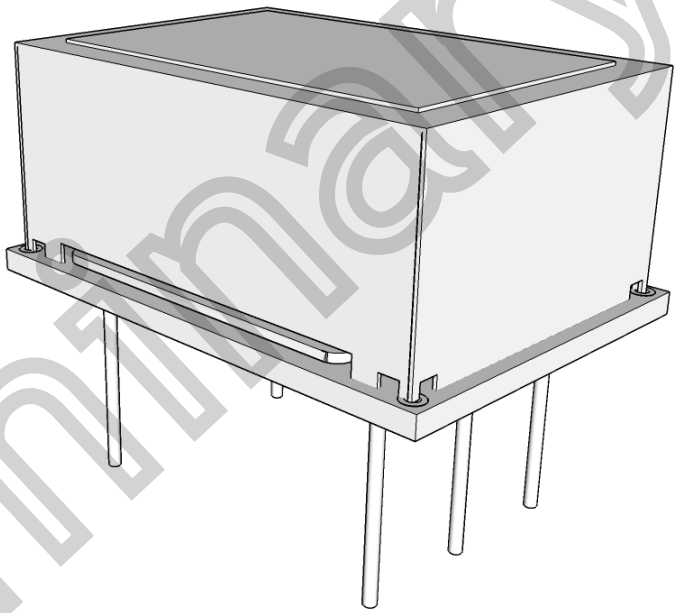
SCH100 Series

Software Compensated OCXO

Key Features

- Double-oven performance in a single-oven design
- Unmatched wide temperature range stability
- SC-cut resonator
- Temperature stability as low as ±0.2 ppb



Common Applications

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

Preliminary

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.

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	5		13	MHz	
Operational Temperature Range	-45		+85	°C	Contact manufacturer for tailored temp. range specifications
Frequency vs. Temperature	±0.2		±1.0	ppb	See ordering info for other options.
Temperature Slope		8		ppt/°C	
Frequency vs. Supply			±2	ppb	
Hysteresis		0.5	TBD	ppb	10 °C/hour
Warm-up			5	minutes	±100 ppb of 1 hr frequency @ 25 °C
Retrace		±5	TBD	ppb	24 hours off; 1 hour on
Aging			±1	ppb/day	
			±50	ppb/year	
			±300	ppb/20 years	
Phase Jitter			1	ps rms	BW = 10 Hz to Fo/2
Allan Deviation			1.00 E-11	rms	
Supply Voltage	3.13	3.3	3.47	Volts	
Input Power			3.8	Watts	During warmup
			1.5	Watts	Steady state
Output Characteristics					
Output Level High (Voh)	3			Volts	
Output Low (Vol)			0.4	Volts	
Duty Cycle	45	50	55	%	
Rise/Fall Time			6	ns	
Voltage Control Characteristics					
Voltage Range	0.3		3	Volts	
Pullability	±0.40			ppm	
Input Z	100K			Ohms	
Phase Noise Characteristics					
1 Hz Offset		-85		dBc/Hz	
10 Hz Offset		-115		dBc/Hz	
100 Hz Offset		-140		dBc/Hz	
1 KHz Offset		-145		dBc/Hz	
10 KHz Offset		-150		dBc/Hz	
100 KHz Offset		-150		dBc/Hz	

Ordering Information:

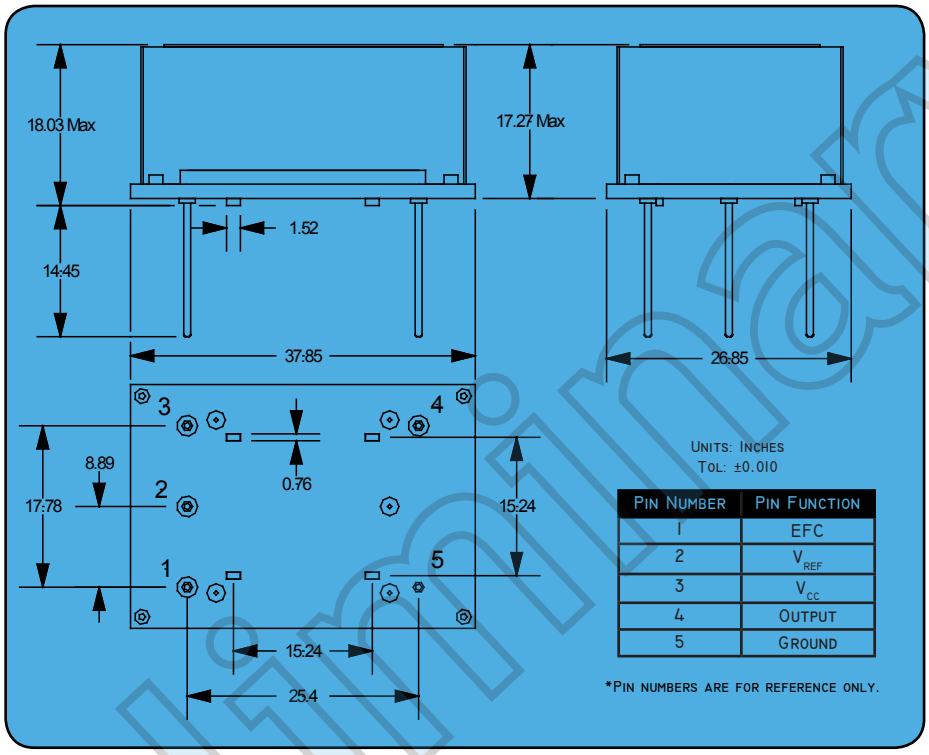
SCH100-XXMXXXXX-Z-A

- Frequency (5-13 MHz)
- Temp Stability (in ppb) X: ±1.0 Y: ±0.5 Z: ±0.2
- Package Option (A or B)

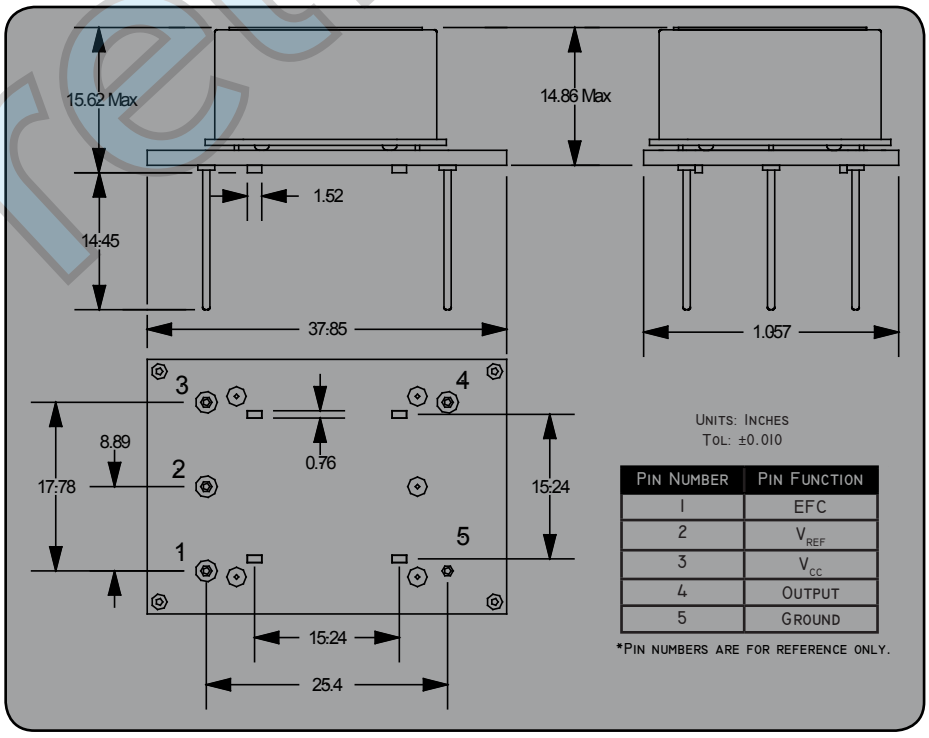
Preliminary

Outline Drawings:

Package Style A:



Package Style B:



Preliminary