YOKE®

APPROVAL SHEET

苏州清研微视电子科技有限公司

Item : SO3225 Crystal Oscillator

Spec. no : SO3225-027000-F1A-BDE-QA

Freq : 27.000 MHz

Customer Approved	Checked By	Issued By
	游雅惠	李群燕

請自發行日起2週內簽回此份規格書，若未簽回，則視為同意此規格。

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
0	N/A	Initial issue	2018-12-12	N/A	李群燕

SPECIFICATION OF OSCILLATOR YOKETAN CORP.

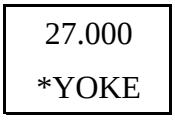
Customer : 苏州清研微视

SPEC NO : SO3225-027000-F1A-BDE-QA

Date : 12-Dec-18

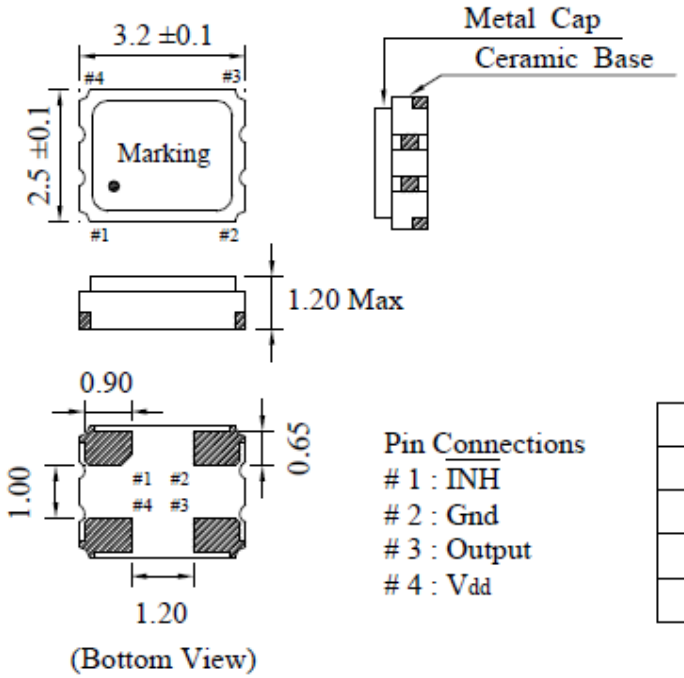
1. 型名 (Type)	SO3225 (Lead Free Parts)
2. 周波數(Frequency)	27.000 MHz
3. 電源電壓 (Power supply voltage)	3.3V ± 0.33V
4. 周波數安定度(Frequency stability)	±20ppm
5. 溫度範圍(Temperature range)	
5.1 動作溫度範圍(Operating temp. range)	-40 to +85℃
5.2 儲存溫度(Storage temp.)	-55 to +125℃
6. 驅動能力(Driving ability)	15pF
7. 波形對稱性(Symmetry)	40% to 60%
8. 立上/立下時間(Rise,fall time)	5nS Max.
9. 出力電壓(Output voltage)	
9.1 High Output Voltage	Voh : 0.9Vdd Min.
9.2 Low Output Voltage	Vol : 0.1Vdd Max.
10. 消費電流(Current consumption)	10mA Max.
11. 老化值(Aging)	±3ppm/year Max.

Marking



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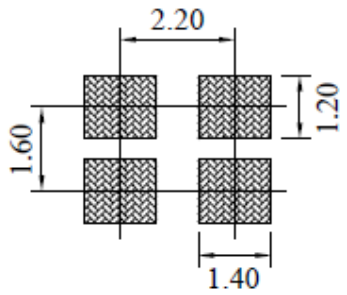
Dimensions



Pin Connections
1 : $\overline{\text{INH}}$
2 : Gnd
3 : Output
4 : Vdd

$\overline{\text{INH}}$ Function	
#1	#3(Output)
Open	Active
"H"Level	Active
"L"Level	High Z(Oscillation Stopped)

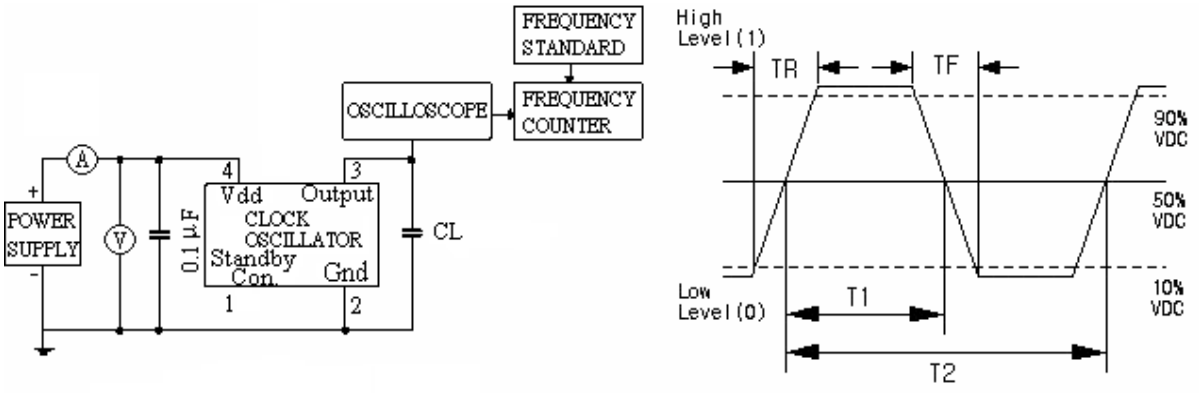
Recommended Soldering Pattern



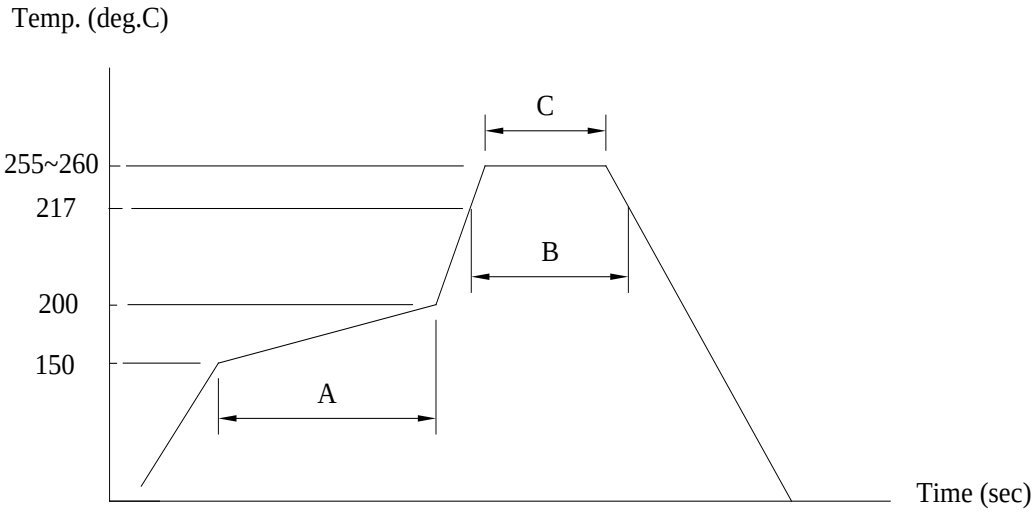
	Date	Name	Unit : mm	
Drawn	**20.Jun.2014**	Leo	Title	Drawing No.
Checked	**20.Jun.2014**	Iris	**Dimension of External**	**PKO-322512-0620**
Approved	**20.Jun.2014**	Wan		

SPECIFICATION OF OSCILLATOR YOKETAN CORP.

Test Circuit



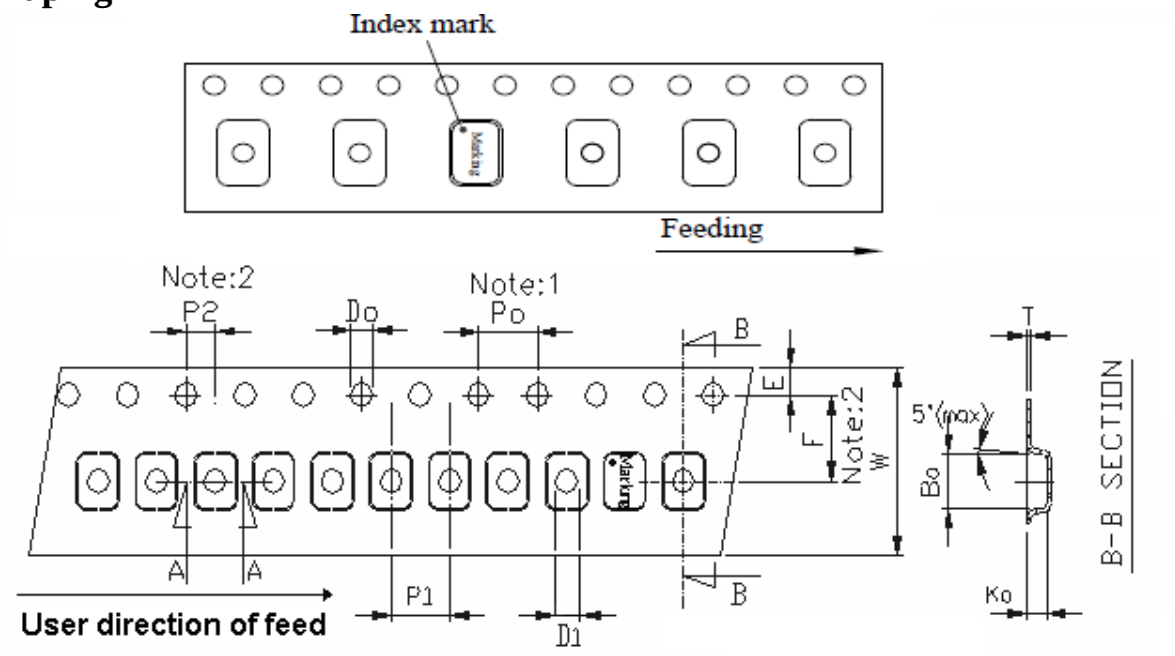
Soldering Reflow

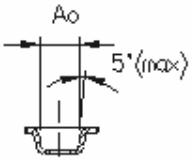


(A)→Preheating area : 150~200°C, 60~120sec.
(B)→Heating area : 217°C, 60~150sec.
(C)→Peak temperature : 255~260°C, 30sec. Max.
Ramp-up rate (217→260°C) : 3°C/sec. Max.
Ramp-down rate (260→217°C) : 6°C/sec. Max.
Time 25°C→260°C : 480sec. Max.
*Referance JEDEC J-STD-020

SPECIFICATION OF TAPE & REEL YOKETAN CORP.

Taping





A–A SECTION

Ao= 2.70± 0.10 mm

Bo= 3.40± 0.10 mm

Ko= 1.40± 0.10 mm

Unit: mm

Symbol	Spec.
K1	–
Po	4.0± 0.10
P1	4.0± 0.10
P2	2.0± 0.10
Do	$1.50^{+0.1}_{+0}$
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

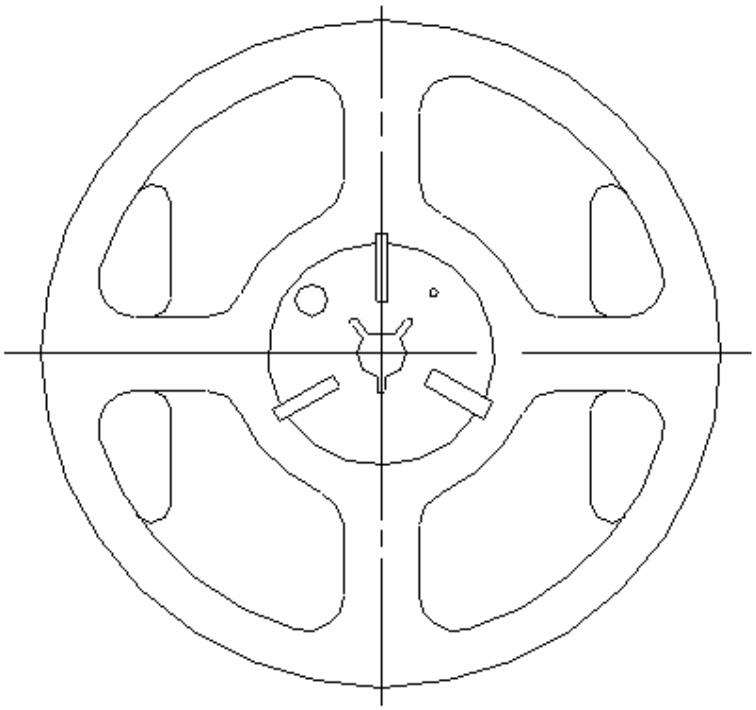
Notice:

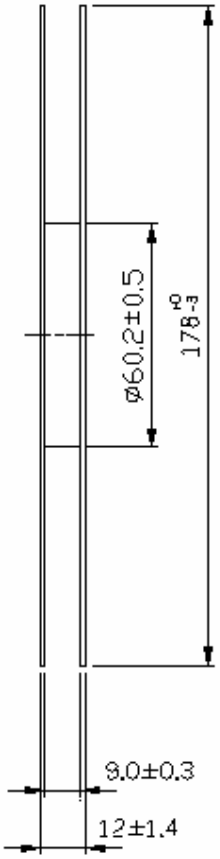
1. 10 Sprocket hole pitch cumulative tolerance is ±0.1mm
2. Pocket position relative to sprocket hole measured as true position of pocket not pocket hole.
3. Ao & Bo measured on a place 0.3mm above the bottom of the pocket to top surface of the carrier.
4. Ko measured from a plane on the inside bottom 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.

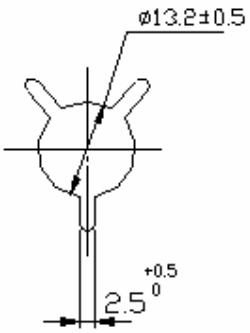
	Date	Name	Unit : mm	
Drawn	**18.Jan.2018**	Leo	Title	Drawing No.
Checked	**18.Jan.2018**	Iris	**Tape & Reel Dimension**	C009-020314-O-1106
Approved	**18.Jan.2018**	Wan		

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 CRYSTAL & OSC UNITS

YOKETAN CORP.

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

Condition B.2

Test Items	Test Condition	Specification	
		General OSC (Note:1)((Note:3)	General X'tal (Note:2)
1. Gross Leak Test	Electronic test fluid 125℃/30sec	No continuous bubble	
2. Fine Leak Test	Bombing of He 4.5kg/cm^2 for 1.5 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 3 direction(X,Y,Z)，each 60min.	△F≦±10PPM , Duty within spec.	△F≦±10PPM , △C.I.≦±10ohms
5. Shearing Test	Weight : 5N, Test duration : 10±1 sec	△F≦±10PPM , Duty within spec.	△F≦±10PPM , △C.I.≦±10ohms
6. Substrate Bending Test	Test duration : 5±1 sec Amount of substrate : 3mm	△F≦±10PPM , Duty within spec.	△F≦±10PPM , △C.I.≦±10ohms
7. Resistance to Soldering Test	IR Reflow furnace with the condition 2 times. Peak temp.260±3℃，10sec(Min.)	△F≦±10PPM , Duty within spec.	△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 "**。

Note:3 → For TCXO series products demanded **"△F≦±2PPM,Duty(Vpp) within spec 。**