

## SCH101 Series

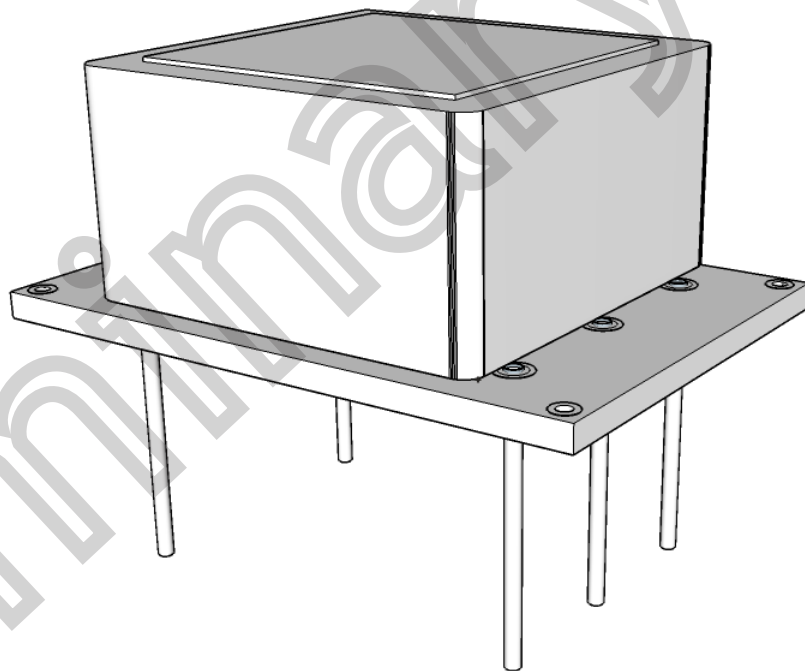
Software Compensated OCXO

### Key Features

- Double-oven performance in a single-oven design
- Unmatched wide temperature range stability
- Ultra-low phase noise
- Temperature stability as low as  $\pm 0.2$  ppb

### Common Applications

- Test Instrumentation
- Satcom Terminals
- Broadcast Reference Standard
- Military weapon/communication systems



### Functional Description

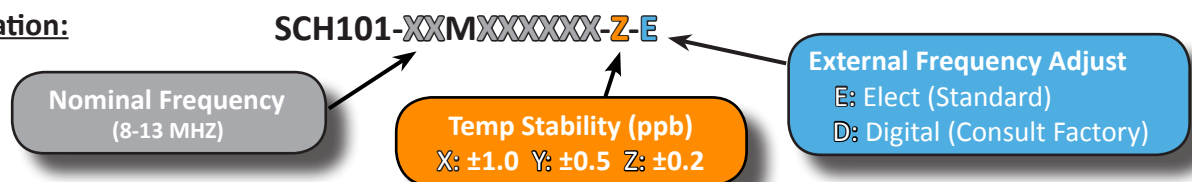
Through the implementation of Esterline Research and Design's new patent-pending M-SAC technology, the new SCH series of software-compensated OCXOs is able to provide unparalleled temperature performance over the Industrial Temperature Range and beyond. In addition, no other device on the market can offer a comparable performance ratio of temperature stability to input power. The SCH101 provides extremely low phase noise performance for applications where quiet operation is paramount.

Unlike traditional OCXO products, SCH-series OCXOs are compensated for trim effect to ensure that temperature stability performance is maintained as the frequency is adjusted to correct for drift over time (aging). The SCH-series of OCXOs also enjoys a higher immunity to orientation and airflow effects, as compared to other contemporary OCXO designs.

The standard CO8, or "EURO" package makes the SCH-series OCXO ideal for upgrading existing applications to provide improved temperature stability or to expand the application's operational temperature range.

**Standard Specifications:**

Parameter	Minimum	Typical	Maximum	Units	Notes
Frequency Range	8		13	MHz	
Operational Temperature Range	-45		+85	°C	
Frequency vs. Temperature	±0.2		±1.0	ppb	See ordering info for other options.
Temperature Slope		5		ppt/°C	
Frequency vs. Supply			±0.3	ppb	
Hysteresis			TBD	ppb	10 °C/hour
Warm-up			5	minutes	±100 ppb of 1-hour frequency @ 25 °C
Retrace		±10	TBD	ppb	24 hours off; 30 minutes on
Aging			±0.5	ppb/day	
			±50	ppb/1 <sup>st</sup> year	
			±30	ppb/2 <sup>nd</sup> year	
Acceleration Sensitivity			±1	ppb/G	
Allan Deviation			2E-12	rms	
Supply Voltage	4.75	5.0	5.25	Volts	
Input Power			2.6	Watts	During warmup
		0.8	1.0	Watts	Steady state
Output Characteristics					
Output Level High (Voh)	3.0			Volts	
Output Low (Vol)			0.1	Volts	
Duty Cycle	40	50	60	%	
Rise/Fall Time			6	ns	
Voltage Control Characteristics					
Voltage Range	0.0		4.5	Volts	
Pullability	±0.40	±0.50		ppm	
Input Z	10K			Ohms	
Phase Noise Characteristics					
1 Hz Offset		-112		dBc/Hz	
10 Hz Offset		-145		dBc/Hz	
100 Hz Offset		-155		dBc/Hz	
1 KHz Offset		-162		dBc/Hz	
10 KHz Offset		-169		dBc/Hz	
100 KHz Offset		-172		dBc/Hz	

**Ordering Information:**

**Outline Drawing:**

