

SPECIFICATION FOR CRYSTAL UNIT

National Semiconductor

- ◎ Parts Number :
- ◎ Model Name : TAS-4025A
- ◎ Frequency : 13000.000kHz
- ◎ Application : B.T.
- ◎ Package : Tape and Reel
- ◎ Other :  
No attached test data  
It is possible to endure for Lead-free  
Reflow-soldering. And Lead non-use  
concerned with product materials.

CUSTOMER SIGNATURE

DATE

- (1) Tokyo Denpa Co., Ltd. requires one copy returned with signature and title of authorized individual that signifies acceptance of the attached specifications.
- (2) Any orders received and accepted by Tokyo Denpa Co., Ltd. prior to return of signed copy of specification will be produced per these specifications.
- (3) Any changes to these specifications must be agreed upon in writing prior to acceptance by Tokyo Denpa Co., Ltd. for any orders.

WRITER	DESIGNER	Q. A	DATE	Jun. 03, 2004	SPECIFICATION No.	PAGE
			TOKYO DENPA CO., LTD.		120-12671	1 8

SPECIFICATION FOR CRYSTAL UNIT

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SPECIFICATION FOR CRYSTAL UNIT

1. General Specification

- |      |   |                  |
|------|---|------------------|
| 1. 1 | Holder  | TAS-4025A        |
| 1. 2 | Frequency   | 13000.000kHz     |
| 1. 3 | Mode of Oscillation   | Fundamental      |
| 1. 4 | Operating Temp. Range   | -40°C ~ +85°C    |
| 1. 5 | Storage Temp. Range   | -45°C ~ +90°C    |
| 1. 6 | Load Capacitance  | 16.0pF           |
|      | (The tolerance on the load capacitance shall be within ±1% from the nominal value or shall not exceed ±10% from frequency tolerance at the reference temperature (25±3°C), which ever value is smaller, however, in case of problem, standard test fixture shall be exchanged.) |                  |
| 1. 7 | Drive Level   | 50±10 μW         |
| 1. 8 | Outer Appearance, Dimension & Marking   | As per attached. |

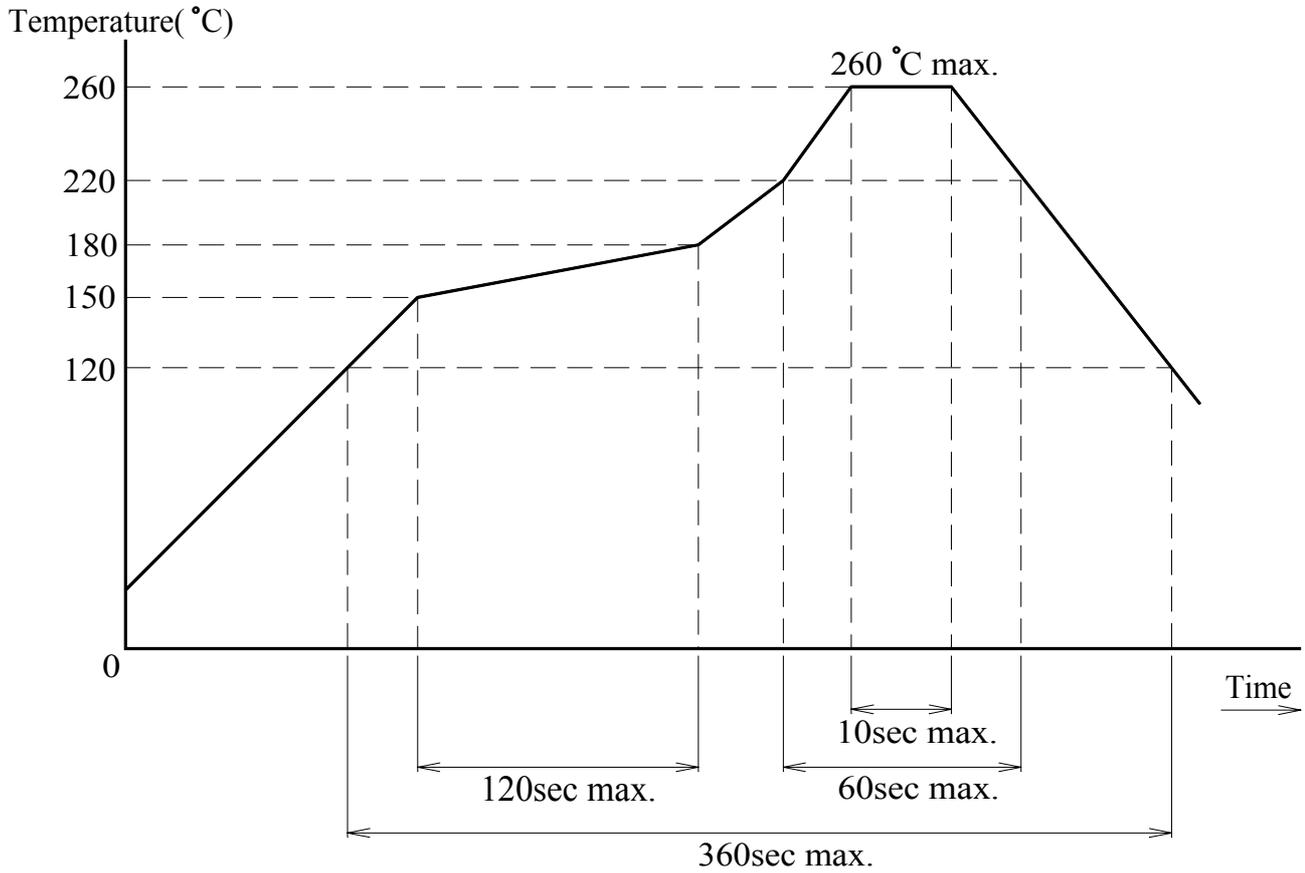
2. Electrical Specification

- |      |                               |   |
|------|-------------------------------|---|
| 2. 1 | Frequency Tolerance           | ±10×10 <sup>-6</sup> (25±3°C)                           |
| 2. 2 | Equivalent Series Resistance  | 80Ω Max.  |
| 2. 3 | Temp.VS Freq. Characteristics | ±15×10 <sup>-6</sup><br>(referred to the value at 25°C) |
| 2. 4 | Shunt Capacitance (C0)        | 5.0pF Max.  |
| 2. 5 | Insulation Resistance         | 500MΩ Min. (DC100V±15V)                                 |
| 2. 6 | Aging                         | ±1.0×10 <sup>-6</sup> Max. / 1 year                     |

**【NOTE】**

- ①Please keep the temperature of Reflow-soldering as specified.  
(Don't add temperature of more than 260°C)
- ②Please do not repair crystals after assembled on circuit board.
- ③In case of investigation or analysis is needed, please take care when removing the crystals from circuit board. (please do not over heat)
- ④Keep solder off from Au-Sn Alloy (Lid) portion.

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1) Reflow soldering : three times max.

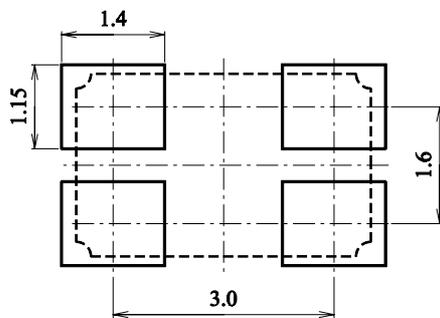
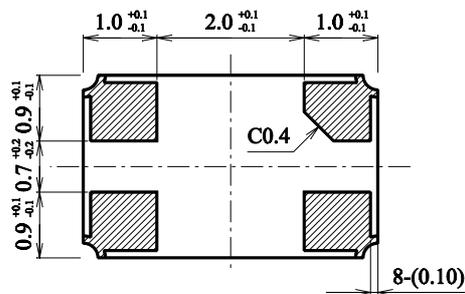
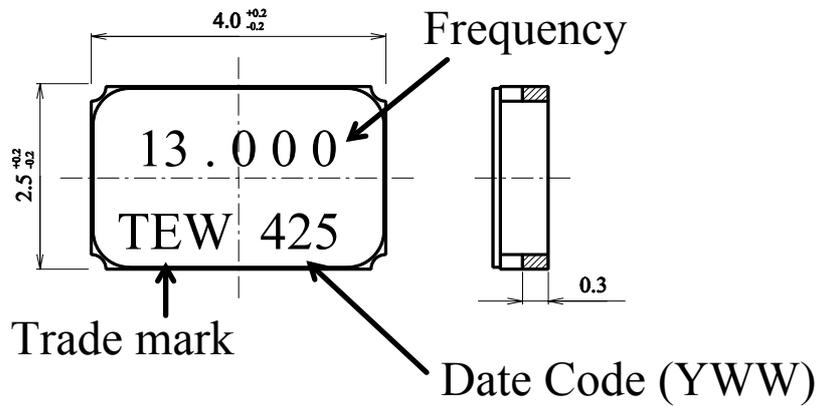
DATE	Mar.14.2001		

NAME OF UNIT	TITLE
	Reflow Temperature Profile (12-F0260)

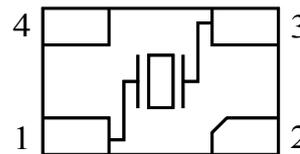
NOTE	UNIT	PROJECTION	SCALE	D.W.G. NO.
Lead free solder				

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Marking on the can is prepared with rubber stamp or marked with laser etching.



Reference Land Pattern

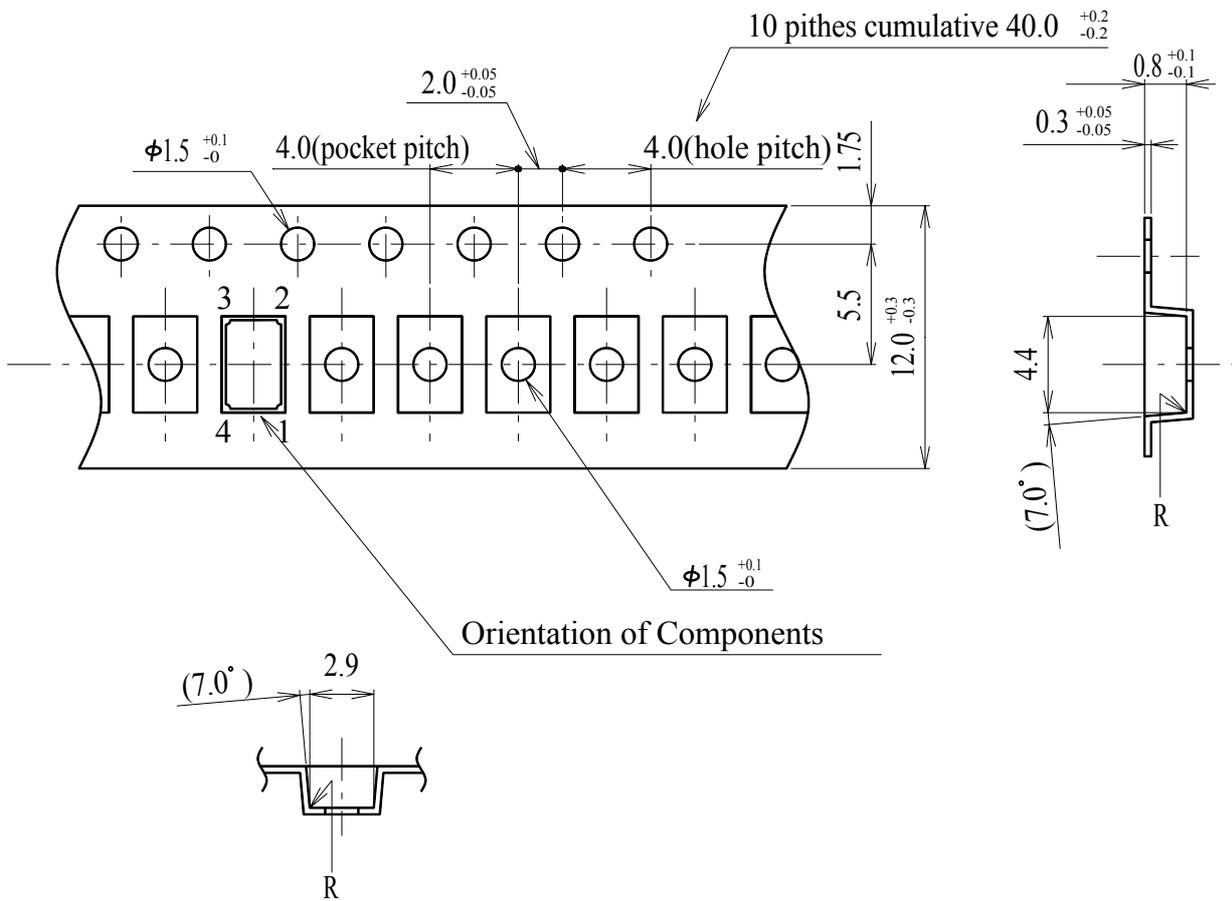


Connections  
(Top View)

DATE	Dec.20.2000		
△	Mar.12.2001		
△	Oct.29.2001		

NAME OF UNIT			TITLE		
△TAS-4025A (TAS-7)			Outline Drawing (12-F0246B)		
NOTE		UNIT	PROJECTION	SCALE	D.W.G.NO.
		mm	3rd angle	10/1	
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TOKYO DENPA CO.,LTD.					

DRAWING OUT DIRECTION →



- 1) Corner of "R" not mentioned is 0.3max.
- 2) The tolerance not mentioned is +/-0.1.

△ MATERIAL : PS

DATE	Jan.22.2001		
△	Oct.03.2001		
△	Jan.08.2002		

NAME OF UNIT

TAPE

TITLE

(12-F0248C)

NOTE

△ TAS-4025A (TAS-7) 12mm (Standard)

UNIT

mm

PROJECTION

3rd angle

SCALE

3/1

D.W.G. NO.

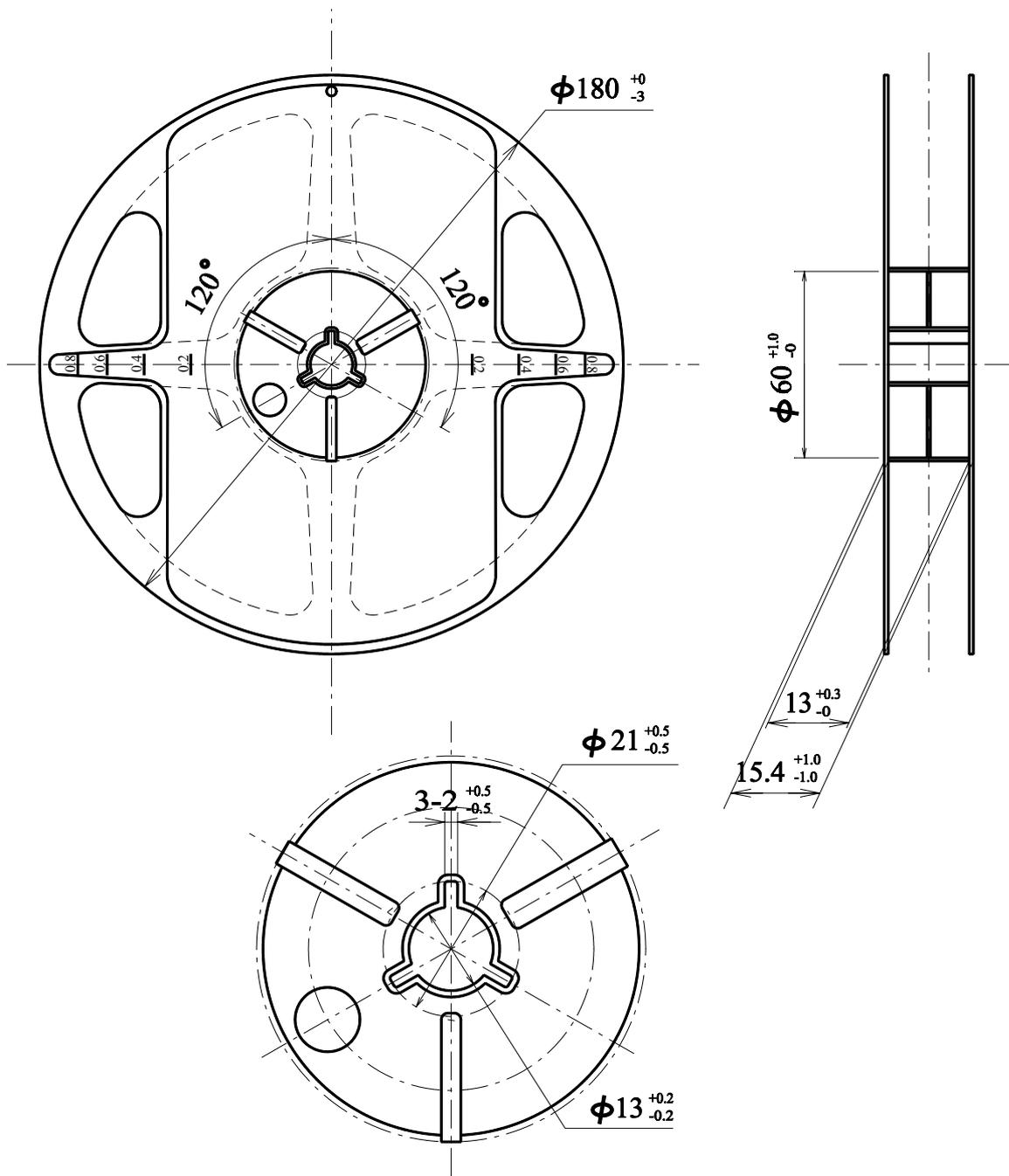
APPROVE

DESIGN

DRAWING

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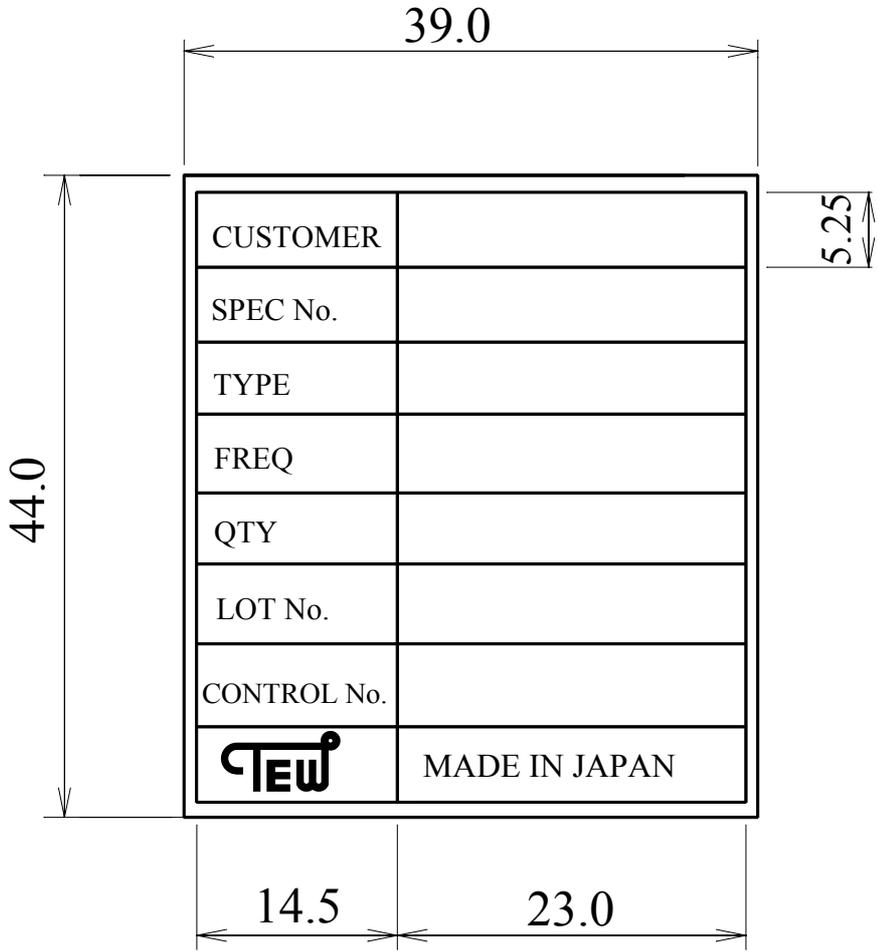


Width drawing of Hab(1/1)

MARK	DATE		
	Mar.13.2001		

NAME OF UNIT	REEL	TITLE	OUTLINE DRAWING (12-F0257)
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NOTE	$\phi 180$ 12mm PS	UNIT	PROJECTION	SCALE	D.W.G. NO.
		mm	3rd Angle	1/2	
APPROVE	DESIGN	DRAWING	120-12671 7/8		



DATE	2002.12.10		

NAME OF UNIT		TITLE	
φ 180 REEL MARKING		MARKING LABEL AND DIMENSION (12-F0397)	

NOTE		UNIT	PROJECTION	SCALE	D.W.G. NO.
		mm	3rd angle	1/2	

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