YOKE®

APPROVAL SHEET

佳世達科技股份有限公司

Item : S3225A Crystal

Spec. no : S3225A-012000-F18-YYC-1AQA

Freq : 12.000 MHz

Qisda P/N:

Customer Approved	Checked By	Issued By
	陳慧美	

友桂電子股份有限公司
YOKETAN CORPORATION

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RoHS Compliant

YOKE®

REVISION HISTORY

Rev	Revise page	Revise Contents	Date	Ref.No.	Reviser
A	N/A	INITIAL ISSUE	2013/8/6	N/A	Aki Hsieh

SPECIFICATION OF CRYSTAL UNITS YOKETAN CORP.

Customer : 佳世達

SPEC NO : S3225A-012000-F18-YYC-1AQA
Date : 6-Aug-13

1 General

1-1 Enclosure:	S3225A (Lead Free Parts)
1-2 Application:	
1-3 Overtone Order :	Fundamental
1-4 Crystal unit Frequency :	12.000 MHz
1-5 Frequency Deviation :	
1-5-1 At Reference Temperature :	±30ppm at 25 ± 3℃
1-5-2 At Operating Temperature :	±30ppm in 1-6 (Refer to 25 Deg. C)
1-6 Operating Temperature Range :	-20℃ to +70℃
1-7 Storage Temperature Range :	-55℃ to +125℃
1-8 Unit Net of Weight :	0.020716g±5%

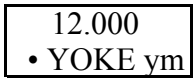
2 Circuit

2-1 Circuit :	250B
2-2 Load Capacitance :	18pF ± 0.3pF
2-3 Level of Drive :	50uW(Max.)

3 Electrical Performance

3-1 Equivalent Series Resistance:	Less than 80 ohms
3-2 Shunt Capacitance (C0):	3.5pF Max.
3-3 Insulation Resistance :	More than 500Mohms at DC100V
3-4 Aging:	±5ppm/year Max

4 Marking



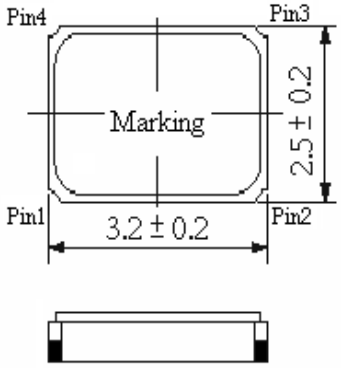
12.000 : Freq.
• : crystal
: YOKE
y : YEAR
m : MONTH

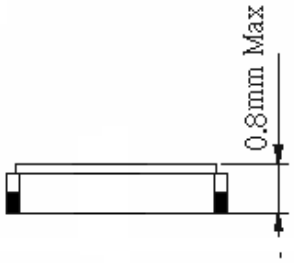
CODE	YEAR
8	2008
9	2009
0	2010
1	2011
2	2012
3	2013
4	2014
5	2015
6	2016
7	2017
8	2018
9	2019

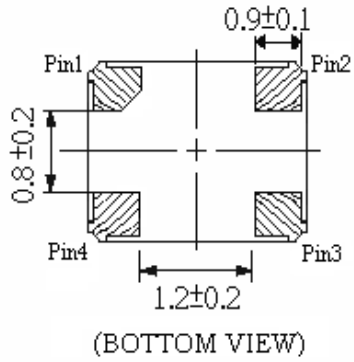
CODE	MONTH
A	Jan.
B	Feb.
C	Mar.
D	Apr.
E	May.
F	Jun.
G	Jul.
H	Aug.
I	Sep.
J	Oct.
K	Nov.
L	Dec.

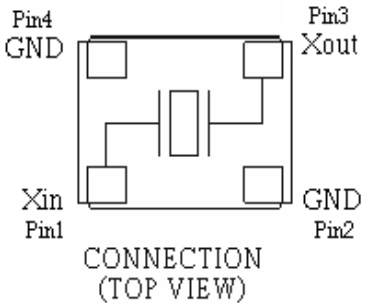
SPECIFICATION OF CRYSTAL UNITS YOKETAN CORP.

Dimension

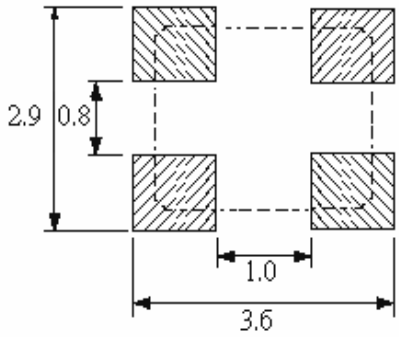






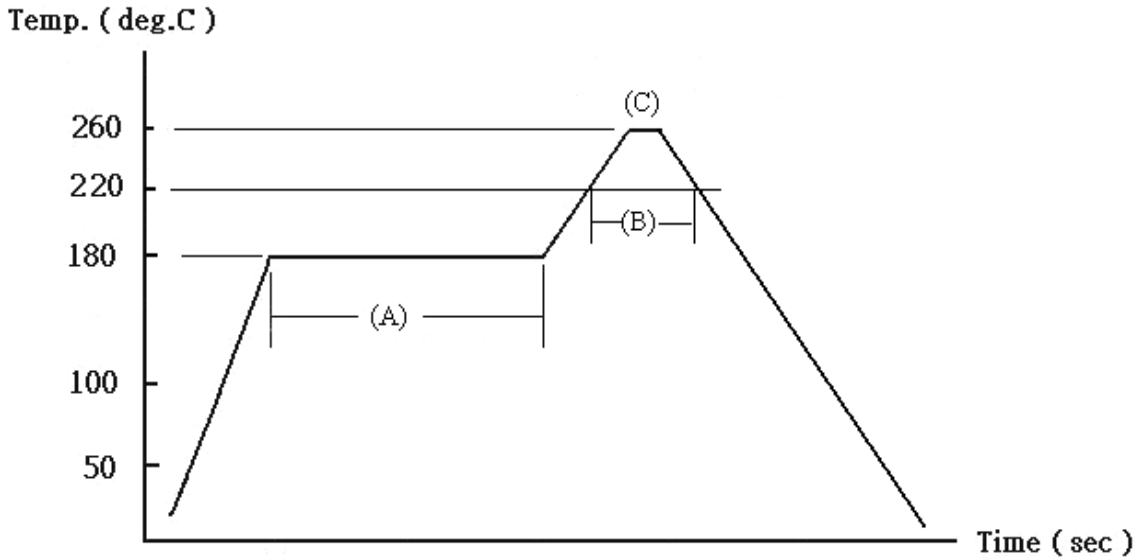


Recommended Soldering Pattern



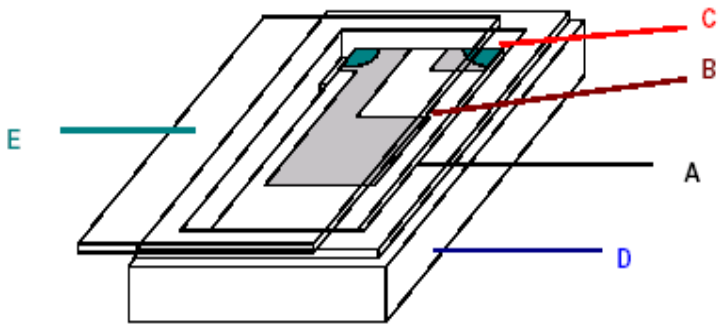
	Date	Name	Unit : mm	
Drawn	31.May.2011	Leo	Title	Drawing No.
Checked	31.May.2011	Iris	Dimension of External	PKX-322508-018
Approved	31.May.2011	Wan		

Soldering reflow



(A)→Preheating area :180±10°C, 90±30sec
(B)→Heating area :220±10°C, 30sec(max.)
(C)→Pear temperature :260°C, 10sec(max.)
Ram rate :3°C/sec(max.)

Note:
The crystal characteristics may be affected and destroyed at worst by additional production process as ultrasonic welding or molding encapsulation. Please be sure to check if this process affects any damage to crystal products prior to use.

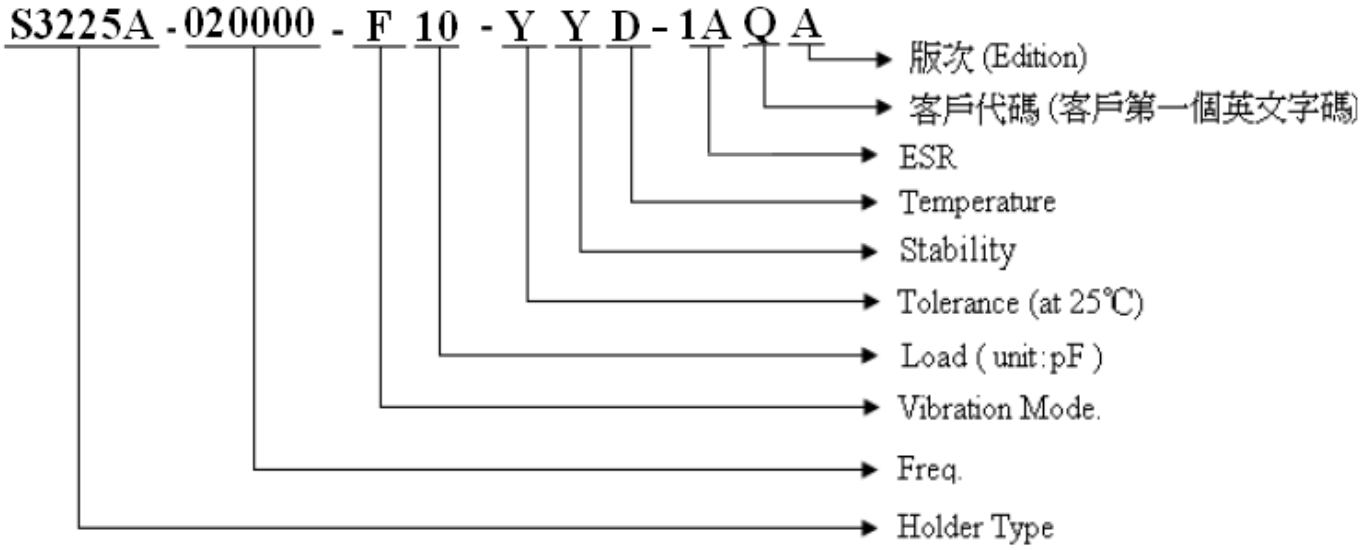


結 構 示 意 圖 :

代号	名 稱 Name	材料 Material
A	晶片 Blank	水晶棒 Synthetic quartz
B	電極 Electrode	銀 Ag
C	銀膠 Conductive bonding	矽 Ag Silicon Bonding
D	基座 Package	陶瓷 Ceramic
E	上蓋 Lid	鐵鈷鎳合金 KOVAR

SPECIFICATION OF CRYSTAL UNITS YOKETAN CORP.

Code of Spec No.



SPECIFICATION OF CRYSTAL & OSC UNITS YOKETAN CORP.

Reliability Test (applicable to OSC and SMD type X'tal)

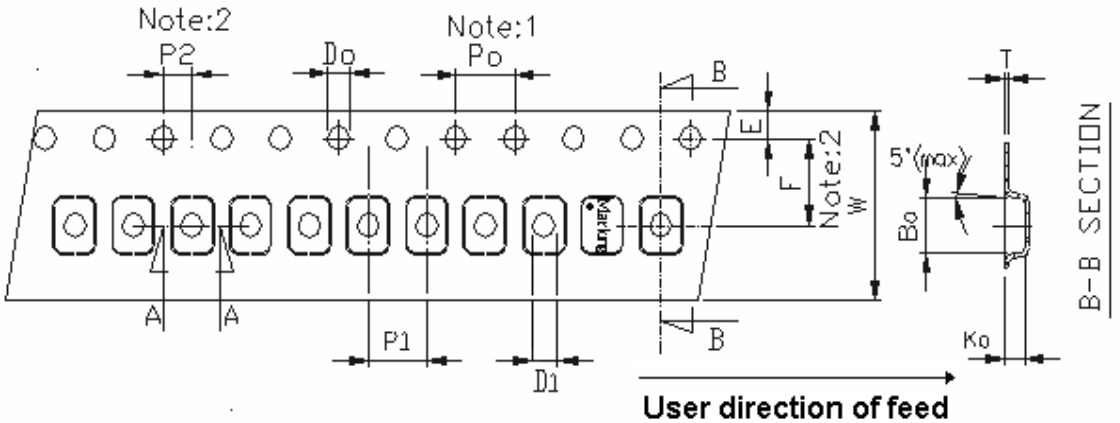
Test Items	Test Condition	Specification	
		General OSC (Note:1)	General X'tal (Note:2)
1. Gross Leak Test	FC-40 125℃/30sec	No continuous bubble	
2. Fine Leak Test	Bombing of He 5kg/cm^2 for 2 hours	Less than 1*10^-8atm.c.c./sec, Helium	
3. Drop Test	a ~19.999MHz(Fund.) →75 cm height b. 20~29.999MHz(Fund.) →50 cm height c. 30~ MHz(Fund.) →20 cm height on hard wooden surface / 3 times (thickness more than 30 mm)	△F≦± 10PPM , Duty within spec.	△F≦±10PPM , △C.I.≦±10ohms
4. Vibration Test	Freq. range: 10~55Hz Peak to peak amplitude:1.5mm Peak acceleration:10 G 3 direction(X,Y,Z)，each 60min.	△F≦± 10PPM , Duty within spec.	△F≦±10PPM , △C.I.≦±10ohms
5. Resistance to Soldering Test	a. IR Reflow furnace with the condition 2 times.Peak temp.260±3℃ ，10±1 sec.	△F≦±10PPM , Duty within spec. For SMD OSC only	△F≦±10PPM , △C.I.≦±10ohms
	b. Dip terminals in a 260±5℃ solder bath for 5±1 sec.	At least 90% by 30X magnification of each dipped area shall be covered by fresh solder. For DIP OSC only.	NA
6. Bending Test	Bending cycle : 1 cycle 0° - > 45° -> 0° -> 45° - > 0°	△F≦±5PPM , Duty within spec. For DIP OSC only.	NA
7. Shearing Test	Weight : 5N, Test duration : 10±1 sec	△F≦±5PPM , Duty within spec. For SMD OSC only.	△F≦±10PPM , △C.I.≦±10ohms
8. Low Temp. Exposure Test	-40±3℃, 240±12 hrs	△F≦±10PPM , Duty within spec.	△F≦±10PPM , △C.I.≦±10ohms
9. Aging Test	125±3℃, 240±12hrs	△F≦±10PPM , Duty within spec.	△F≦±10PPM , △C.I.≦±10ohms
10. High Temp. & Humidity Test	+85℃±5℃& 85%±5% R.H. , 240±12 hrs	△F≦±10PPM , Duty within spec.	△F≦±10PPM , △C.I.≦±10ohms
11. Temperature Cycling Test	-40±3℃/15±3min ~ +85±3℃/15±3min 15cycles	△F≦±10PPM , Duty within spec.	△F≦±10PPM , △C.I.≦±10ohms

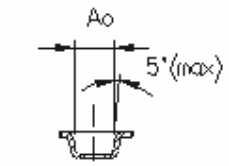
Note:1 → For communication application the spec. demanded **"△F≦±5 PPM, Duty within spec."**。

Note:2 → For communication application the spec. demanded **"△F≦±5 PPM, △C.I.≦±5 ohms "**。

SPECIFICATION OF TAPE & REEL YOKETAN CORP.

Taping





A–A SECTION

Ao= 2.70±0.10 mm

Bo= 3.40±0.10 mm

Ko= 1.0±0.10 mm

Unit: mm

Symbol	Spec.
K1	–
Po	4.0±0.10
P1	4.0±0.10
P2	2.0±0.10
Do	1.55±0.05
D1	1.0 (MIN)
E	1.75±0.10
F	3.50±0.10
10Po	40.0±0.10
W	8.0±0.20
T	0.25±0.05

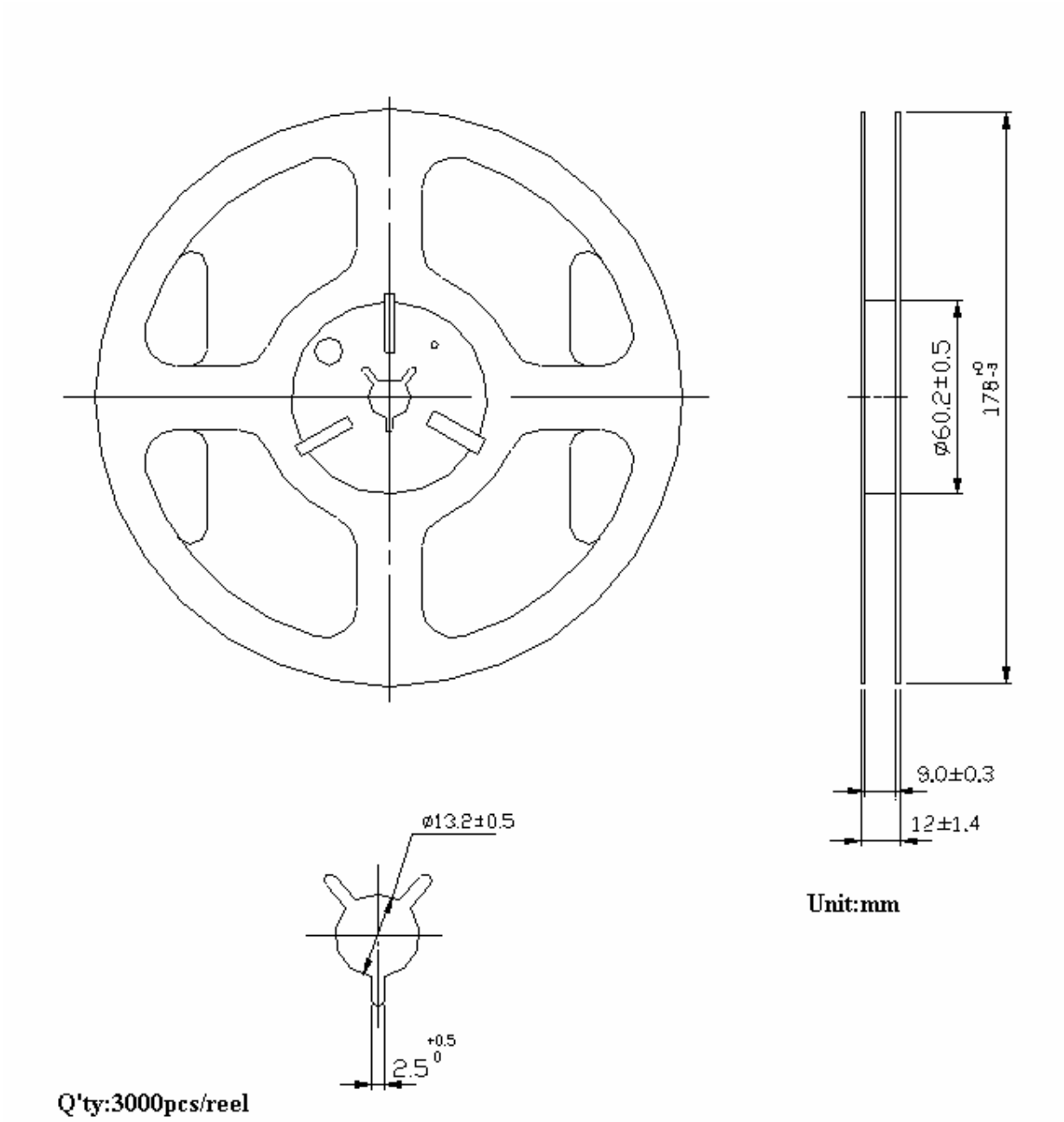
Notice:

1. 10 Sprocket hole pitch cumulative tolerance is ±0.1mm
2. Pocket position relative to sprocket hole measured as true position of pocket not pocket hole.
3. Ao & Bo measured on a place 0.3mm above the bottom of the pocket to top surface of the carrier.
4. Ko measured from a plane on the inside bottom of the pocket to the top surface of the carrier.
5. Carrier camber shall be not than 1mm per 100mm through a length of 250mm.

	Date	Name	Unit : mm	
Drawn	**4.Jun.2013**	Leo	Title	Drawing No.
Checked	**4.Jun.2013**	Iris	**Tape & Reel Dimension**	**C009-020310-X-1106**
Approved	**4.Jun.2013**	Wan		

SPECIFICATION OF TAPE & REEL YOKETAN CORP.

Reel



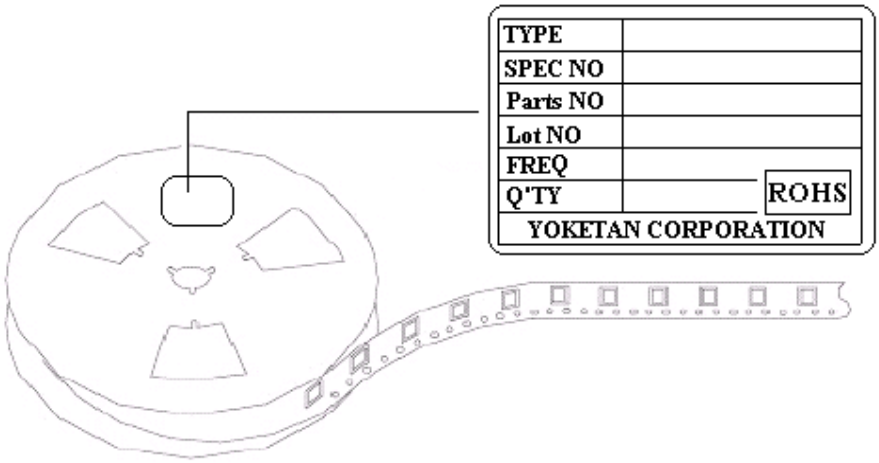
Unit:mm

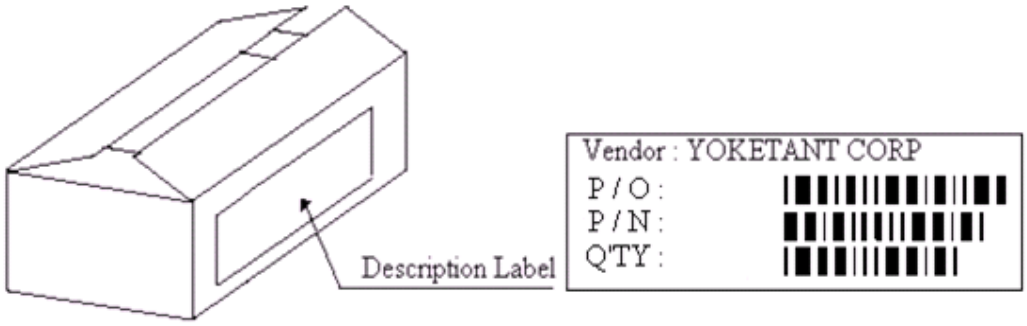
Q'ty:3000pcs/reel

	Date	Name	Unit : mm	
Drawn	**22.Jan.2007**	Leo	Title	Drawing No.
Checked	**22.Jan.2007**	Iris	**Tape & Reel Dimension**	**C009-0709-A-1001**
Approved	**22.Jan.2007**	Wan		

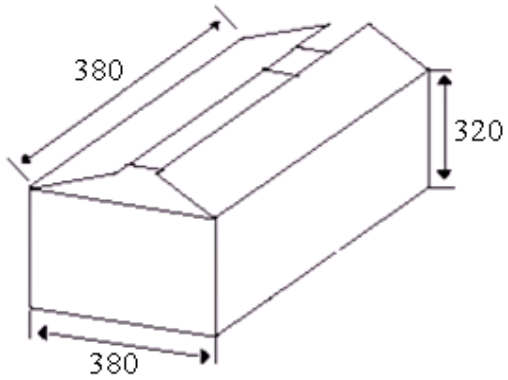
SPECIFICATION OF PAKAGE YOKETAN CORP.

Package





(Box)



Box Size (mm)

REEL Q'TY	LENGTH	WIDTH	HEIGHT
56reels	380	380	320

56 Reels in on box, total168000pcs.