

## PRELIMINARY SPECIFICATION

ITEM: QUARTZ CRYSTAL RESONATOR

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DT-26

32.768kHz

1TD125AJNS001

## DT-26 Type Reference sheet

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## 1.Electrical characteristics (measured at +25±2℃)

(1)Nominal frequency	32.768 kHz
(2)Frequency tolerance	±5 ×10-max
(3>Loading capacitance	12.5 pF
(4)Equivalent resistance	50kΩ max./Series
(5)Measurement drive level	1.0 ±0.2 μW
(6)Turnover Temperature	+25 ±5 ℃
(7)Parabolic coefficient	-0.04 × 10-/℃ <sup>2</sup> max
(8)Insulation resistance	500 MΩ min.at DC 100V 以上(Lead to lead.Lead to case
(9)Operating temp.range	-40 ~ +85 ℃
(10)Storage temp.range	-40 ~ +125 ℃
(11)Aging	±5 × 10*max./year

## 2.Construction

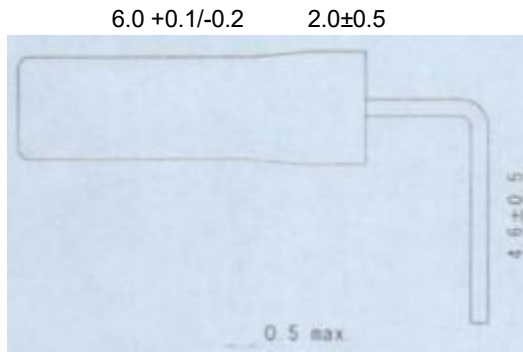
(1)Holder	DT-26
(2)Dimensions and marking	Refer to Fig-1 and Fig-2

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Serial No.2010-0835

### 3. Dimensions



$\phi 2.0+0.1/-0.2$

$\phi 0.28 \pm 0.05$

(Unit :mm)

Fig-1

### 4. Marking

Manufacturer's code and manufacturing date should be marked on the surface of holder as an applicable drawing shows.

※ Marking direction is not specified.

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## 5.Mechanical endurance

Item	Standard	Condition
Vibration Resistance	$f_0 : \pm 3 \times 10^6 \text{max}$	(1)Vibrator 30~120Hz (2)Cycle 2min (3)G Force 3G (4)Time 20min X,Y,Z Each Direction
Shock Resistance	$f_0 : \pm 3 \times 10^6 \text{max}$	Natural drops from 75cm height on a wooden board (3cm thickness)3 times Measuring 5 min after the test
Hermetical Sealing	$1 \times 10^9 \text{Pa} \cdot \text{m}^3/\text{s}$ max	Testing by Helium leak detector
Terminal Strength	No visual damage	Bending terminals at +90°, then at -90°, then at +90°, and then unbending at 0° at 1.0mm from the bottom of case. jig:R <sup>05</sup> One way is counted as one time, it can be endured up to 3 times
Soldering Heat Resistance	$f_0 : \pm 3 \times 10^6 \text{max}$	Dipping terminals to 1.0mm from the bottom of case into the solder pot at +245±5°C for 3s Measuring 1h after the test at +25°C
Solder ability	90%min	Terminals solder to 1.0mm from the bottom of case able at a bath temperature of +245±5°C for 3s.(with flux)

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6.Environmental Endurance

High temp.storage	$f_0$ : $\pm 3 \times 10^6$ max	+70°C×24h Measuring 2h after the test at +25°C
Low temp.storage	$f_0$ $\pm 3 \times 10^6$ max	-30°C×24h Measuring 2h after the test at +25°C
Moisture storage	$f_0$ : $\pm 3 \times 10$ max	+40°C×24h in 90%relative humidity Measuring 2h after the test at +25°C.

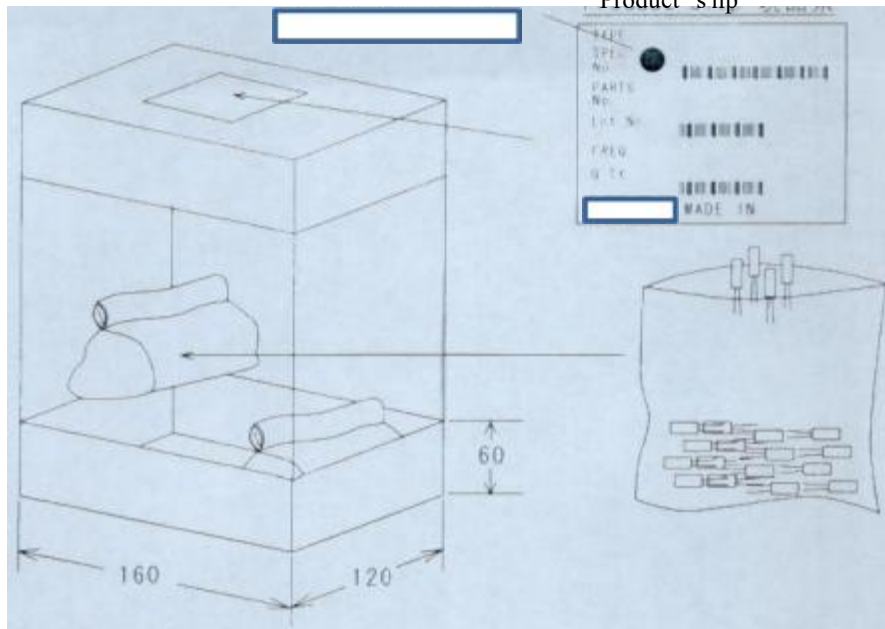
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7.Packing

7.1.Inner box

A green dot is marked onto the shipping label.

Product slip



Holder  
Spec No.  
User part No.  
Frequency  
Quantity  
Country of orig

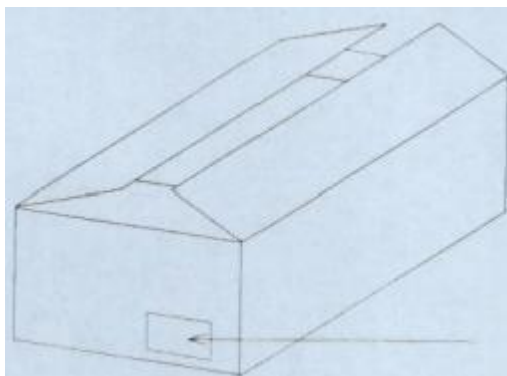
(Unit 单位: mm)

1000 units per plastic bag.5 plastic bags in an inner box.A product slip is attached on the inner box (As for odd unit,shall be packed in a plastic bag)

7.2.Outer box

Crystal units shall be packed in inner box by production lot.Outer carton size would be changed depending on lot size.

The description label shall be put on outer carton.

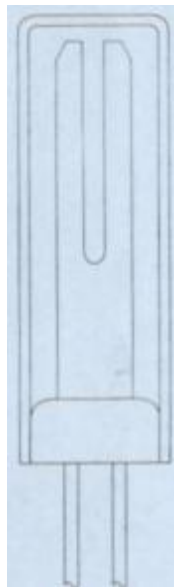
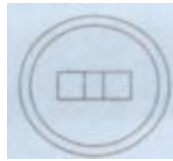


Description label

		0, 1No	

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8. Inside structure



(1)



(2)

(3)

(4)

(5)

No	Components	Materials	Finish/Specifications
(1)	Can	Nickel silye	Nickel plating
(2)	Crystal blank	SiO <sub>2</sub>	
(3)	Solder	Sn-Ag-Cu	
(4)	Shell	Fe-42Ni	Sn plating
(5)	Lead terminal	Kovar	Sn plating

This is a sketch of inside construction  
So the size of this drawing may not match with actual size

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## 9.Handing Guide for Tuning Fork Type Crystal Units(Cylinder Type)

## 9.1. Shock

Do not add excessive shocks to units,otherwise characteristic deterioration or no-oscillation may be caused.

Please be careful not to drop,and operate them on the shock free condition.

Please also confirm the condition before applying automatic mounting or changing the condition of use.

## 9.2.Temperature and humidity

Operation or storage in high-temperature,low-temperature or high-humidity may cause the deterioration of units.

Please operate or store them under the condition of normal temperature and the normal humidity.

## 9.3.Solder Heat

Solder which shall be melt at +217℃ is used inside of these units,and therefore characteristic

deterioration or no-oscillation may be caused if the units body temperature comes +150℃ or over.

Please use SMD or heat-resistant type units when applying the above temperature.

And please deeply concern about temperature condition or consult with us when applying wave soldering

Also please remind to solder with dipping at +280℃ max.for 5s max..or at +260℃ max.for 10s max

at terminals.

With regard to hand soldering,we recommend to solder at +350℃ max.for 3s max.

Please do not touch sealing part by a soldering iron.

Please do not apply solder to the body of units directly,as it may cause characteristic deterioration.

## 9.4.Mounting

Fix the units firmly if laid condition on circuit board is required.

Especially under the vibrating condition,insert shock absorber between the unit and circuit board, or fix the unit with elastic glue(silicon applied)onto the board.

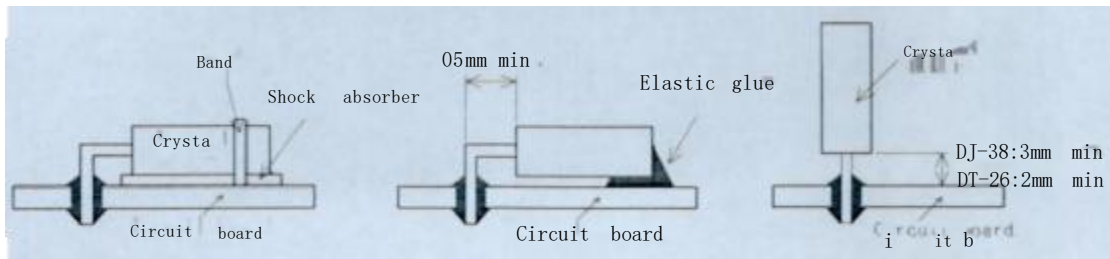
Please do not put the glue onto glass part of units.

It is also suggested to keep the unit away from circuit board more than 3mm for DT-38 type and 2mm for DT-26 type,if solder the unit at standing condition is required.

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#### 9.5. Lead Cutting and Lead Forming

Please keep your lead cutter in good condition, when applying the leads cutting

If forming or reforming the leads, do not add excessive power to the roots of leads or do not press sealing areas, otherwise the crack of glass or the leak may be caused.

Please do not cut or bend the leads within 0.5mm from the base of the cylinder body,

#### 9.6. Ultrasonic Washing and Ultrasonic Welding

Since mounting by ultrasonic welding or processing have a possibility of an excessive vibration spreading inside crystal products and becoming the cause of characteristic deterioration and not oscillating, we do not recommend it

As for ultrasonic washing, please make sure whether crystal products can stand it or not

#### 9.7. Drive Level

Oscillation in excessive drive level may cause characteristic deterioration or no-oscillation

For this product, drive level as less than  $1.0 \mu W$  is recommended

And original characteristics cannot be guaranteed when more than  $2.0 \mu W$  is supplied

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