



APPROVAL SHEET

Item : YSO110TR Crystal Oscillator

Spec. no : 54MHZ 1.8V~3.3V ±10PPM 2016

Freq : 54.000 MHz

Customer Approved	Checked By	Issued By

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。



RoHS Compliant



SPECIFICATION OF OSCILLATOR

CORP.

Customer :

SPEC NO : OT201654MJBA4SL

Date :

1. 型名 (Type)	<u>YSO110TR (Lead Free Parts)</u>
2. 周波數(Frequency)	<u>54.000 MHz</u>
3. 電源電壓 (Power supply voltage)	<u>1.8V ~ 3.3V</u>
4. 周波數誤差(Frequency tolerance)	<u>±10ppm at 25 ± 3°C</u>
周波數安定度(Frequency stability)	<u>±20ppm (-40~+85°C)</u>
5. 溫度範圍(Temperature range)	
5.1 動作溫度範圍(Operating temp. range)	<u>-40 to +85°C</u>
5.2 儲存溫度(Storage temp.)	<u>-55 to +125°C</u>
6. 驅動能力(Driving ability)	<u>15pF</u>
7. 波形對稱性(Symmetry)	<u>40% to 60%</u>
8. 立上/立下時間(Rise,fall time)	<u>6nS Max.</u>
9. 出力電壓(Output voltage)	
9.1 High Output Voltage	<u>Voh : 0.9Vdd Min.</u>
9.2 Low Output Voltage	<u>Vol : 0.1Vdd Max.</u>
10. 消費電流(Current consumption)	<u>12mA Max.</u>
11. 老化值(Aging)	<u>±3ppm/year Max.</u>

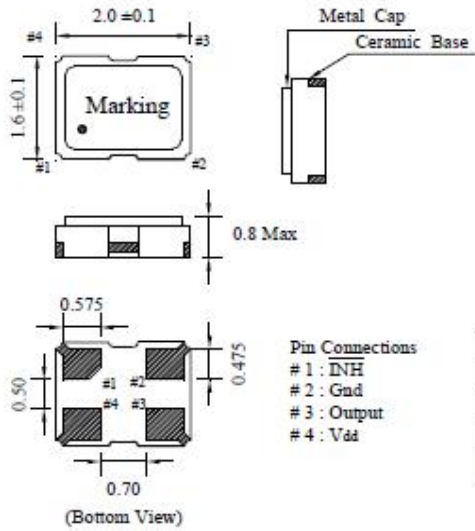
Marking



SPECIFICATION OF OSCILLATOR

CORP.

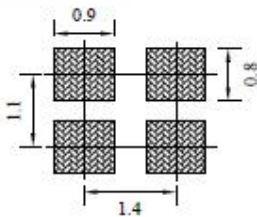
Dimensions



Pin Connections
 # 1 : INH
 # 2 : Gnd
 # 3 : Output
 # 4 : Vdd

INH Function	
#1	#3(Output)
Open	Active
"H"Level	Active
"L"Level	High Z(Oscillation Stopped)

Recommended Soldering Pattern

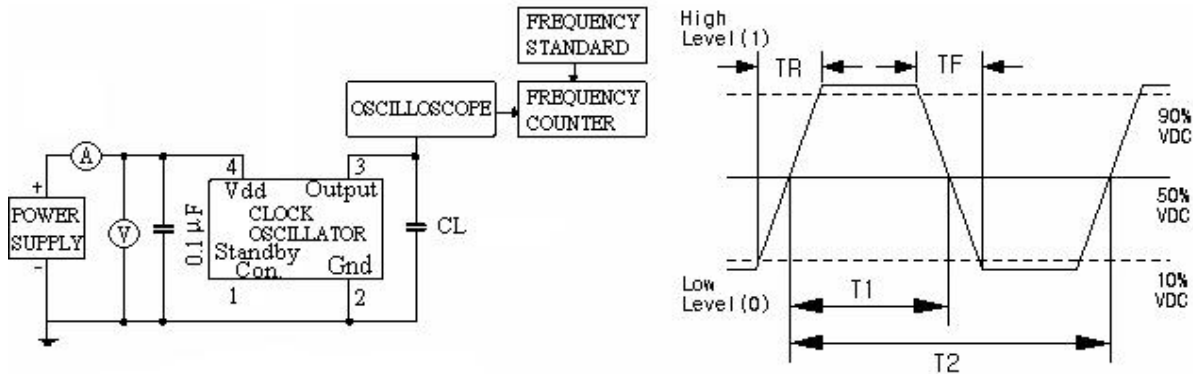


	Date	Name	Unit : mm	
Drawn	20.Jun.2014	Leo	Dimension of External	Drawing No.
Checked	20.Jun.2014	Iris		PKO-201608-0620
Approved	20.Jun.2014	Wan		

SPECIFICATION OF OSCILLATOR

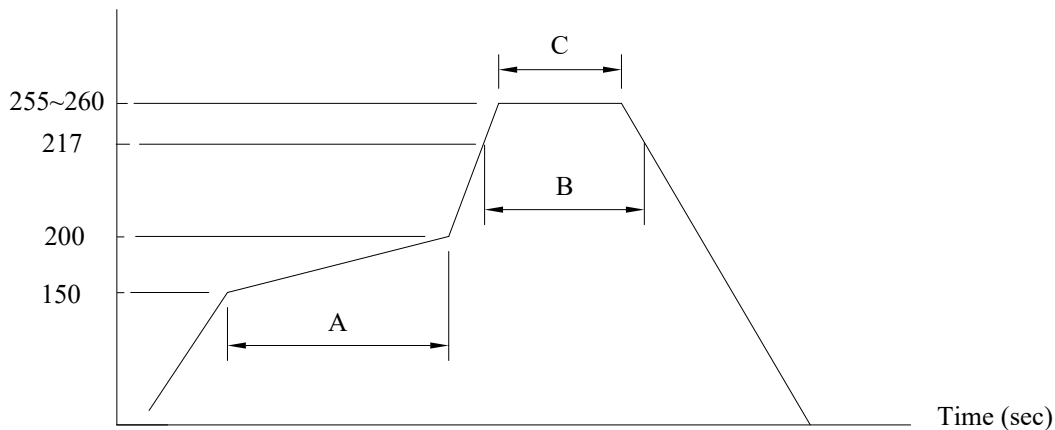
CORP.

Test Circuit



Soldering Reflow

Temp. (deg.C)



(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

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.

SPECIFICATION OF CRYSTAL & OSC UNITS

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°C/30sec	No continuous bubble	
2. Fine Leak Test	Bombing of He 4.5kg/cm ² for 1.5 hours	Less than 1*10 ⁻⁸ atm.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)	ΔF ≤±10PPM , Duty within spec.	ΔF ≤±10PPM , ΔC.I. ≤±10ohms
4. Vibration Test	Freq. range: 10~55Hz Peak to peak amplitude:1.5mm 3 direction(X,Y,Z) , each 60min.	ΔF ≤±10PPM , Duty within spec.	ΔF ≤±10PPM , ΔC.I. ≤±10ohms
5. Shearing Test	Weight : 5N, Test duration : 10±1 sec	ΔF ≤±10PPM , Duty within spec.	ΔF ≤±10PPM , ΔC.I. ≤±10ohms
6. Substrate Bending Test	Test duration : 5±1 sec Amount of substrate : 3mm	ΔF ≤±10PPM , Duty within spec.	ΔF ≤±10PPM , ΔC.I. ≤±10ohms
7. Resistance to Soldering Test	IR Reflow furnace with the condition 2 times. Peak temp.260±3°C , 10sec(Min.)	ΔF ≤±10PPM , Duty within spec.	ΔF ≤±10PPM , ΔC.I. ≤±10ohms
8. Low Temp. Exposure Test	-40±3°C , 240±12 hrs	ΔF ≤±10PPM , Duty within spec.	ΔF ≤±10PPM , ΔC.I. ≤±10ohms
9. Aging Test	125±3°C , 240±12hrs	ΔF ≤±10PPM , Duty within spec.	ΔF ≤±10PPM , ΔC.I. ≤±10ohms
10. High Temp. & Humidity Test	+85°C±5°C & 85%±5% R.H. , 240±12 hrs	ΔF ≤±10PPM , Duty within spec.	ΔF ≤±10PPM , ΔC.I. ≤±10ohms
11. Temperature Cycling Test	-40±3°C/15±3min ~ +85±3°C/15±3min 15cycles	ΔF ≤±10PPM , Duty within spec.	ΔF ≤±10PPM , ΔC.I. ≤±10ohms

Note:1 → For communication application the spec. demanded "ΔF ≤±5 PPM, Duty within spec." °

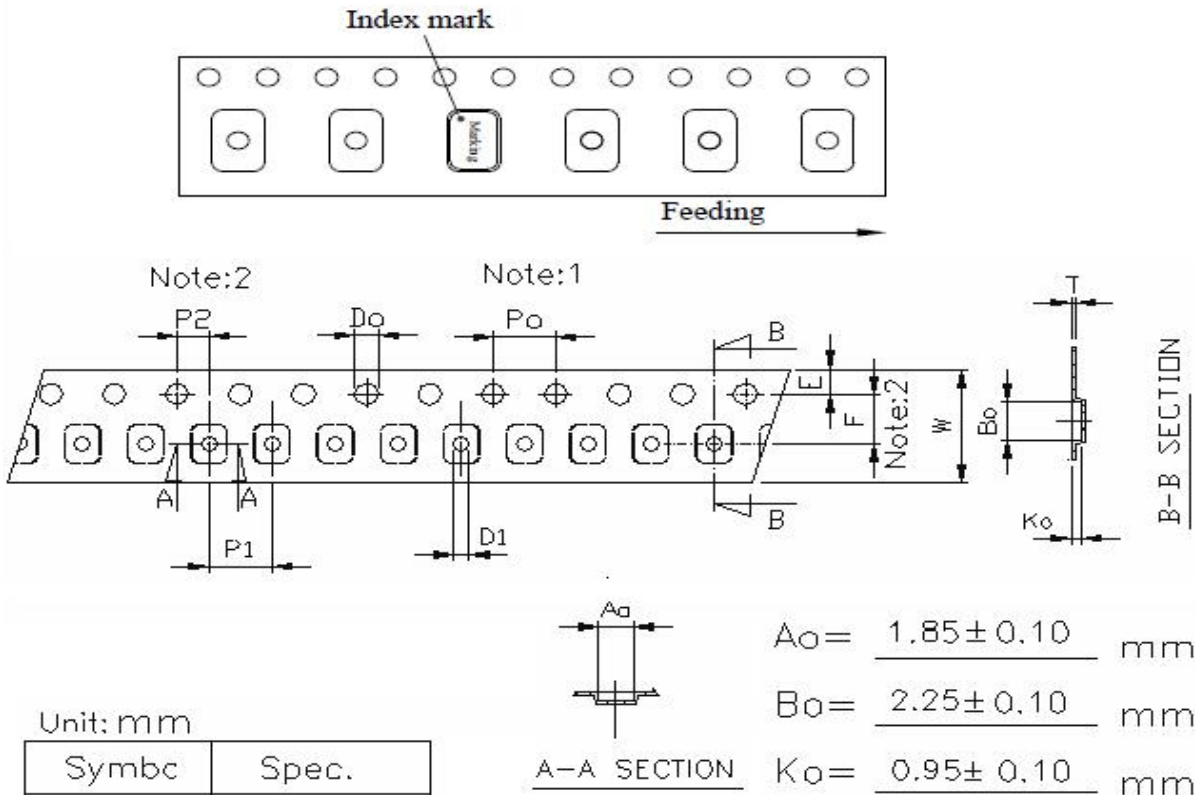
Note:2 → For communication application the spec. demanded "ΔF ≤±5 PPM, ΔC.I. ≤±5 ohms" °

Note:3 → For TCXO series products demanded "ΔF ≤±2PPM,Duty(Vpp) within spec °

SPECIFICATION OF TAPE & REEL

CORP.

Taping



Unit: mm

Symbc	Spec.
K1	-
Po	4.0±0.10
P1	4.0±0.10
P2	2.0±0.05
Do	1.50±0.05
D1	1.05±0.05
E	1.75±0.10
F	3.50±0.05
10Po	40.0±0.20
W	8.0±0.20
T	0.25±0.05

Notice:

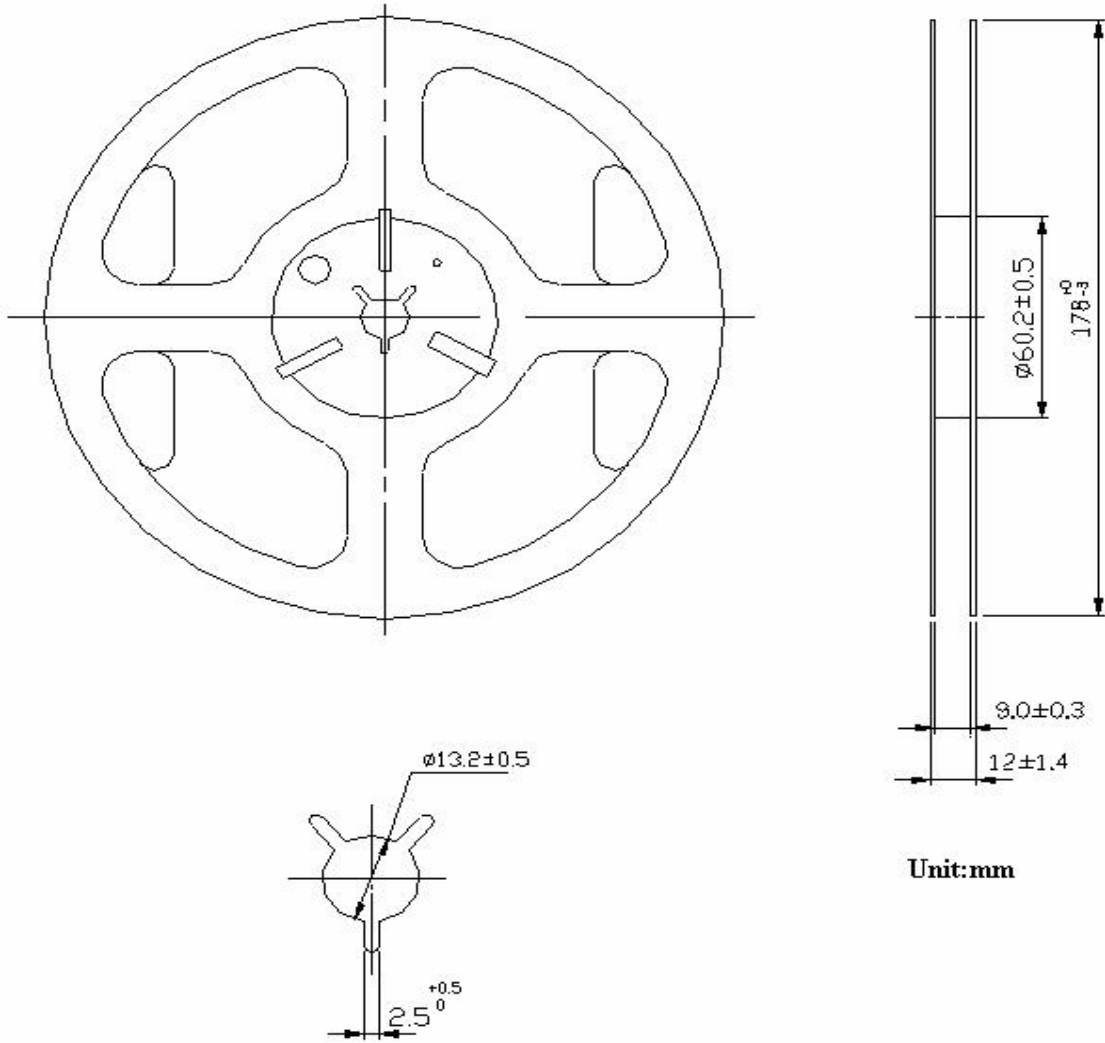
1. 10 Sprocket hole pitch cumulative tolerance is ±0.2mm
2. Pocket position relative to sprocket hole measured as true position of pocket not pocket hole.
3. A₀ & B₀ measured on a place 0.3mm above the bottom of the pocket to top surface of the carrier.
4. K₀ measured from a plane on the inside bottom 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 Tape & Reel Dimension	Drawing No. C009-010209-O-1001-R
Checked	18.Jan.2018	Iris		
Approved	18.Jan.2018	Wan		

SPECIFICATION OF TAPE & REEL

CORP.

Reel



Unit:mm

Q'ty:3000pcs/reel

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

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