

FLIGHT MODELS 487Y(HHHH):

CO-487V Type Hybrid Sinewave VCXO designed, constructed, and processed in accordance with MIL-PRF-55310D, Class S, for oscillators of hybrid construction including the following notes and additional requirements:

Frequencies: 10 MHz to 200 MHz – 16 pin flatpack
 201 MHz to 500 MHz – 24 pin flatpack (see #16 below)

1. Output: 0 dBm minimum into 50Ω (+7 dBm also available)
2. Supply: 15.0 Vdc ±5%
3. Temperature Stability: $F_o \pm 25$ ppm, -20°C to +70°C at center frequency
4. Deviation range: From minimum of 60 ppm below center frequency at 0V to a minimum of 60 ppm above center frequency at 5V. (other deviation ranges available)
5. Accuracy @ 25°C: f_o will occur between 2.25V and 2.75V control voltage
6. Control voltage: 0 to 5V positive transfer function, bandwidth: 0 to 10 kHz, -3 dB
7. Linearity: ±10% BSL
8. Frequency vs. supply: ±2.0 ppm for 5 Vdc ±5%
9. Frequency vs. load: ±0.5 ppm for 50Ω ±10%
10. Short-term stability: ±1 x 10⁻⁵/1 ms
 (Allan Variance) ±1 x 10⁻⁶/10 ms
 ±1 x 10⁻⁷/100 ms
 ±1 x 10⁻⁸/sec
11. Current: 50 mA maximum
12. Harmonics: -20 dBc
13. Sub-harmonics: -30 dBc
14. Spurious: -80 dBc
15. Aging: 3 ppm first year, 2 ppm per year thereafter
- 16A. Configuration: 10 MHz to 200 MHz – 16 pin flatpack 1.0" x 1.0" x 0.17"
 201 MHz to 500 MHz – 24 pin flatpack 1.0" x 1.4" x 0.30" max.
- 16B. Installation Drawings: 16 pin flatpack: 487-10-006
 24 pin flatpack: 487-TBD-006

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17. Crystal: Swept quartz, AT, 3 point mount
18. Components: Class "S" Microelectronic element evaluation per Appendix B of MIL-PRF-55310D.
19. Rework: In accordance with MIL-PRF-55310D, Class S.
20. Class "S" screened in accordance with MIL-PRF-55310D, Table III, including internal visual inspection per MIL-STD-883, Method 2017, and PIND testing.
21. 100% PIND testing in accordance with MIL-STD-883, Method 2020, Condition B. We may use a VI approved material as a "getter" in our manufacturing process to help pass PIND.
22. 100% Group A and 100% Group B testing
23. Salt spray/salt atmosphere not included in this specification.
24. Standard shock and vibration (survive; met by design, not tested):
 - Shock: 100, 6 ms per MIL-STD-202, Method 213, Condition C
 - Vibration: Sine: 20G to 2 kHz per MIL-STD-202, Method 204, Condition D
 - Random: 20 Grms overall to 2 kHz per MIL-STD-202, Method 214, Condition I-F

NOTE: Active parts are of bi-polar technology and, therefore, are inherently radiation tolerant. If required, VI will provide a parts list and schematic (NDA required) for review and approval of radiation hardness.

ENGINEERING MODELS: 487Y(HHHH)-1

Engineering models are fit, form and function representative of Flight Models and of commercial construction using commercial parts of same generic type as Flight Models. Completed oscillators are not screened, will not contain swept quartz, and are not suitable for flight, DPA, or RGA. Engineering models will not be processed to pass PIND.

NOTE: THE OSCILLATOR SPECIFIED ABOVE IS NOT GUARANTEED TO MEET ANY REQUIREMENT OTHER THAN AS DEFINED IN THIS SPECIFICATION.

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