

STM-Rb-M Series Miniature Rubidium Clocks

Product Introduction

The STM-Rb-M series miniature rubidium atomic clock is a surface-mount rubidium atomic frequency standard product with a device size of only 50mm * 50mm * 19mm. The through-hole pin design allows for direct installation on a board or in a circuit.

Product Features

- 1PPS Taming Function
- Small Size, Lightweight
- Pin Compatible with SA.31, SA.35, SA.55
- Fast Lock and Taming, Frequency Accuracy

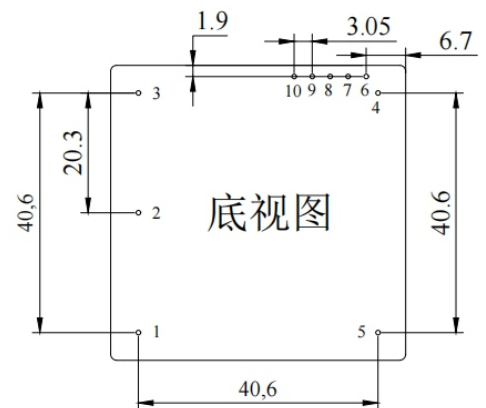
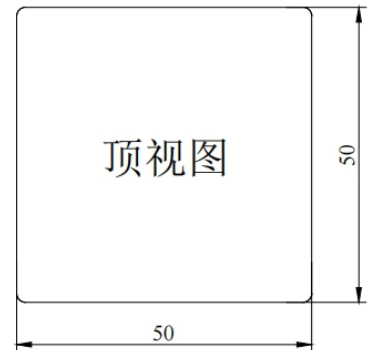
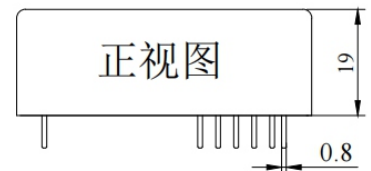
Better than 5E-11 within 300 Seconds after Power On

Technical Specifications

Product Features	Specification Name	Performance Parameters	Remarks	
RF Output	Frequency	10MHz (Square Wave)	1 Channel	
	Output Amplitude	LVCOMS	Duty Cycle 50%±10	
	Factory Accuracy	<±5E-11	+25°C	
	Taming Accuracy	<1E-12/24h		
	Short-term Stability	Standard Model: <5.0E-11/1s; <3.0E-11/10s; <7.0E-12/100s Professional Model: <3.0E-11/1s; <1.0E-11/10s; <4.0E-12/100s		
	Phase Noise	Standard Model	Professional Model	
		1Hz ≤-70dBc/Hz	1Hz ≤-70dBc/Hz	
		10Hz ≤-100dBc/Hz	10Hz ≤-100dBc/Hz	
		100Hz ≤-123dBc/Hz	100Hz ≤-123dBc/Hz	
	1kHz ≤-142dBc/Hz	1kHz ≤-142dBc/Hz		
10kHz ≤-150dBc/Hz	10kHz ≤-150dBc/Hz			
Timekeeping Accuracy	<0.8us/24h			
Aging	<±5.0E-12/d			
Spur Suppression	≤-80dBc			
Frequency Reproduction	<±5E-11			
1PPS Output	Rise Time	<2ns		
	Pulse Width	500us~500ms(default 100ms)		
	Level	>4.5V(1MΩ/15pF load)		
Monitoring and Control	Frequency Tuning Accuracy	<5E-13		
	Lock Time	<3min	Taming Lock Query via Serial Port LVTTTL	
	Status Monitoring	Rubidium Clock Lock Indicator		
Communications Monitoring	Serial Port LVTTTL			
Power Supply Voltage	Input Voltage	+12~15VDC		
	Maximum Current	≤1.4A (+25°C)		
	Steady-State Current	≤0.5A (+25°C)		
Environment	Operating Temperature	-40°C~+60°C		
	Storage Temperature	-55°C~+85°C		
	Relative Humidity	≤85% without condensation (operating state)		
Appearance	Weight	<110g		
	Dimensions	50mm×50mm×19mm		



External Dimensions



Selection Guide

STM-Rb-M C ↵

① Specification Options: C (Standard), P (Professional)

Pin Function Definition			
Serial Number	Symbol	Serial Number	Symbol
1	1PPS Input	10	Taming Lock
2	GND	9	1PPS Output
3	10MHz Output	8	RXD
4	GND	7	TXD
5	12V	6	Rubidium Clock Lock

Remark: Control Voltage Input (EFC), Ground, Float, When Connected to 0V, the Frequency Deviates to the Negative Limit