

DESIGN	CHECK	APPROVAL

CUSTOMER: _____

DATE: _____

APPROVAL SHEET

**PLEASE RETURN ONE SET OF
APPLICATION TO US AFTER
SIGNING ON THE BELOWING
SPACE FOR APPROVAL IF YOU
APPROVE OUR SAMPLES AND
APPLICATIONS**

PART NAME YDB SERIES OF CERAMIC RESONATOR

MODEL Z1.84—1.99M/Z1.84—1.99MT

CUSTOM PART NO

CUSTOM MODEL Z1.84—1.99M/Z1.84—1.99MT

APPROVED BY	REMARK

SHANDONG YIGUANG ELECTRONIC JOINT STOCK CO., LTD

SPECIFICATION FOR CERAMIC RESONATOR

MODEL NAME: Z1.84—1.99M/Z1.84—1.99MT



SHANDONG YIGUANG ELECTRONIC JOINT STOCK CO., LTD

Tel: 86—539—8269397 8269399 Fax: 86—539—8269396



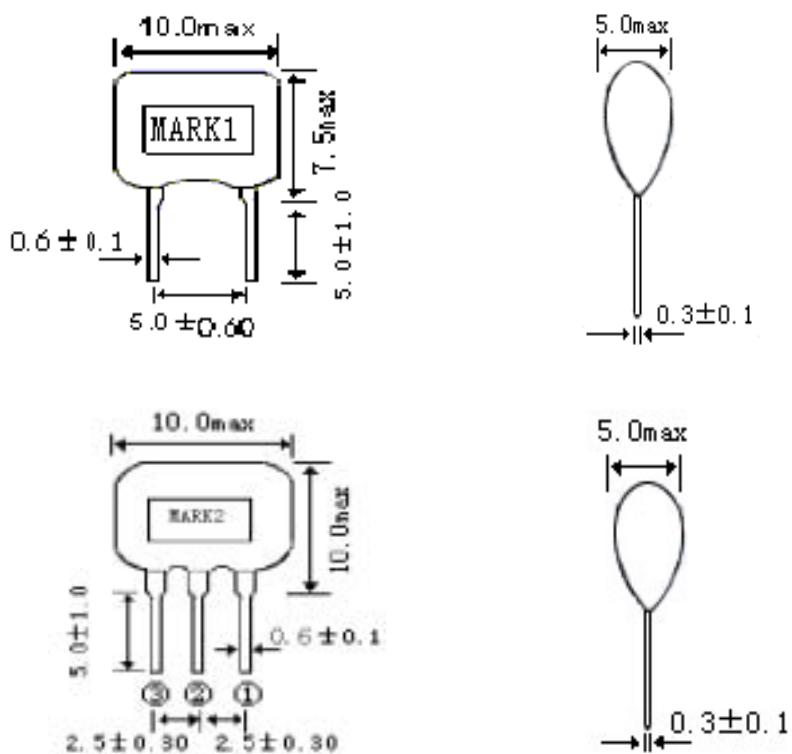
1. SCOPE

This specification is applied to the ceramics resonator used for the clock Oscillation of Microprocessor.

2. MODEL NAME

Part Name	Customer's Part number	Drawing No.
Z1.84—1.99M		
Z1.84—1.99MT		

3. DIMENSIONS

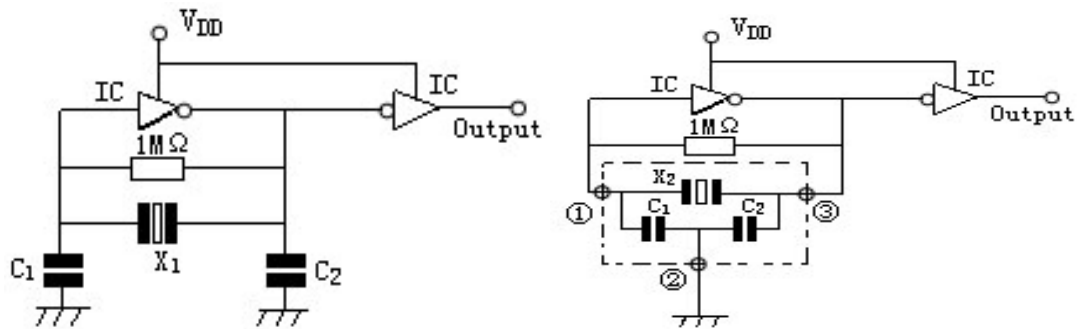


MARK 1: Z1.84—1.99M

MARK 2: Z1.84—1.99MT

4. TEST CIRCUIT

Parts shall be measured under a condition (Temp.:3~35°C.Hum:45~85%) unless any Necessity to measure under a standard condition (Temp.:20±2°C.Humi.:65±5%) is occurred.



X1: Z 1.84—1.99M X2: Z1.84—1.99MT
 C1=C2=30PF
 IC: TC4069UBP
 VDD=+5V

4. ELECTRICAL CHARACTERISTICS

	Item	Requirements
5-1	Frequency Accuracy	1.84—1.99M±0.5%
5-2	Resonant Impedance	80 Ω max
5-3	Operating Temperature Range Storage Temperature Range	-20 to +80 -30 to +85
5-4	Stability Temperature	±0.3% max. (—20—+80℃)
5-5	Withstanding Voltage	DC 100V (less than 5 sec)
5-6	Insulation Resistance	100 MΩ min (DC 10V)
5-7	Aging for 10 Years	±0.5±% max

**6. PHYSICAL AND ENVIRONMENTAL CHARACTERISTICS**

	Test Item	Condition of Test	Requirements
6-1	Lead strength Lead Bending	Force of 1 Kg is applied for 10 second to each lead in axial direction. Firmed the terminal up to 2mm. Resonator lead shall be subjected to withstand against 90° bending its stem. This operation shall be done toward both direction.	No mechanical damage and the measured values shall meet Item 5.
6-2	Solder ability	The terminals of the Resonator shall be immersion in a soldering bath ($230\pm 5^{\circ}\text{C}$) for $3\pm 0.5\text{sec}$. (refer to Mil-STD-202E-208C)	The solder shall for coat at least 95 % of the terminal.
6-3	Vibration	Resonator shall be measured after being Applied vibration as below. Vibration Freq: 10-55Hz Amplitude: 1.5 mm Directions: 3 axial directions Time: 2 Hour/each direction	The measured values Shall meet table 1
6-4	Random Drop	Resonator shall be measured after 3 times Random dropping from the height of 1m. Concrete floor	
6-5	Resistance to Soldering Heat	Dipped in ($350\pm 10^{\circ}\text{C}$) measured solder to a point 1.5mm from Resonator body for $3\pm 0.5\text{ sec}$ or dipped in ($260\pm 5^{\circ}\text{C}$) melted solder for $10\pm 1\text{ sec}$. Resonator shall be measured after being placed in natural condition for 1 hour.	



5. PHYSICAL AND ENVIRONMENTAL CHARACTERISTICS

	Test Item	Condition of Test	Requirements
6-6	Humidity	After being placed in a chamber (Humi: 90-95%RH Temp:40±2℃) for 96 hours Resonator shall be measured after placed in natural condition for 1 hour.	The measured values Shall meet table 1
6-7	Life Test (High temperature)	After being placed in a chamber 85± 2℃ for 96 hours, Resonator shall be measured after being placed in natural condition for 1 hour.	
6-8	Life Test (Low temperature)	Stored in a chamber (Temp:-20±2℃) for 1000 hours, Resonator shall be measured after being placed in natural condition for 1 hour.	
6-9	Thermal shock	After temperature cycling of -20℃ (30 min) to +80℃ (30min) was performed 5 times the Resonator shall be measured after being placed in natural condition for 1 hour.	

Table 1

Item	Limit Value
Frequency shift	$F/FO \leq \pm 0.3\%$
Resonant Impedance	$Z_r \leq 5 \Omega$

※ Note: The limits in the above table are referenced to the initial Measurements.



7. NOTICE

- 7.1 Ceramic Resonator should be stowed in storeroom. And the surrounding atmosphere is acid less, alkali-free and no other harmful impurity.**
- 7.2 The package for ceramic damage.**
- 7.3 This specification limits the quality of the component as a single unit.
Please make sure that the component is evaluated and confirmed the drawing
When it is mounted to your product.**