Frequency(fosc)	ZTT20.000MHZ±0.3%
4.2	Resonant Impedance(Ro)	30Ω
4.3	Temperature Coefficient of Oscillation Frequency	±0.3%max(-20℃ to +80℃)
4.4	Withstanding voltage	100VDC 5sec.max
Rating Voltage	(1) D.C. voltage (2)A.C. Voltage	6 V.D.C 15Vpp.
4.6	Insulation resistance	100MΩ/EX X min.(at 10VDC
4.7	Operation Temperature	-20℃ to +80℃
4.8	Storage Temperature	-30℃ to +80℃
4.9	Aging Rate(Fosc)	±0.3%max (10years)

5. MEASUREMENT

5.1 Measurement Condition

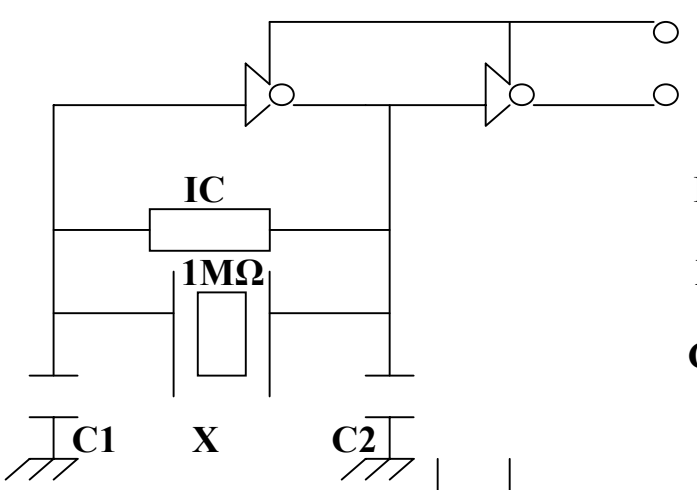
The reference temperature shall be 25℃±2℃.The measurement shall Be preformed at the temperature range of 5℃ to 35℃ unless otherwise The result is doubtful.

5.2 Measurement Circuit and Equipment

Oscillating frequency shall be measured by the standard test circuit as Shown in Fig.1.

Resonator impedance shall be measured by HP8751A Network Analyzer.

5.3 TEST CIRCUIT

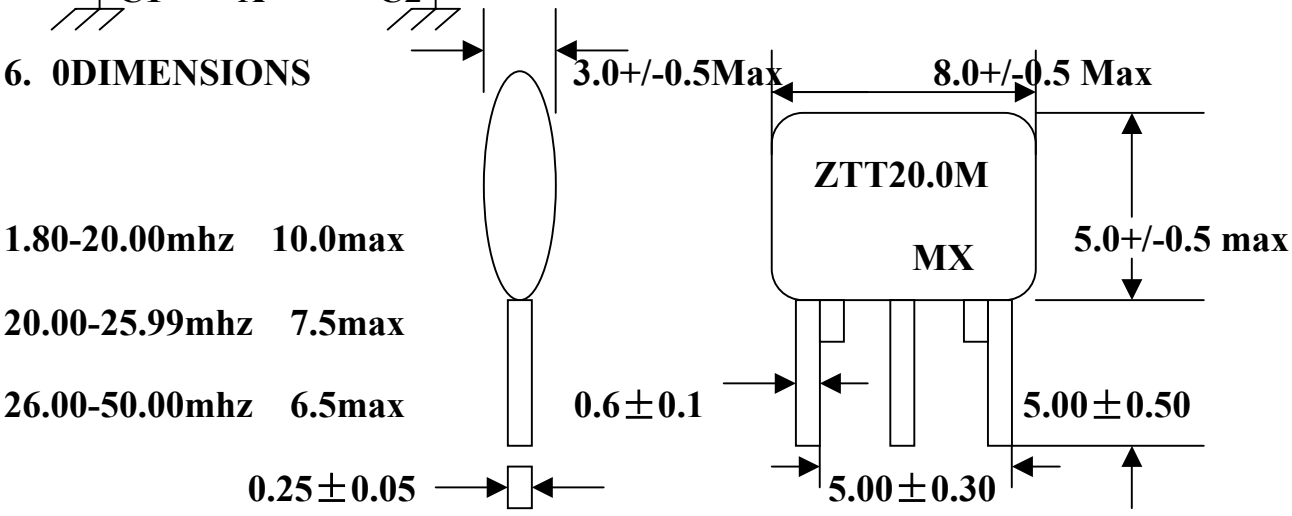


IC:1/6CD4069UBE

X:Ceramic Resonator

C1C2:30PF±20%

6. 0DIMENSIONS



1.80-20.00mhz 10.0max

20.00-25.99mhz 7.5max

26.00-50.00mhz 6.5max

7. 0PHYSICAL AND ENVIRONMENTAL CHRACTISTICS

NO	Item	Condition of Test	Performance Requirements
7.1	Humidity	Keep the resonator at 40±2℃ and 90-95％Rh for 96±4 hours then release the resonator into the room condition for 1 hour prior to the measurement	It shall fulfill the specifications in Table 1.
7.2	vibration	Subject the resonator to vibration for 2 hours each in x.y. and z axis with the amplitude of 1.5mm,the frequency shall be varied unifor-mly between the limits of 10-55Hz	It shall fulfill the specifications in Table 1
7.3	mechanical	Drop the resonator randomly onto a concrete floor from the height of 100 cm 3 times	It shall fulfill the specifications in Table 1.
7.4	Resistance to solder heat	Dip the resonator terminals no closer than 2 mm into the solder bath 260±5℃ for 10±1 sec.	It shall fulfill the specifications In Table 1.
7.5	solder ability	Dip the resonator terminals no closer than 2 mm into the solder bath at 235±5℃for 2±0.5sec.	More than 95% of the terminal surface of the

			resonator shall be covered with fresh solder
7.6	High Temperature Exposure	Subject the resonator to 80±5℃ for 96±4hours .Then release the resonator into the room conditions nor 1 hour prior to the measurement	It shall fulfill the specifications in Table 1
7.7	Low Temperature	Subject the resonator to -20±5℃ for 96±4 hours. Then release the Resonator into the room conditions For 1 hour prior to the measurement	It shall fulfill the specifications in Table 1
7.8	Temperature Cycling	Subject the resonator to -20℃for30 min .followed by a high temperature Of 80℃ for 30min.cycling shall be Repeated 5 times with a transfer Time of 15 sec. At the room condition. Then Release the resonator into the room conditions for 1 hour prior to the measurement	It shall fulfill the specifications in Table 1.

7.PHYSICAL AND ENVIRONMENTAL CHARACTERISTICS

(continued from the preceding page)

No	Item	Condition of Test	Performance Requirements
7.9	Lead fatigue (1)puling Test (2)bending Test	weight along with the direction of terminals without any shock 0.5kg for 10±1 sec. lead shall be subject to withstand against 90 degree bending at its stem. This operation shall be done towards Both direction.	The resonator shall show no Evidence of damage and Shall fulfill all the initial Electric Characteristics.

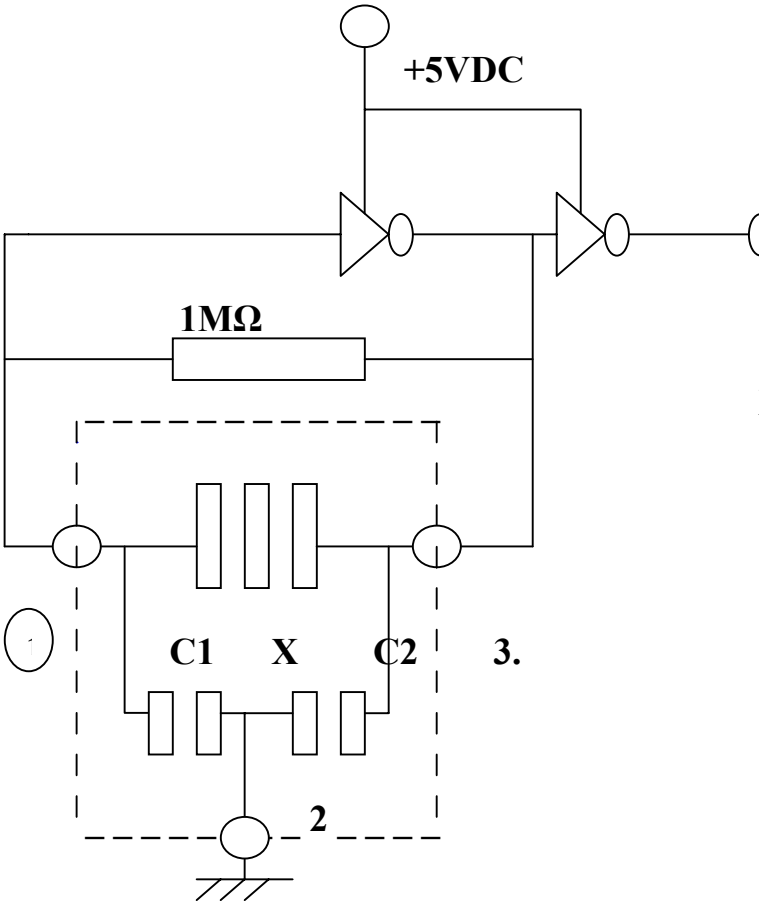
TABLE

Item	Specification
Oscillation Frequency Change	▲ F/Fosc ＜0.3%max
Resonator Impedance	▲ RO＜5Ω

8. REVIEW OF SPECIFICATIONS

When something get doubtful with this specifications we shall jointly Work to get an agreement.

5.3 TEST CIRCUIT



6.0 DIMENNSIONS

A. INPUT(输入)

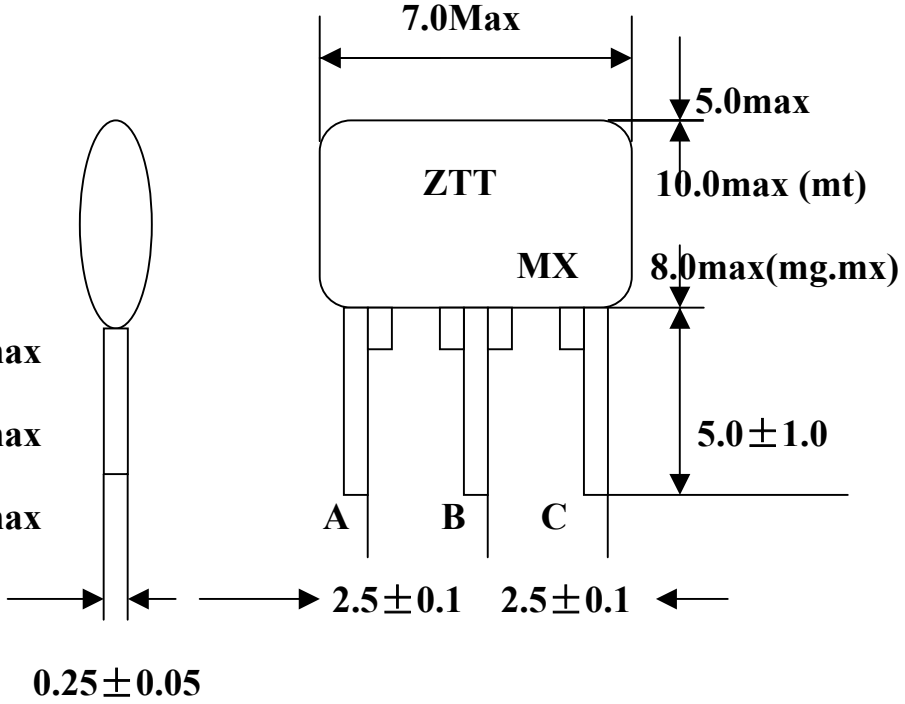
B. GROUND(接地)

C.OUTPUT(输出)

1.80-23.99MHZ 10.0max

24.00-31.99MHZ 7.5max

32.00-50.00MHZ 6.5max



5.MEASUREMENT

5.1 Measurement Condition

The reference temperature shall be 25℃±2℃.The measurement shall Be preformed at the temperature range of 5℃ to 35℃ unless otherwise The result is doubtful.

5.2 Measurement Circuit and Equipment

Oscillating frequency shall be measured by the standard test circuit as Shown in Fig.1.

Resonator impedance shall be measured by HP8751A Network Analyzer.