

SML024 - Low phase noise clock source

The SML024 Low Phase Noise Clock Source is a high-performance RF signal generator designed to deliver precision timing solutions with exceptional spectral purity. Operating within a frequency range of 1 GHz to 6 GHz, this compact device (40×24×8 mm) combines ultra-low phase noise, minimal spurious emissions, and low power consumption.

Engineered for reliability, it supports a +5VDC power supply and operates across a wide temperature range (-40°C to +70°C), making it suitable for demanding environments. The SML024 features a 100 MHz reference input and provides TTL lock indication to ensure stable output synchronization.

Applications Include:

Telecommunications:

Precision clocking for 5G/6G base stations, fiber-optic networks, and microwave links.

Aerospace and Defense:

Radar systems, satellite communications, and electronic warfare equipment.

Test and Measurement:

Signal analysis, spectrum monitoring, and high-frequency instrumentation.

Industrial Electronics:

Timing synchronization in semiconductor testing and automated systems.

Research and Development:

Frequency synthesis in advanced RF and microwave experiments.

Product Features:

- Output Frequency Max 6GHz (Output Point Frequency)
- Low phase noise
- Small size: 40*24*8mm
- Low power consumption/low spuriousness

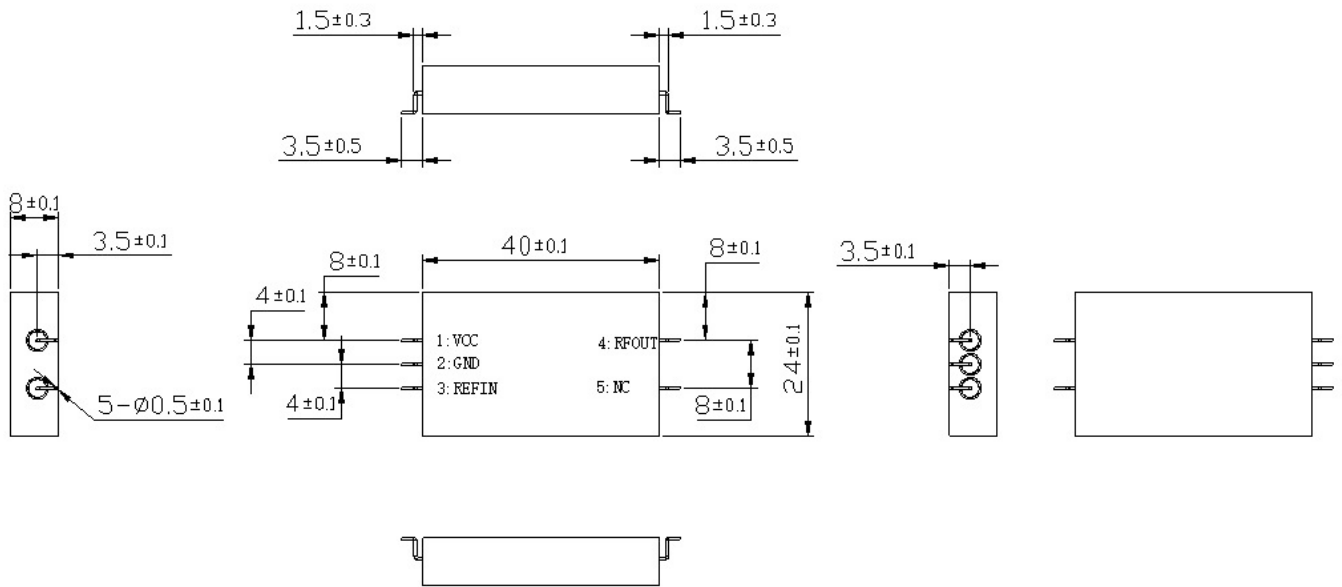
kTB Low phase noise clock source

The SML024 Low Phase Noise Clock Source is a high-performance RF signal generator designed to deliver precision timing solutions with exceptional spectral purity.

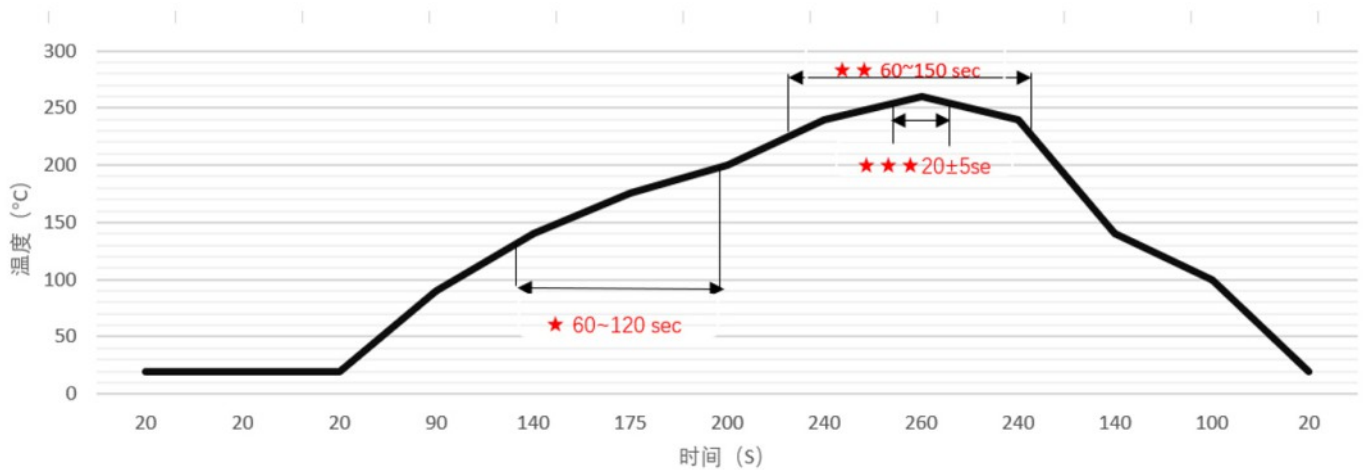
Product Features:	Specification name		Indicator parameters		Remark
RF output	Output frequency		1~6GHz (Output Point Frequency)		
	Output power		7±3dBm		
	Spurious		≤-80dBc		
	harmonic wave		≤-20dBc		
	Phase noise if the reference phase noise does not meet the requirements, will be calculated as 20logN+3 deterioration	Frequency	1GHz	2GHz	3GHz
		dBc/Hz@10Hz	-77	-71	-77
		dBc/Hz@100Hz	-111	-105	-101
		dBc/Hz@1kHz	-137	-131	-127
		dBc/Hz@10kHz	-147	-141	-127
		dBc/Hz@100kHz	-147	-141	-137
		dBc/Hz@1MHz	-160	-154	-148
		Frequency	4GHz	5GHz	6GHz
		dBc/Hz@10Hz	-65	-63	-61
		dBc/Hz@100Hz	-99	-97	-95
		dBc/Hz@1kHz	-125	-121	-119
		dBc/Hz@10kHz	-135	-133	-131
		dBc/Hz@100kHz	-135	-133	-131
		dBc/Hz@1MHz	-148	-146	-145
Enter a reference sign	Enter the reference frequency		100MHz		
	Reference signal input work		7±2dBm		
	Phase noise	dBc/Hz@10Hz	-105		
		dBc/Hz@100Hz	-135		
		dBc/Hz@1kHz	-160		
		dBc/Hz@10kHz	-170		
		dBc/Hz@100kHz	-170		
		dBc/Hz@1MHz	-175		
Operating voltage	Power supply		+5VDC		
	Operating current		370mA		
structure	Dimensions		40×24×8mm		
Ambient temperature	Operating temperature		-40~+70℃		
	Storage temperature		-45~+85℃		
other	Lock indication		When locked, the output TTL is h		

Dimensions:

Outline package (unit: mm).



Reflow soldering condition requirements



Executive standard: IPC/JEDEC J-STD-020

Test conditions: ★ preheating time: $150^{\circ}\text{C} \sim 200^{\circ}\text{C}$, $60 \sim 120$ seconds

★★ Heating time: 217°C , $60 \sim 150$ seconds

★★★ Peak temperature time: 260°C , 20 ± 5 seconds

Model selection:

<u>SML024 - XXXX</u> ① ②	numbering			
	1	Model	volume	Frequency range
		SML024	40*24*8	1~6 GHz
	2	Represents the output frequency		
		The output frequency is 1GHz, 2GHz, 3GHz, 4GHz, 5GHz, and 6GHz		

Deliverables:

When the product is delivered, the documents specified in the following table will be provided:

No.	Attachments	Quantity	Remark
1	Factory inspection report	1	
2	Product Certificate	1	
3	Instruction manual for the product	1	Paper/electronic version