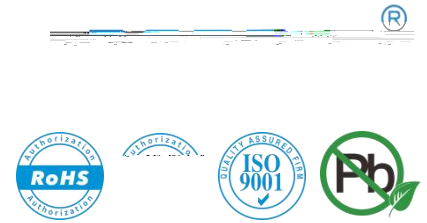
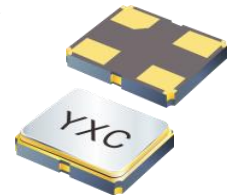


# PROGRAMMABLE CRYSTAL OSCILLATOR



PLL technology, with its output frequency factory-programmed between  $100\text{ kHz}$  to  $200\text{ MHz}$  based on  $100\text{ kHz}$  to  $200\text{ MHz}$  to meet customer specifications. YSO171PS supports both  $100\text{ kHz}$  to  $200\text{ MHz}$  with spread spectrum widths from  $\pm 0.125\%$  to  $\pm 2\%$ . The use of a dedicated programmer allows us to service requests with very fast lead times.



Available with any frequency from 1MHz to 200MHz

Spread spectrum widths from  $\pm 0.125\%$  to  $\pm 2\%$

1.8 V to 3.3V VDD supply operation

CMOS Output

Operating temperature range:  $-40$  to  $+85$  (industrial); extended range up to  $+105$  available

Low Power Consumption: 3.4 mA typical.

EMI Reduction: Minimizes electromagnetic radiation and susceptibility to interference

Package Options: Available in 4pin Plastic Package :  $3.2 \times 2.5\text{mm}$ ,  $2.5 \times 2.0\text{mm}$

Wireless Communication Equipment

Computing and Networking Equipment

Industrial Control Systems

Medical Devices

Automotive Electronic Systems

# PROGRAMMABLE CRYSTAL OSCILLATOR



## LIST

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Table 1 E1

# PROGRAMMABLE CRYSTAL OSCILLATOR

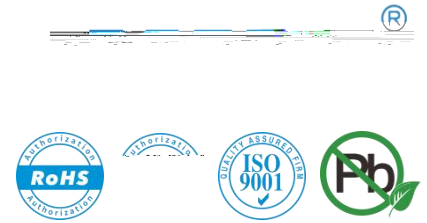


Table 1 Electrical Characteristic

Nominal Frequency Range		1MHz ~ 200MHz			
Supply Voltage		1.62V	1.8V	1.98V	Voltage Tolerance 10%
		2.25V	2.5V	2.75V	
		2.97V	3.3V	3.63V	
Frequency Tolerance		±25ppm, ±50ppm, or specify			
Operating Temperature		-40 ~+ 85 , or specify			
Input Voltage		VIH=70% VDD Min VIL=30% VDD Max			OE terminal
Output Type		CMOS			
Output Load		15pF			
Output voltage (DC characteristics)	VOH	90% VCC			OE terminal
	VOL			10% VCC	
Disable Time				1 s	Measured from the time OE pin crosses 30 % VCC
Enable Time				1 s	Measured from the time OE pin crosses 70 % VCC
Start-up Time				3.0ms	Measured from the time VCC reaches its rated minimum value, 1.62 V
Current Consumption	VCC=1.8V			6.0mA	@170MHz
	VCC=2.5V			6.9mA	
	VCC=3.3V			8.3mA	
Output disable current	VCC=1.8V			3.4mA	
	VCC=2.5V			3.5mA	
	VCC=3.3V			3.7mA	
Rise Time/Fall Time /				3ns Max f0 40MHz 6ns Max f0 40MHz	
Duty Cycle		45%		55%	50 % VCC Level
Frequency Aging at 25 )				±5 ppm / year	
ESD-Human Body Model		2000V			
ESD-Machine Model		250V			
ESD-Charged Device Model		750V			

# PROGRAMMABLE CRYSTAL OSCILLATOR

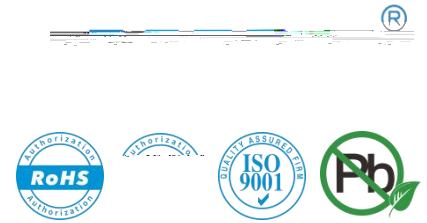


Table 2 Absolute Maximum Ratings

Maximum Junction Temperature in Operation	-40		+125	
Storage Temperature	-40		+125	

Table 3 Function and Configuration

Enable Function	70% of VDD			
Disable Function			30% of VDD	
Spread Type	Center Spread	$\pm 0.125\%$ ( C0.125 ) to $\pm 2.0\%$ ( C2.0 ) in $\pm 0.125\%$ steps		
	Down Spread	$- 0.25\%$ ( D0.25 ) to $- 4.0\%$ ( D4.0 ) in 0.25 % steps		
Modulation Frequency	25.4kHz (Default), 12.7kHz , 8.5kHz, 6.3kHz			

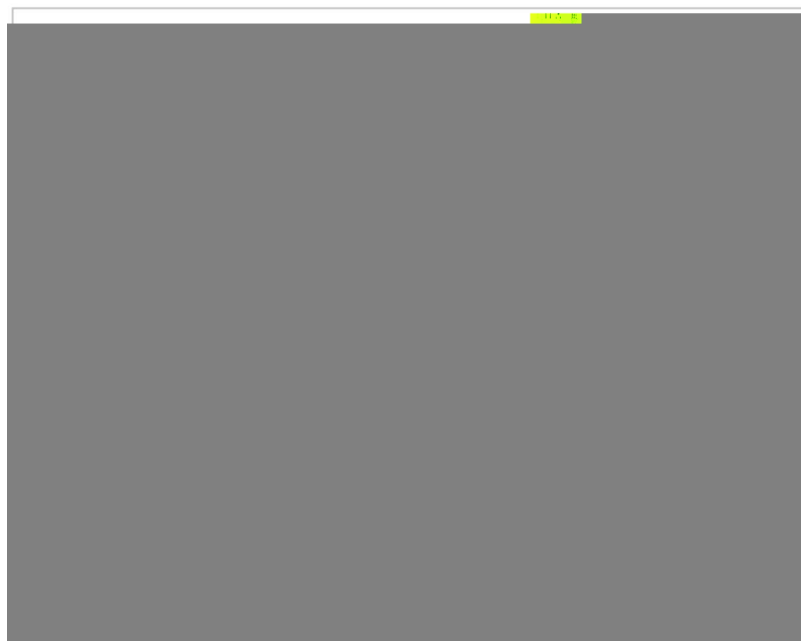


Figure 1 Power Consumption Chart

# PROGRAMMABLE CRYSTAL OSCILLATOR

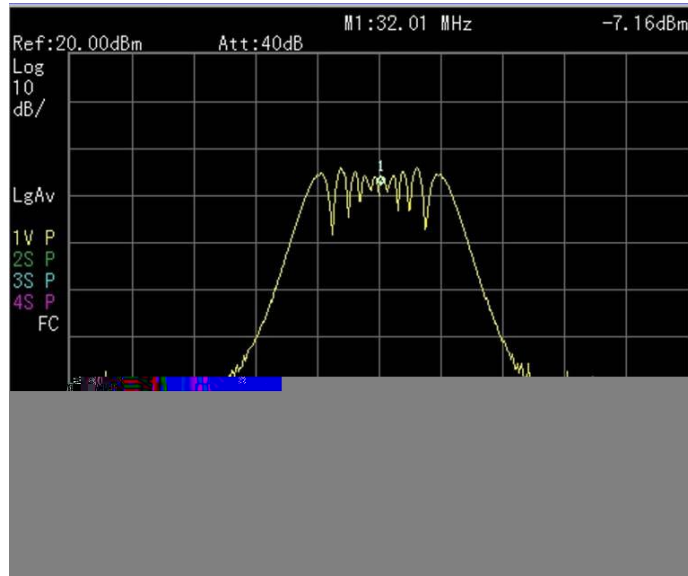
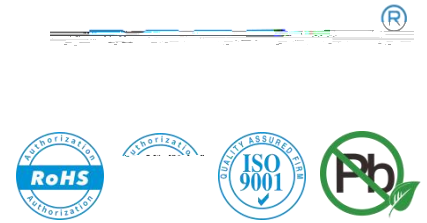


Figure 2 Spread Spectrum Crystal Oscillator Modulation Depth Test Chart @32MHz

Table 4 Pin Description

Pin	Name	Function	
1	OE	Output enable	High: Specified frequency output from OUT pin Low: Out pin is low (weak pull down), only output driver is disabled
2	GND	Ground	
3	OUT	Clock output	
4	VDD	Power supply	

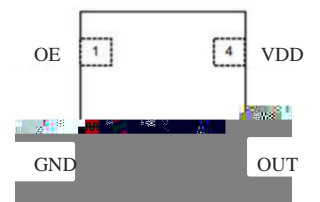


Figure 3 Pin Assignments

# PROGRAMMABLE CRYSTAL OSCILLATOR



	<u>Y</u> 25.0 <u>A</u>
○	<u>T319D</u>

YangXing LOGO
Frequency
Spread detail
Lot number

# PROGRAMMABLE CRYSTAL OSCILLATOR



Table 5. Materials of Internal Components

(1)	Can	Fe-Co-Ni
(2)	Base	Ceramic
(3)	Blank	Quartz
(4)	Electrode	Au over Cr
(5)	Adhesive	Epoxy Conductive Adhesive (Silver-filled)
(6)	IC	Slilcon
(7)	Wire	Au
(8)	Soldering Pads	Au plated

/ fi



# PROGRAMMABLE CRYSTAL OSCILLATOR

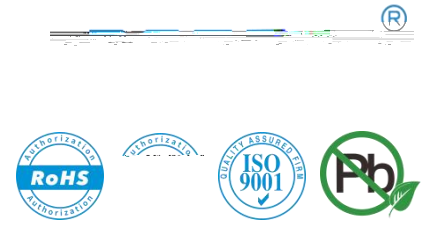
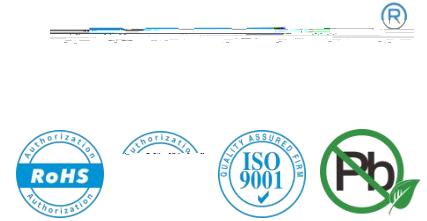


Figure 5. Reflow Profile

# PROGRAMMABLE CRYSTAL OSCILLATOR



Packing must prevent damage during transportation and handing. Specific method will be settled by mutual Agreement.

## ODS

This product doesn't use the class ODS at any of production process.

Shenzhen YangXing Technology Co., Ltd.

1.

If you have some doubt or unknowing about this specification, Please contact us for settlement or development.

2.

We guarantee that quartz crystal unit satisfies this specification, If you need the data, we will provide it.

3.

For application in ultrasonic environment, please contact us.

4.

**MODIFY AND CONTACT**

When the quality is changed due to the changes of the design, technology, material, manufacture place, main equipment and workers, we will first supply the modified products and obtain approval from you, then start to supply mass production.

5.

**AFTER SALE SERVICE**

If the defection product was found in the production process, we will exchange and provide the improving measures in time.

This specification is for reference only. If needed, please request a formal letter of acknowledgment from our side to serve as the basis for material acknowledgment and quality judgment.