

# LOW PHASE NOISE QUARTZ OSCILLATORS

Series FE-102A

The FEI Series FE-102A-100 features operation at 100 MHz, Low Phase Noise of -172 dBc, VCO Range of  $\pm 6$  PPM for 0 to +10 V min, and a Low Profile of only 1". Time stability is 3 PPM/Year and 5 PPM/5 Years. Temperature stability is  $\pm 1$  PPM over 0° to 55°C.

The FE-102A features the best phase noise performance available today in a quartz oscillator operating directly at 100 MHz. Typical phase noise is -135 dBc at 100 Hz from the carrier, -163 dBc at 1 kHz from the carrier and -173 dBc at 10 kHz from the carrier. FEI manufactures a fifth overtone SC-cut crystal for this application.

The unit was designed for applications such as Low Noise Frequency Synthesis, Doppler Radar, Low Noise PLL Systems and Phase Noise Reference.



## FEATURES

- Operation @ 100 MHz
- Low Phase Noise: -172 dBc
- VCO Range:  $\pm 6$  PPM for 0 to +10V
- Low Profile: only 1" high



**FEI Communications, Inc.**  
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# SPECIFICATIONS

## MODEL FE-102A OSCILLATOR

**FREQUENCY:**  
100 MHz

**STABILITY TIME:**  
3 PPM/Year  
5 PPM/5 Year

**TEMPERATURE STABILITY:**  
±1 PPM Over 0° to 55°C

**VCO RANGE:**  
±6 PPM, 0 to +10V Minimum

**OUTPUT POWER:**  
+13 dBm Nominal

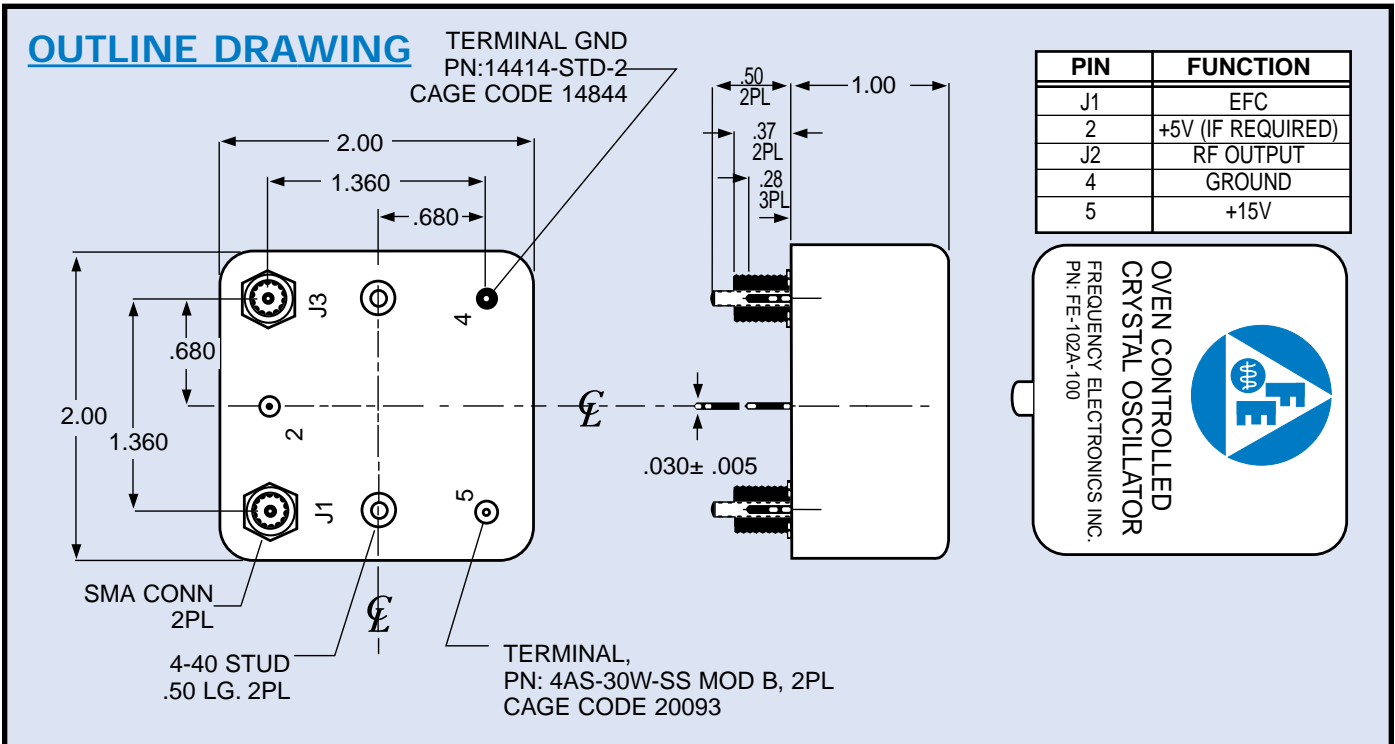
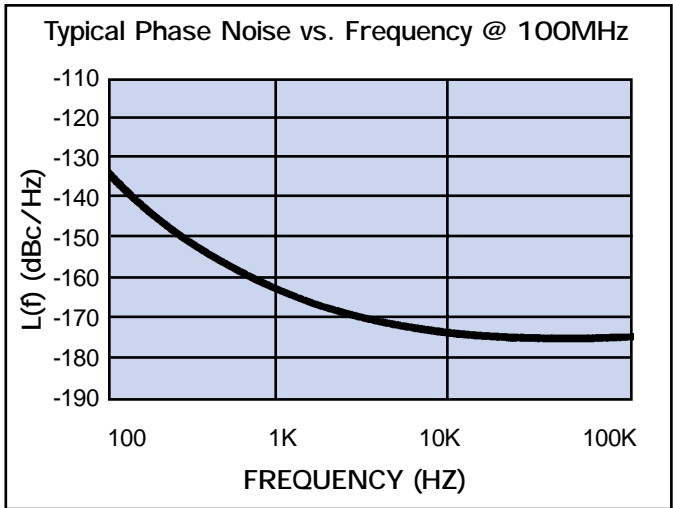
**PHASE NOISE:**

100 Hz	-130 dBc/Hz
1 kHz	-157 dBc/Hz
10 kHz	-171 dBc/Hz
100 kHz	-172 dBc/Hz

**D.C. POWER:**  
15 VDC

**SIZE:**  
2"x 2"x 1" high

**CONNECTORS:**  
RF - SMA  
Voltage Tune - SMA



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