

# Specifications

Drawing No.	USY1P-H1-14463-00	1 / 6
Issued Date.	Dec,25,2014	

**Messrs: KED USA**

**Note: Part Number will be revised in case of specification change.**

Product Type	Crystal Units with Thermistor
Series	CT2520DB
Frequency	19200kHz
Customer Part Number	-
Customer Specification Number	-
KYOCERA Part Number	CT2520DB19200C0FLHAF
Remarks Pb-Free, RoHS Compliant, MSL 1 GPS Quality.	

**Customer Approval**

Approval Signature	Approved Date	
	Department	
	Person in charge	

**Seller**

**KYOCERA Crystal Device Corporation**

(Sales Division)

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612-8501 Japan

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**Manufacturer**

**KYOCERA Crystal Device Corporation**

(Crystal Units Division)

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Design Department	Quality Assurance	Approved by	Checked by	Issued by
KYOCERA Crystal Device Corporation Crystal Unit Application Engineering Section Crystal Units Division	S.Itoh	T.Soda	A.Muraoka	Y.Nozaki

### Revision History

Rev.No.	Description of revision	Date	Approved by	Checked by	Issued by
1	First Edition	Dec,25,2014	T.Soda	A.Muraoka	Y.Nozaki

### 1. APPLICATION

This specification sheet is applied to Crystal Units with Thermistor “CT2520” for GPS Quality.

### 2. KYOCERA PART NUMBER

CT2520DB19200C0FLHAF

### 3. RATINGS

Items	SYMB.	Rating	Unit	Remarks
Operating Temperature range	Topr	-30~+85	°C	
Storage Temperature range	Tstg	-40~+105	°C	

### 4. CHARACTERISTICS

#### 4-1 ELECTRICAL CHARACTERISTICS

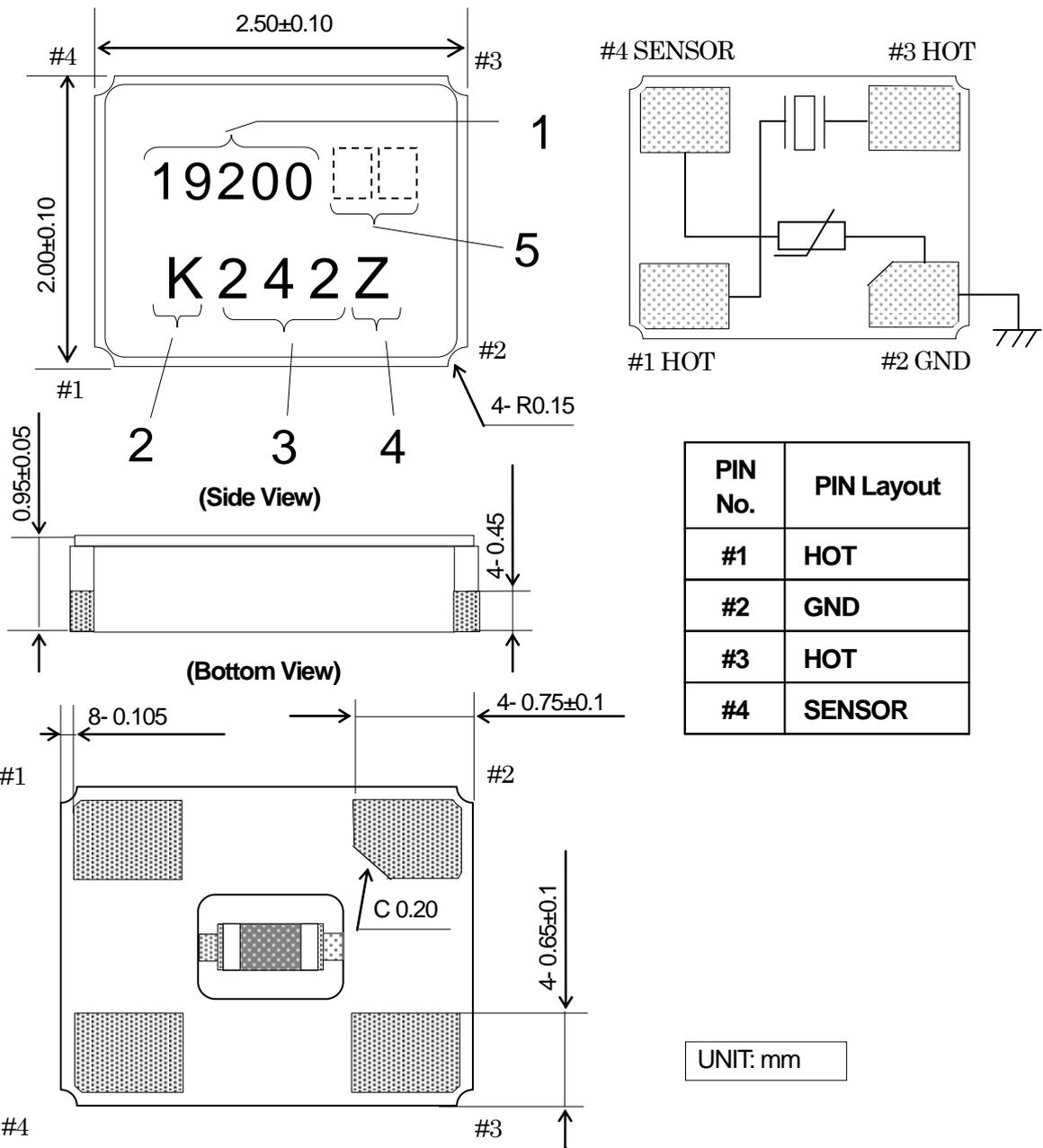
Items	Electrical Specification					Test Condition	Remarks
	SYMB.	Min	Typ.	Max	Unit		
Mode of Vibration		Fundamental					
Nominal Frequency	F0		19.2		MHz		
Nominal Temperature	T <sub>NOM</sub>		30		°C		
Load Capacitance	CL		7.0		pF		
Frequency Tolerance	dF	-10.0		+10.0	ppm	+25±3°C	
Frequency Temperature Characteristics	dF <sub>T</sub>	-12.0		+12.0		-30~+85°C	
Equivalent Series Resistance	ESR			80	Ω		
Drive Level	Pd	0.01		0.1	mW		

#### 4-2 ELECTRICAL CHARACTERISTICS (Thermistor)

Items	Electrical Specification					Remarks
	SYMB.	Min	Typ.	Max	Unit	
Resistance			100k		Ω	25°C
B-Constant			4250		K	25°C - 50°C
Tolerance		-1.0		1.0	%	

### 5. APPEARANCES, DIMENSION

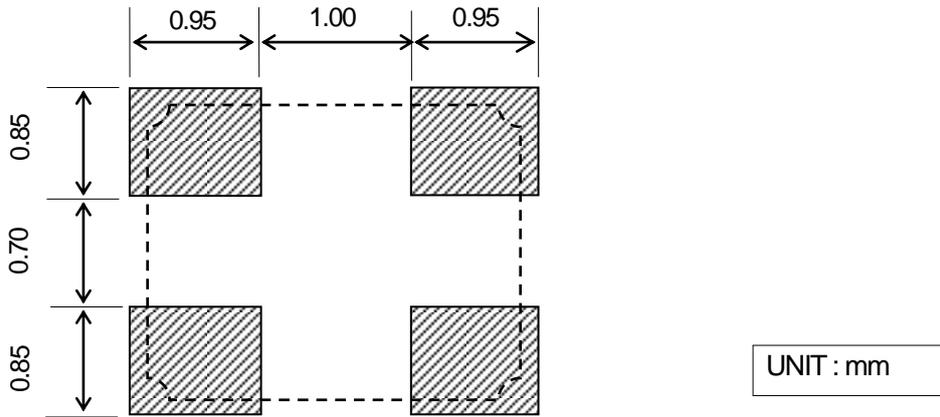
#### 5-1 OUTLINE DIMENSION (not to scale) (Top View)



#### MARKING

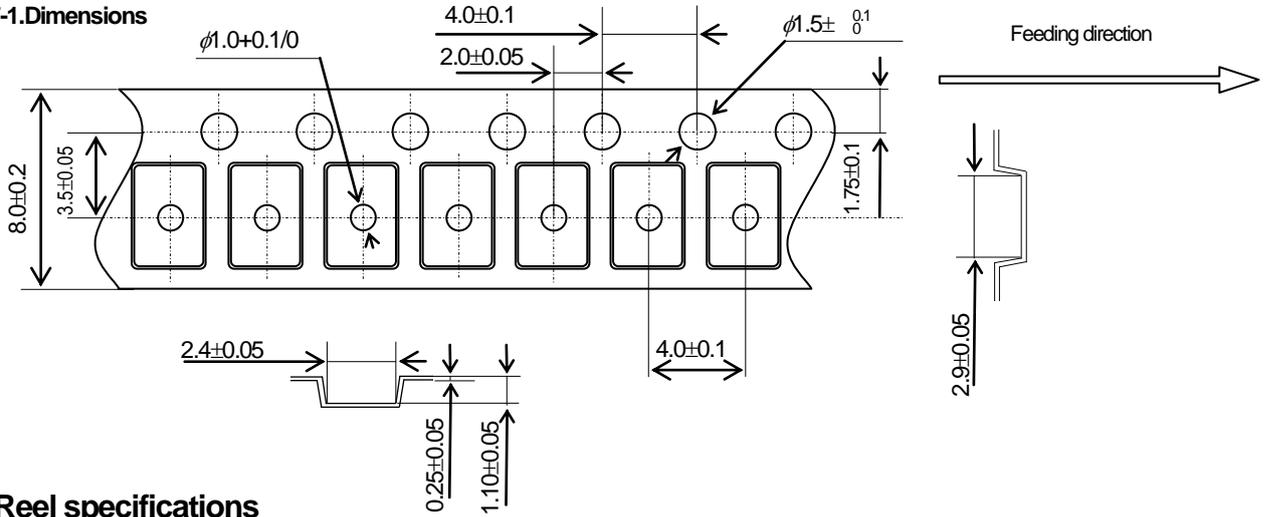
- |                            |   |
|----------------------------|---|
| (1) Nominal Frequency      | First 5 digits of the frequency are indicated.          |
| (2) Identification         | [K] is to indicate 1Pin direction                       |
| (3) Date Code              | Last 1 Digit of YEAR and WEEK<br>(Ex) 2014,Jan,01 → 401 |
| (4) Manufacturing Location | Y → Japan(Yamagata) Z → Japan(Shiga Yohkaichi)          |
| (5) Option Code            | Alphabet & Number 2digits or blank.(For T-Sensor)       |

### 6. RECOMMENDED LAND PATTERN (not to scale)

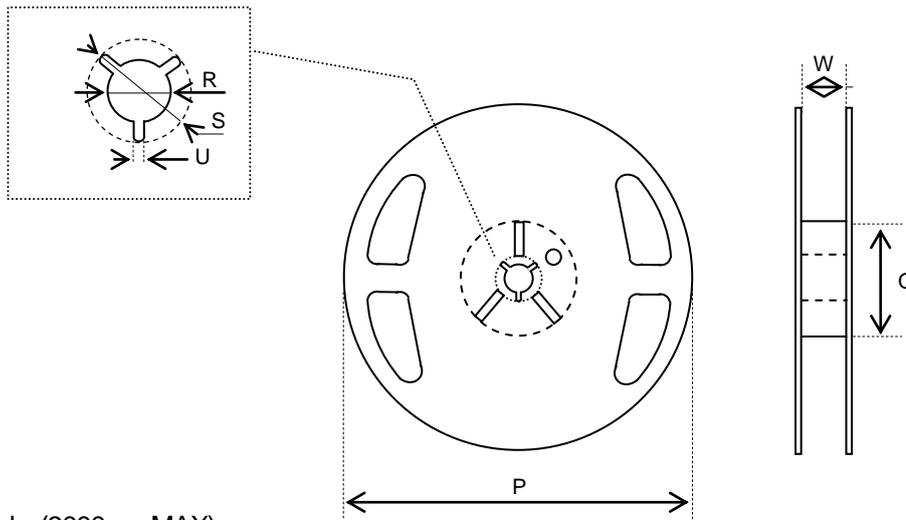


### 7. TAPING & REEL

#### 7-1. Dimensions



#### Reel specifications



φ330 Reel (3000pcs MAX)

Symbol	P	Q	R
Dimension	φ330±2.0	φ100±1.0	φ13±0.2
Symbol	S	U	W
Dimension	φ21±0.8	2.0±0.5	9.4±0.5

(Unit : mm)

## 8. Cautions for use

### (1) Soldering upon mounting

There is a possibility to influence product characteristics when Solder paste or conductive glue comes in contact with product lid or surface.

### (2) When using mounting machine

Please minimize the shock when using Mounting Machine to avoid any excess stress to the product.

### (3) Conformity of a circuit

We strongly recommend to make sure that Negative resistance (Gain) of IC is designed to be 3 times the ESR (Equivalent Series Resistance) of Crystal unit.

## 9. Storage conditions

Please store product in below conditions, and use within 6months.

Temperature +18 to +30°C, and the humidity of 20 to 70 % in the packaging condition.