

# VCXO (Voltage-Controlled Crystal Oscillator)

## Surface Mount Type

**3P**

[ 3.2×2.5×0.90 mm ]

**5P**

[ 5.0×3.2×1.25 mm ]

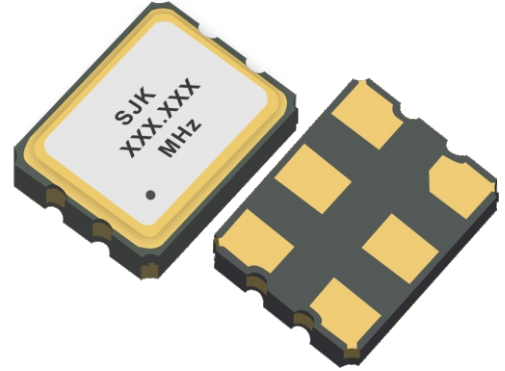
**7P**

[ 7.0×5.0×1.45 mm ]

**VCXO**
**Output**
**LV-PECL**
**Supply Voltage**
**2.5V / 3.3V**
**Frequency Range**
**10 MHz~1500 MHz**

## Features

- Small size SMD VCXOs with 3.2×2.5 (3225), 5.0×3.2 (5032), 7.0×5.0 (7050), mm×mm
- Voltage Controlled Crystal Oscillator (VCXO)
- LV-PECL output, frequency range from 10 MHz to 1500 MHz
- Low power voltage: 3.3V, 2.5V options
- RoHS Compliant
- Low phase jitter typical: 1pS RMS from 12KHz to 20MHz
- Tri-state available
- Applications: High-speed ethernet, Fibre channel, HDTV, ATM, Set-top box, WiMAX, Server, SAS, SATA, and more



## Standard Specifications

Item / Type	3P (SMD 3225 LV-PECL VCXO)	5P (SMD 5032 LV-PECL VCXO)	7P (SMD 7050 LV-PECL VCXO)
Dimensions	3.2×2.5×0.90 mm	5.0×3.2×1.25 mm	7.0×5.0×1.45 mm
Output	LV-PECL		
Output load	50Ω into Vcc-2V		
Output frequency range	10 MHz~1500 MHz		
Supply voltage	2.5 V / 3.3 V		
Frequency tolerance	±25 ppm, ±50 ppm		
Operating temperature	-20~+70°C, -40~+85°C		
Supply current	50 mA max.	100 mA max.	100 mA max.
Symmetry	45 % to 55 %		
Output voltage Voh (min.) / Vol (max.)	Vcc-1.025V min. / Vcc-1.62V max.		
Rise time /Fall time	1ns max.		
Start-up time	10ms max.		
RMS phase jitter (12kHz~20MHz)	1 pS max.		
Phase noise (@1kHz)	-107dBc/Hz@250MHz	-95dBc/Hz@614.4MHz	-95dBc/Hz@614.4MHz
Storage temperature	-55~+125°C		
Absolute pulling range (APR)	±50ppm min., or specify		
Control voltage range	0.3V~3.0V@3.3V, 0.25V~2.25V@2.5V		
Linearity	10% max.		
Input impedance	1 MΩ min.		
Modulation bandwidth (BW)	10 kHz min.		

# VCXO (Voltage-Controlled Crystal Oscillator)

## Surface Mount Type

**3P, 3V**
**5P, 5V, 5VH**
**7P, 6V, 7VH**

[3.2×2.5×1.00 mm]

[5.0×3.2×1.25 mm]

[7.0×5.0×1.45 mm]

## Output

**LVPECL, LVDS, HCSSL**

## Supply Voltage

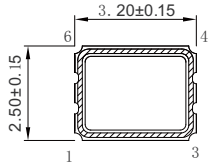
**2.5V / 3.3V**

## Frequency Range

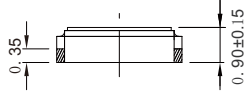
**10 MHz~1500 MHz**

## Outline Dimensions (Unit: mm)

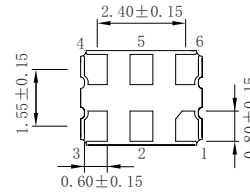
### 3P, 3V (3.2×2.5×1.00 mm)



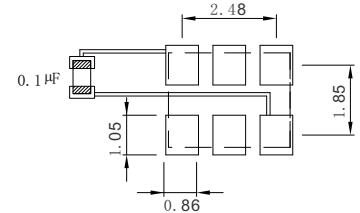
Top View



Side View

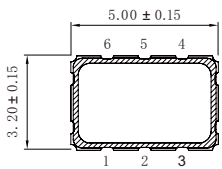


Bottom View

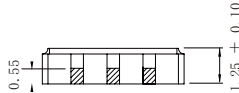


Footprint (Recommender)

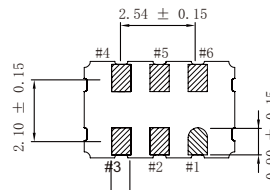
### 5P, 5V, 5VH (5.0×3.2×1.25 mm)



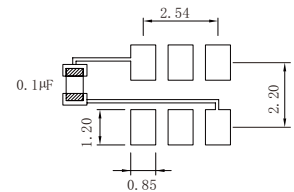
Top View



Side View

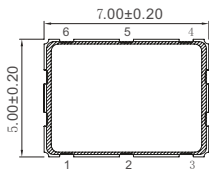


Bottom View

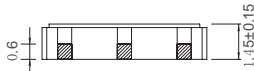


Footprint (Recommender)

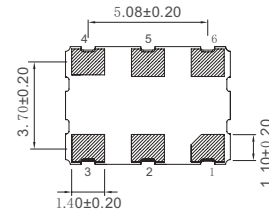
### 7P, 6V, 7VH (7.0×5.0×1.45 mm)



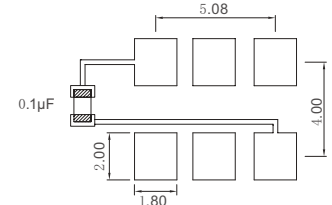
Top View



Side View



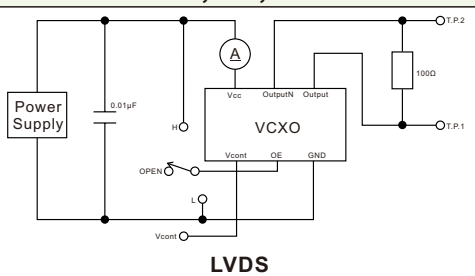
Bottom View



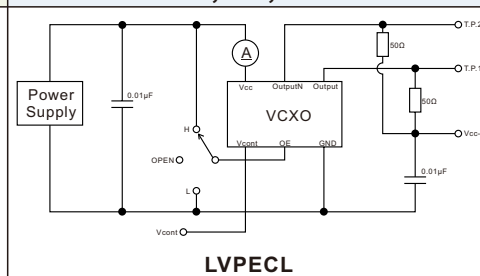
Footprint (Recommender)

## Measurement Circuit

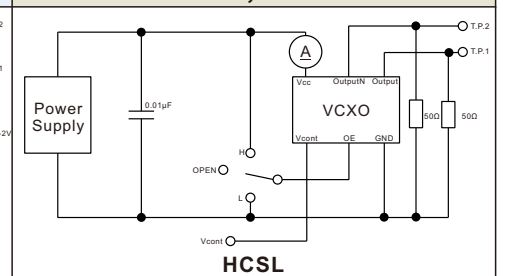
### 3V, 5V, 6V



### 3P, 5P, 7P



### 5VH, 7VH



## Pin Map

Pin	Connection	Function
1	Vcont	Control voltage
2	OE / Tri-State	“H” or “OPEN”: specified frequency output; “L”: output is high impedance
3	GND	Vcc power supply ground
4	OUT	Oscillator output
5	OutputN	Complementary oscillator output
6	Vcc	Power supply voltage