



# YSO110TR

给您一颗快乐的“芯”！



## Features

- Package Size: 2.0\*1.6 2.5\*2.0 3.2\*2.5 5.0\*3.2 7.0\*5.0mm
- Frequency range: 1MHz ~ 50MHz.
- Ultra Small SMD seam sealed clock crystal oscillator units.
- Applications: WLAN, Bluetooth, DSC, DSL and other IT product.
- Tri-state function available

## Electrical Specifications

Item / Type	YSO110TR
Output Frequency Range	1~50MHz
Output Type	CMOS
Supply Voltage	1.8V ~ 3.3V
Oscillation Mode	Fundamental
Frequency Tolerance ( at 25 )	±10ppm, ±20ppm, or specify
Output Load	15 pF, or specify
Operating Temperature Range	-40~+85 °C , or specify
Frequency Versus Temperature Characteristics	± 20ppm, ± 30ppm, ± 50ppm, or specify
Storage Temperature Range	- 55 ~ + 125 °C
Voltage Vol ( Max. ) / Vol ( Min. )	90%Vdd min./10%Vdd max
Symmetry	45~55%
Rise ( Tr ) / Fall ( Tf ) Time	4ns Max.
Start-up Time	3 msMax.
Supply Current	See Below
Frequency Aging ( at 25 °C )	± 3 ppm / year Max.

## Dimensions

PAD	#1	#2	#3	#4
FUNCTION	Enable / Disable	GND	OUTPUT	VDD

**Notes:**

1. To maintain stable operation provide a 0.01uF to 0.1uF by-pass capacitor at a location as near as possible to the power source terminal of the crystal product( between Vcc-GND )

Top View

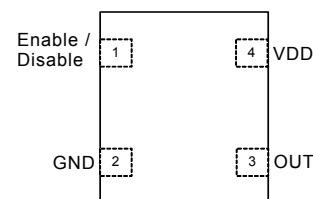


Figure 1. Pin Assignments

Package Size -- Dimensions(Unit:mm)	Recommended layout Pattern (Unit:mm)
2.0x1.6x0.80mm	



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Package Size -- Dimensions(Unit:mm)	Recommended layout Pattern (Unit:mm)
<p>2.5x2.0x0.90mm</p>	
<p>3.2x2.5x1.00mm</p>	<p>Top View Suggested Layout</p>
<p>5.0x3.2x1.20mm</p>	<p>Top View Suggested Layout</p>
<p>7.0x5.0x1.30mm</p>	<p>Top View Suggested Layout</p>



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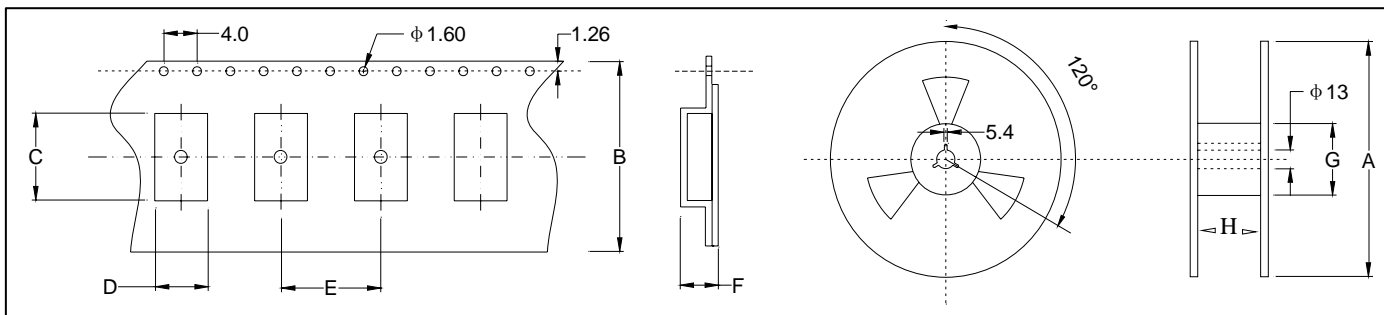
★ PART NUMBER GUIDE 部件号示例 e.g. OT252028.888MJBA4SL YSO110TR=2.5×2.0 SMD SEAM TYPE

Quartz Crystal Oscillator	Type Code	Package Size	Frequency (Hz)	Supply Voltage (V)	Frequency Stability Overall (ppm)	Output	Pin	Material	Operating Temp. Frequency Temp.
O	T	2016 2520 3225 5032 7050	28.888M	J	B	A	4	S	L

★ INPUT CURRENT 工作电流

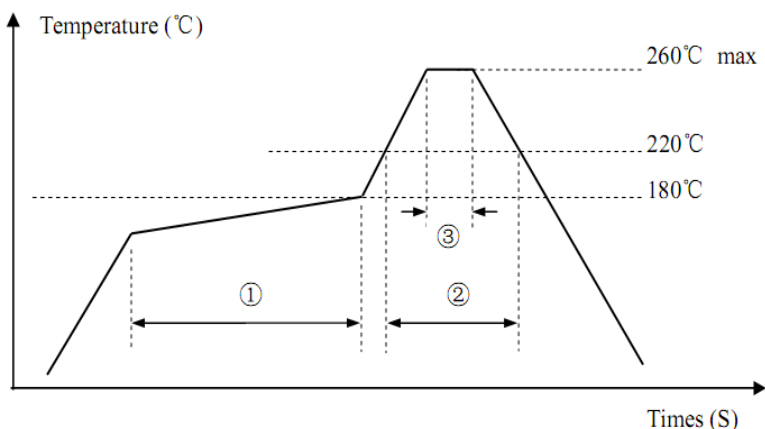
		Vdc=1.8~3.3V		15pF only	
Voltage	Frequency Size	1~40MHZ		41~50MHZ	
		7050/5032/3225	2520/2016	7050/5032/3225/2520	2016
1.8V		4mA max	4mA max	9mA max	10mA max
2.5V		4.5mA max		10mA max	
3.3V		5mA max		12mA max	

★ TAPING SPECIFICATION (Unit: mm) 编带规格



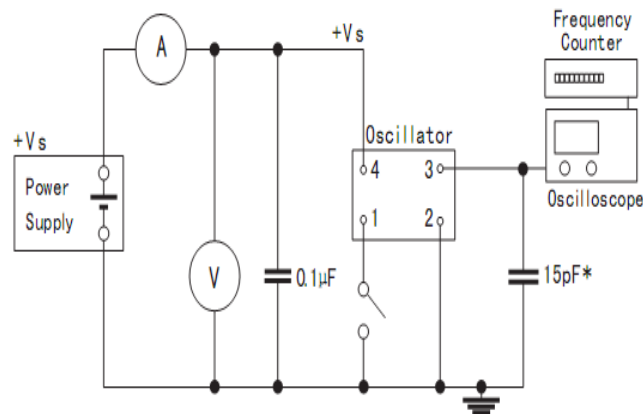
Size	A	B	C	D	E	F	G	H
OSC-SMD7050 1000 pcs	180±2.0	16.0±0.3	7.50±0.10	5.50±0.10	8.00±0.1	2.00±0.1	61.0±1.0	16.0±1.0
OSC-SMD5032 1000 pcs	180±2.0	12.0±0.3	5.40±0.10	3.60±0.10	8.00±0.3	1.70±0.1	61.0±1.0	12.0±1.0
OSC-SMD3225 3000 pcs	180±2.0	8.0±0.3	3.40±0.10	2.70±0.10	4.00±0.1	1.50±0.1	61.0±1.0	8.0±1.0
OSC-SMD2520 3000 pcs	180±2.0	8.0±0.3	2.90±0.10	2.40±0.10	4.00±0.1	1.20±0.1	61.0±1.0	8.0±1.0
OSC-SMD2016 3000 pcs	180±2.0	8.0±0.3	2.30±0.10	1.90±0.10	3.85±0.1	0.95±0.1	61.0±1.0	8.0±1.0

★ REFLOW SOLDERING PROFILE 回流焊特性



Pb free reflow A	①	Preheat	160~180°C	120sec. max
	②	Primary heat	220°C	60sec. max
	③	Peak	260°C	10sec. max.

★ Test Circuit 测试电路



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