

## Thru-hole Type

### 9M

[25.4×25.4×12.7 / 14.8 mm]

Waveform  
**LVTTTL / HCMOS**  
Sine Wave

Best Stability  
**±3 ppb**

**DIP**

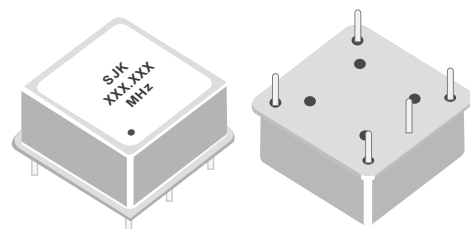
**Voltage Control**

Supply Voltage  
**3.3V / 5.0V 12V**

Frequency Range  
**5 MHz~100 MHz**

## Features

- Oven Controlled Crystal Oscillator (OCXO)
- Dimension 25.4×25.4×12.7/14.8 mm, thru-hole package
- Frequency range from 5MHz to 100MHz.
- ±0.5ppb stability over -40°C to +85°C.
- Stratum 3 (Overall ±4.6ppm including 10 years aging.)
- Voltage control (Electronic frequency tuning) is available.
- RoHS Compliant
- Applications: smart cell, digital switch, telecommunication device, synthesizer, test and instrumentation, etc.



## Standard Specifications

### 9M (25.4×25.4×12.7/14.8 mm Thru-Hole OCXOs)

Output Frequency	5.000MHz~40.000MHz	10.000MHz~100.000MHz
Wave Form	Rectangular	Sine Wave
Level	LVTTTL	6~10 dBm
"1" Level	90% Vcc	-
"0" Level	10% Vcc	-
Duty Cycle	45%~55%	-
Rise/Fall time / Harmonics	6ns max.	-30dBc max.
Load	15pF	50Ω
Spurious	-60dBc max.	-60dBc max.
<b>Frequency stability</b> Tolerance	±5ppb	±20ppb
vs. Temperature	±3ppb~±10ppb	±3ppb~±500ppb
vs. Supply voltage	±5ppb max.	±5ppb max.
vs. Load	±0.5ppb max.	±5ppb max.
vs. Warm-up	±10ppb max.	±50ppb max.
vs. Short term	±0.05ppb/s max.	±0.05ppb/s max.
vs. Aging	-	-
Daily	±0.5ppb max.	±5.0ppb max.
Yearly	±50ppb max.	±200ppb max.
10 Years	±0.3ppm max.	±2.0ppm max.



# OCXO (Oven Controlled Crystal Oscillator)

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**9M**

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Waveform
<b>LVTTL / HCMOS Sine Wave</b>

Best Stability
<b>±3 ppb</b>

<b>DIP</b>
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<b>Voltage Control</b>
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Supply Voltage
<b>3.3V / 5.0V 12V</b>

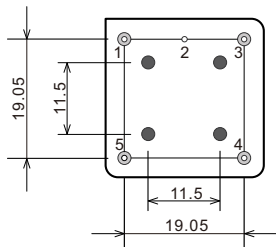
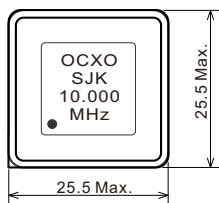
Frequency Range
<b>5 MHz~100 MHz</b>

## Standard Specifications

### 9M (25.4×25.4×12.7/14.8 mm Thru-hole OCXOs)

Output Frequency	5.000MHz~40.000MHz	10.000MHz~100.000MHz	
<b>Phase noise</b>	@10Hz	-120dBc/Hz max.	-105dBc/Hz (fo=100MHz)
	@100Hz	-135dBc/Hz max.	-138dBc/Hz (fo=100MHz)
	@1KHz	-145dBc/Hz max.	-163dBc/Hz (fo=100MHz)
	@10KHz	-155dBc/Hz max.	-172dBc/Hz (fo=100MHz)
	@100KHz	-155dBc/Hz max.	-173dBc/Hz (fo=100MHz)
	<b>Electrical Frequency Adjustment</b>	-	-
Tuning range	±0.5ppm max.	±0.4ppm~±3ppm	
Control voltage	0~2.8V / 0~3.3V / 0~4V / 0-5V	0.5~9.5V / 0~10V / 0~4V / 0-5V	
Slope	Positive	Positive	
Center voltage	+1.4V / +1.65V / +2.0V / 2.5V	+5V / +2.0V / 2.5V	
Linearity	±10%	±10%	
Input impedance	100KΩ max.	100KΩ max.	
<b>Power</b>	Voltage	3.3V / 5.0V	5.0V / 12V
	Current	1000mA max.	950mA max.
	Steady state	1.3W max.	2.3W max.
<b>Temperature</b>	Operating temperature	-30°C~+70°C, -40°C~+85°C	-40°C~+85°C
	Storage temperature	-55°C~+105°C	-55°C~+105°C

## Dimensions And Pin-functions (Unit: mm)



### Pin Connections

Pin No.	Connection
1	R.F. Output
2	0 Volts & Case
3	Vco Input / NC
4	Reference Voltage / NC / Oven Monitor
5	Vcc

