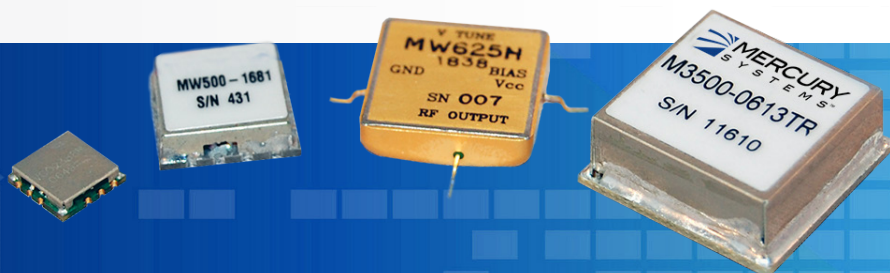


Voltage Controlled Oscillators for COTS, Military and Space Applications

- Fixed, narrow, and broadband solutions
- High power efficiency
- Excellent phase noise performance
- Dense and rugged packages
- COTS and application specific tuned designs



Mercury's domain expertise and leverage of our broad portfolio of standard RF/Microwave solutions enables us to quickly simulate, design and produce difficult and complex custom hybrid Voltage Controlled Oscillators (VCOs). The leverage of proven solutions within the 100 MHz to 7.0+ GHz range and a variety of package styles reduces both cost and development risk. Multiple design topologies are available to deliver fixed, narrowband, and wideband performance. With typical output power levels of 0 dBm to +10 dBm, supply voltage ranges from 3 to 15 VDC and linear tuning voltages up to +20 VDC.

Military and Space Program Support

For rugged military and high-reliability space applications, Mercury offers the MW625 series packaging option which may include off-the-shelf technology with custom tuning all hermetically sealed in a Kovar pin package. The package pins may be gull-winged for direct surface mounting onto a PWB. For highest reliability space applications, Mercury offers thin-film hybrid (chip and wire) VCO designs in the MW625 package or TO-8/SMT0-8 metal ceramic packages, with full program management support for MIL-PRF-38534 class H & K screening profiles.

Technology

- PCB/solder, thin-film and wire-bond
- Multiple resonator technology
- Various surface mount device and pin packages
- Broad portfolio of standard RF/Microwave solutions
- Hermetically sealed packages

Options

- Frequency ranges from 0.1 to 7.0 GHz
- Fixed, narrow and broadband (up to 15% BW)
- Supply voltages from 3 to 15 VDC
- Tuning voltage to 20 VDC
- Temperature range from -54 to +100°C
- Output power levels are available from 0 dBm to +10 dBm
- Fully application specific solutions

Assurance

- Optional RoHS, AS9100C and US factory for compliance and supply chain assurance
- Facility supports internal sealing capability, environmental screening, and program management
- Thermal and reliability analysis

Mercury Systems is a best-of-breed provider of commercially developed, open sensor and Big Data processing systems, software and services for critical commercial, defense and intelligence applications.



ACQUIRE



DIGITIZE



PROCESS



STORAGE



EXPLOIT



DISSEMINATE

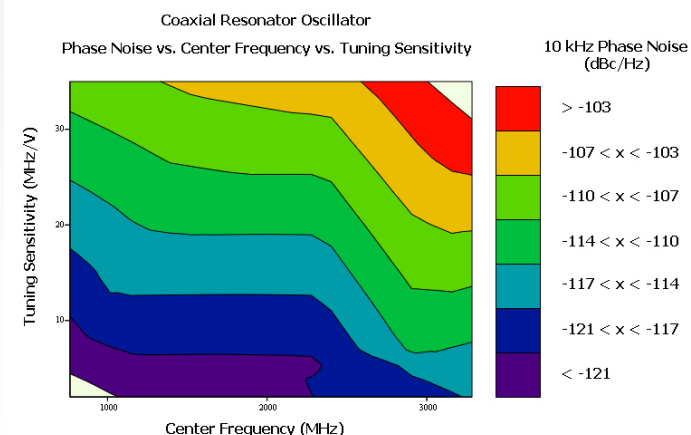
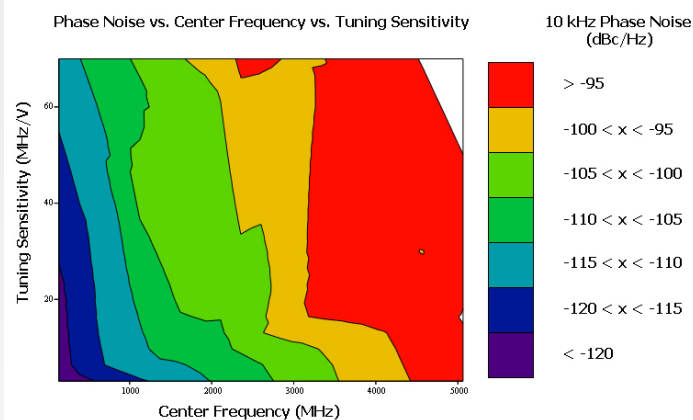


Figure 1 - Phase noise Vs. center frequency Vs. Tuning Sensitivity

Mechanicals

MW500 package 0.5" x 0.5"

MW625 package 0.625" x 0.625"

SMT0-8 package 0.45" x 0.45"

Environmental

MIL-PRF-38534 (Class H and K element evaluation)

NASA EEE-INST-002

MIL-STD-883

MIL-STD-202

MIL-DTL-28837

Customer/application specific

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VCO Package Outline Drawings

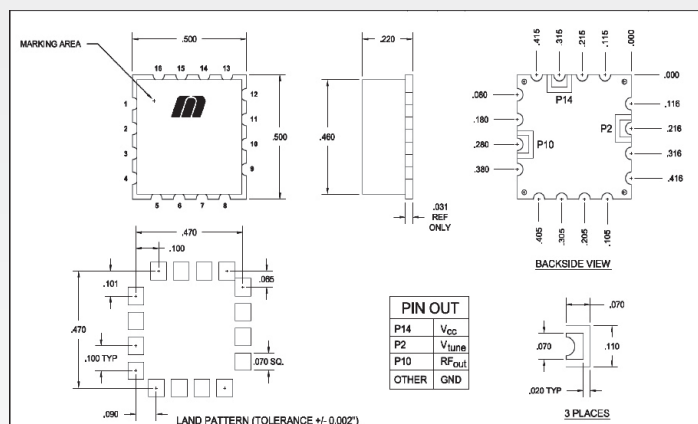


Figure 2 - MW500 - 0.5" x 0.5"

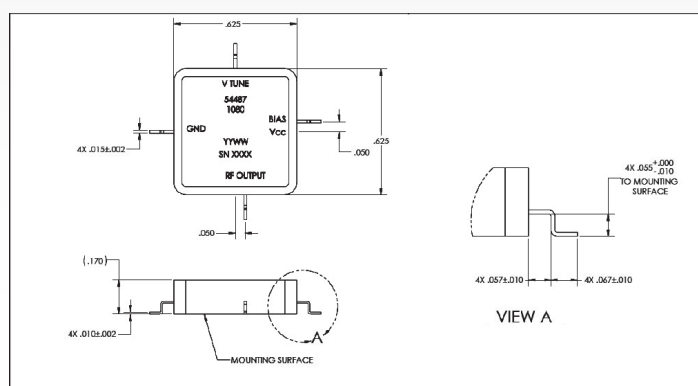


Figure 3 - MW625 - 0.625" x 0.625"

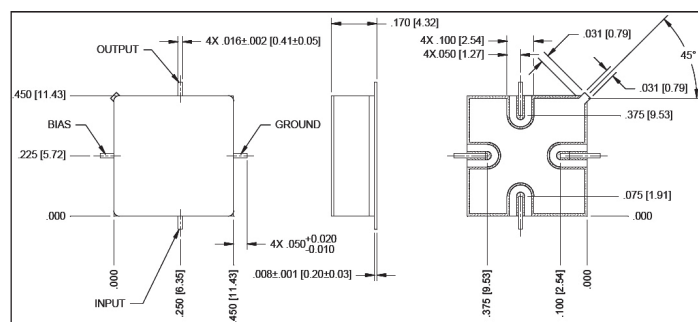


Figure 4 - SMT0-8 - 0.45" x 0.45"