

SPECIFICATION FOR CRYSTAL UNIT

N a t i o n a l S e m i c o n d u c t o r

◎ Parts Number :

◎ Model Name : TSS-6035B

◎ 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.		1 2 0 - 1 2 6 7 3	1 / 7

SPECIFICATION FOR CRYSTAL UNIT

REV.	DATE	PAGE	ITEM No.	CONTENTS OF CHANGE
	Jun. 03, 2004			First

TITLE	DATE	Jun. 03, 2004	SPECIFICATION No.	PAGE
SPECIFICATION FOR CRYSTAL UNIT	TOKYO DENPA CO.,LTD.		1 2 0 - 1 2 6 7 3	2 7

SPECIFICATION FOR CRYSTAL UNIT

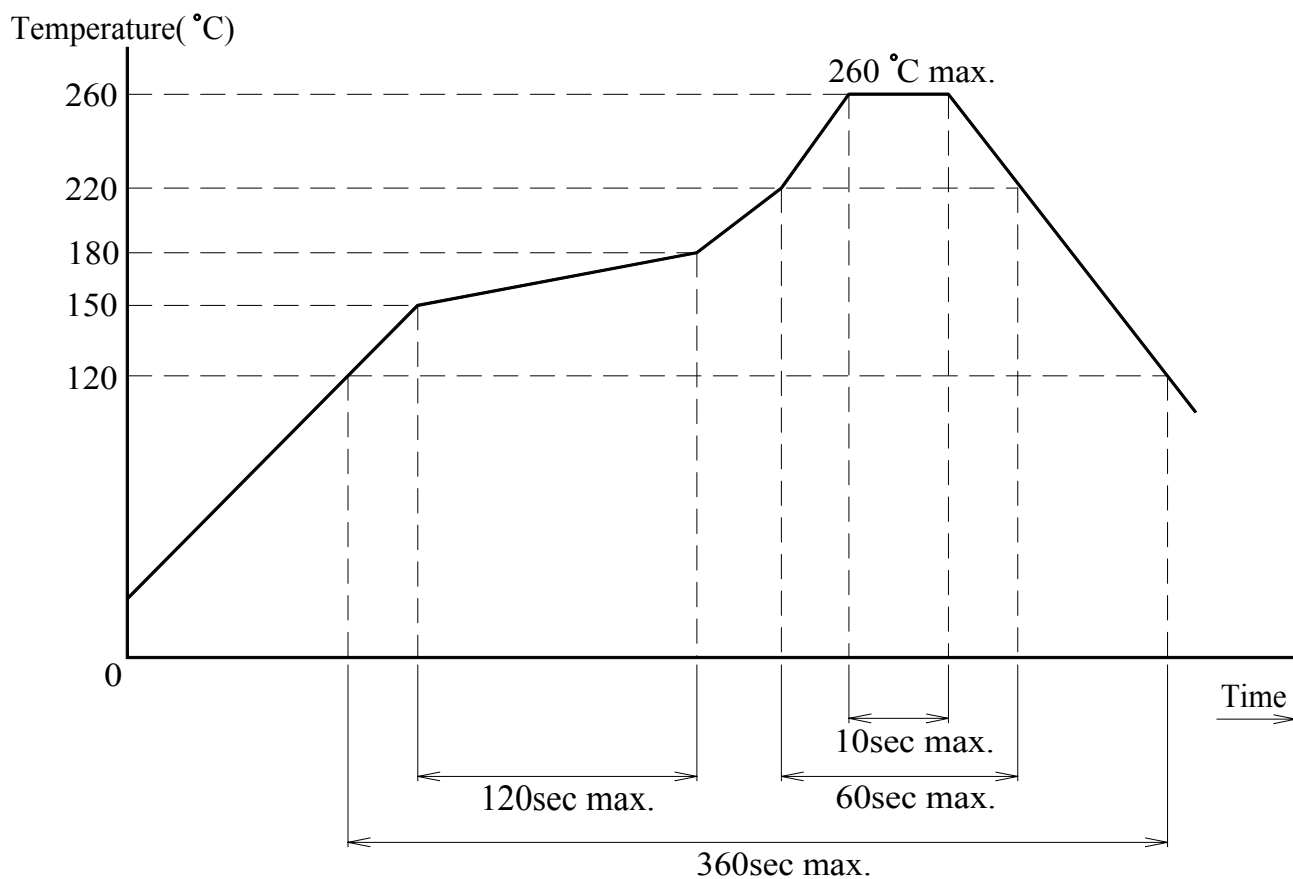
1. General Specification

1. 1	Holder	TSS-6035B
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 ~ + 105°C
1. 6	Load Capacitance	16.0pF (The tolerance on the load capacitance shall be within $\pm 1\%$ from the nominal value or shall not exceed $\pm 10\%$ from frequency tolerance at the reference temperature ($25 \pm 3^\circ\text{C}$), which ever value is smaller, however, in case of problem, standard test fixture shall be exchanged.)
1. 7	Drive Level	$100 \pm 20 \mu\text{W}$
1. 8	Outer Appearance, Dimension & Marking	As per attached.

2. Electrical Specification

2. 1	Frequency Tolerance	$\pm 10 \times 10^{-6}$ (25 $\pm 3^\circ\text{C}$)
2. 2	Equivalent Series Resistance	40 Ω Max.
2. 3	Temp.VS Freq. Characteristics	$\pm 15 \times 10^{-6}$ (referred to the value at 25°C)
2. 4	Shunt Capacitance (C0)	5.0pF Max.
2. 5	Insulation Resistance	500M Ω Min. (DC100V $\pm 15\text{V}$)
2. 6	Aging	$\pm 1.0 \times 10^{-6}$ Max. / year

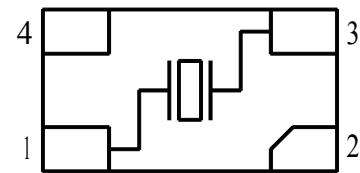
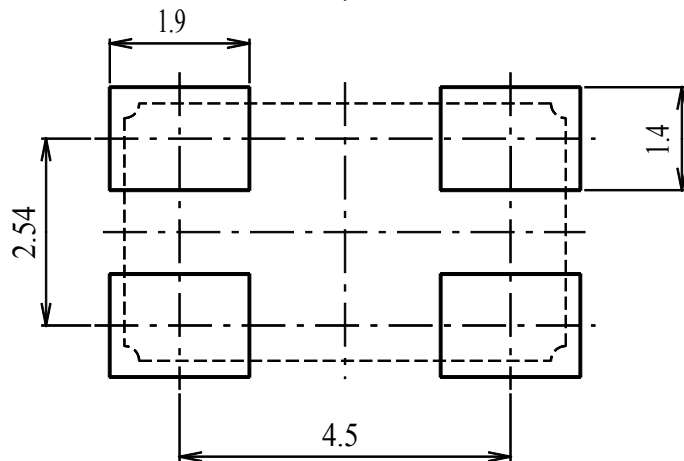
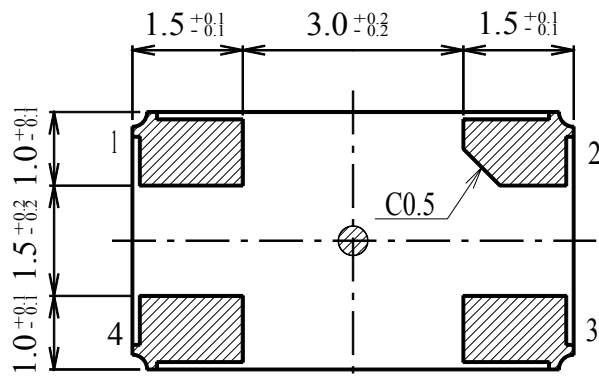
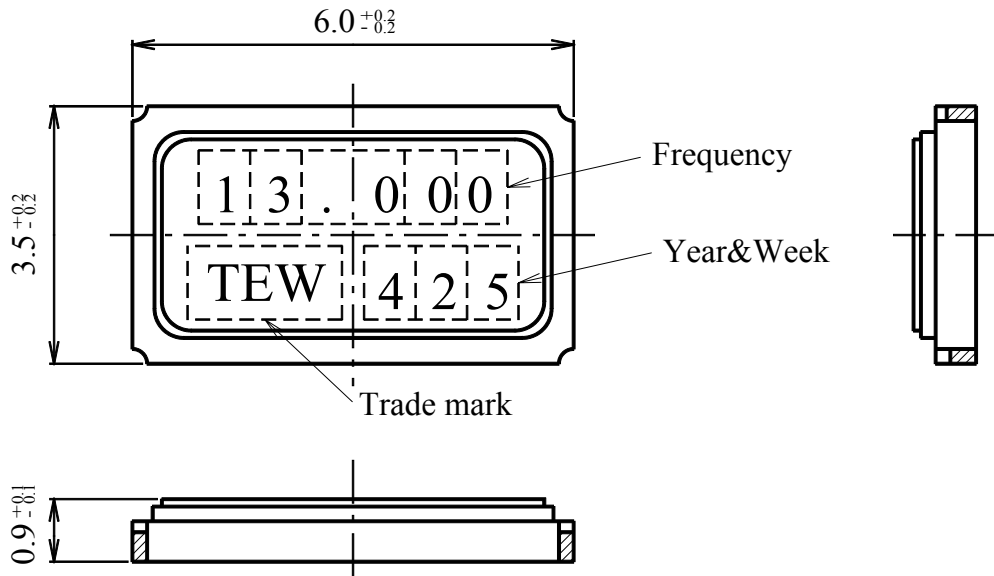
TITLE	DATE	SPECIFICATION No.	PAGE
SPECIFICATION FOR CRYSTAL UNIT	TOKYO DENPA CO., LTD.	1 2 0 - 1 2 6 7 3	3 / 7



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							
APPROVE	DESIGN	DRAWING	TOKYO DENPA CO.,LTD.			120-12673 4/7	

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



Connections
(Top view)

Reference land pattern

DATE	JAN.12.1999		
	JUN.04.1999		
\triangle	OCT.03.2001		

NAME OF UNIT

\triangle TSS-6035B (TSS-3B(1.0))

TITLE

Outline drawing

(12-F0120D)

NOTE

UNIT

PROJECTION

SCALE

D.W.G. NO.

mm

3rd angle

10/1

APPROVE

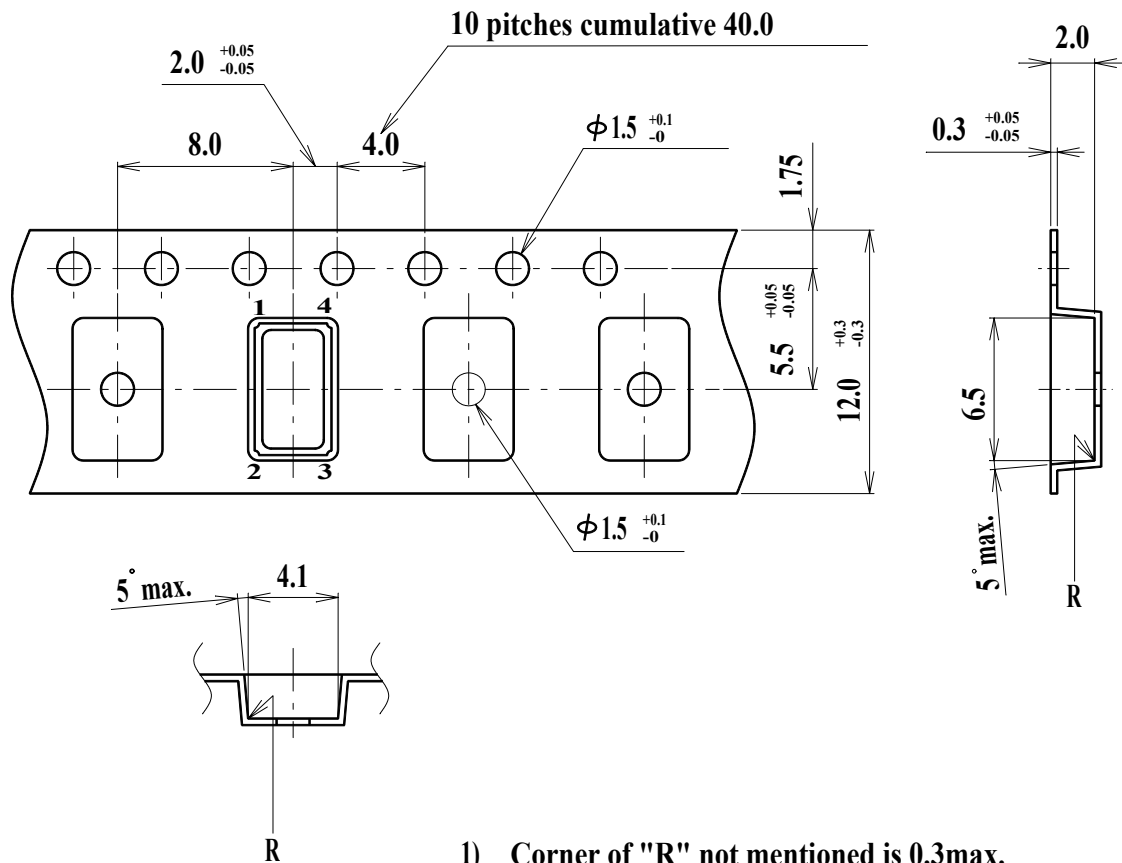
DESIGN

DRAWING

TOKYO DENPA CO.,LTD.

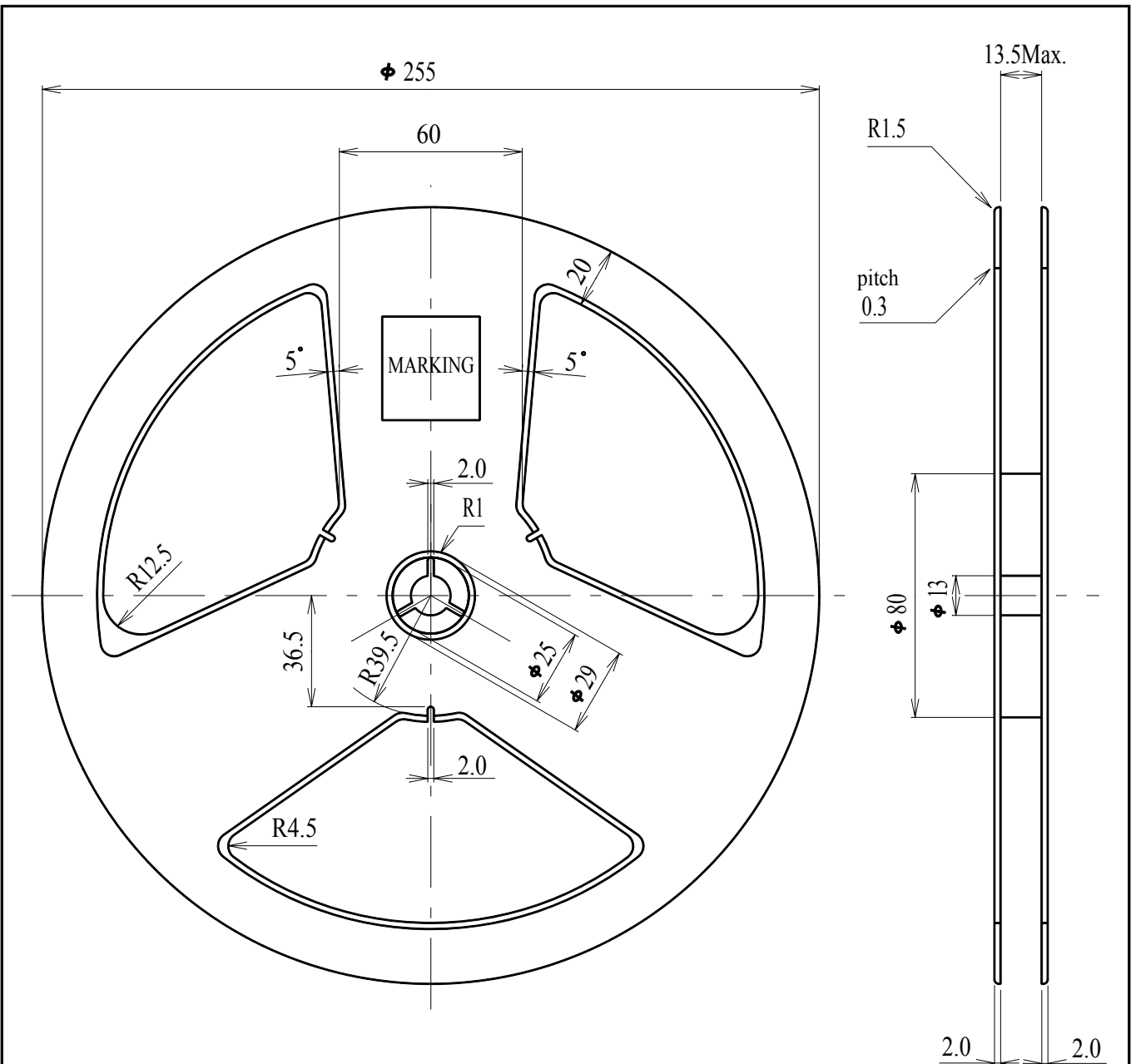
120-12673 5/7

DRAWING OUT DIRECTION →



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

				DATE	Jul.27.1999		
				△	Oct.05.2001		
NAME OF UNIT TAPE				TITLE (12-F0211A)			
NOTE △ TSS-6035B (TSS-3B(1.0)) 12mm (Standard)				UNIT mm	PROJECTION 3rd angle	SCALE 3/1	120-12673 6/7
APPROVE	DESIGN	DRAWING	TOKYO DENPA CO.,LTD.				



1
2
3
4
5
6
7
8

CONTENTS

1. CUSTOMER
2. P/No. ; PARTS NUMBER
3. TYPE
4. FREQ. (MHz/KHz)
5. Q'TY ; QUANTITY
6. LOT No.
7. CONTROL No.
8. TEW MADE IN JAPAN

MARKING

DATE	FEB.12.1997		
DATE	AUG.26.1998		
DATE	JUL.16.1999		

NAME OF UNIT

Reel and Marking

TITLE

OUTLINE DRAWING (12-F0083B)

NOTE

12mm ϕ 250

UNIT

mm

PROJECTION

3rd angle

SCALE

1/2

D.W.G. NO.

120-12673 7/7

APPROVE DESIGN DRAWING

TOKYO DENPA CO.,LTD.