

PHASE LOCKED COAXIAL RESONATOR OSCILLATORS

SERIES PCRO

SUPPLYING HIGH PERFORMANCE, INNOVATIVE AND SOPHISTICATED RF, MICROWAVE, MILLIMETER WAVE COMPONENTS AND INTEGRATED ASSEMBLIES WORLDWIDE.

DESCRIPTION

Ultra Electronics Herley series of phase locked coaxial resonator oscillators have been designed for use in commercial and military systems where demanding performance, high reliability and cost are critical.

This family of product takes advantage of low phase noise transistors and a metalized high Q coaxial resonator. When phase locked to an external crystal reference, the low noise characteristics of the high Q resonator are enhanced by the long term stability of the external reference.

The series PCRO can be custom configured to meet the demanding electrical performance and environmental requirements for military airborne, radar and communications applications.

Features such as low phase noise, high power, small size and low cost make Ultra Electronics Herley Industries' PCRO product line the best value on the market today.

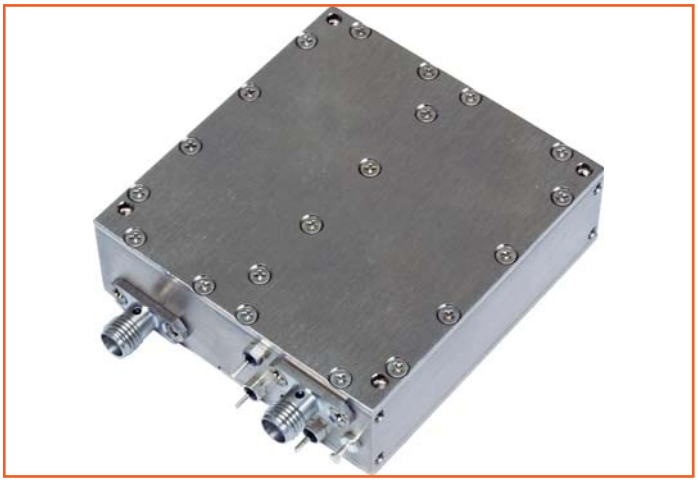
Contact the factory to discuss your special requirements.

FEATURES

- Frequencies from 300 MHz to 3 GHz
- Wide operating temperature
- Ultra low phase noise
- Low power consumption
- Phase lockable to references from 1 MHz to 100 MHz
- Low Spurious
- Low loss high Q circuit

OPTIONS

- High stability internal reference
- Field replaceable connectors
- Flush profile tuner
- Hermetic seal
- Extended temperature ranges
- Dual loop models



HERLEY | Ultra ELECTRONICS

Bringing more benefits to RF, microwave and millimeter-wave technology for defense systems, integrated subsystems, components... and more

TYPICAL PERFORMANCE SPECIFICATIONS

- Fixed frequencies from 300 MHz to 3 GHz
- Output power +15 dBm standard
- Power variation ±2 dBm
- Output impedance 50 ohms
- Load VSWR 1.5:1
- Output impedance 50 ohms
- Spurious -80 dBc
- Harmonics -20 dBc
- Lock alarm TTL high when locked



- Input reference frequency 5 MHz to 100 MHz for single loop models, 1 MHz to 100 MHz for dual loop models
- Input reference power level 0 ± 3 dBm
- Internal reference models frequency stability ±2.5 ppm standard, ±1 ppm optional
- External reference models frequency stability same as reference

TYPICAL PHASE NOISE

External 100 MHZ reference models

SSB Phase Noise dBc/Hz @

Offset kHz	0.5 GHz	1 GHz	3 GHz
0.1	-105	-100	-90
1	-127	-125	-110
10	-137	-135	-120
100	-143	-140	-125
1000	-150	-150	-135
10000	-160	-160	-150

TYPICAL PHASE NOISE

Internal reference models

SSB Phase Noise dBc/Hz @

Offset kHz	0.5 GHz	1 GHz	3 GHz
0.1	-100	-97	-90
1	-125	-123	-110
10	-130	-130	-120
100	-137	-135	-125
1000	-150	-150	-135
10000	-160	-160	-145

TYPICAL PHASE NOISE

Dual loop models

SSB Phase Noise dBc/Hz @

Offset kHz	0.5 GHz	1 GHz	3 GHz
0.1	-95	-90	-80
1	-125	-120	-110
10	-130	-125	-115
100	-137	-135	-125
1000	-150	-150	-135
10000	-160	-160	-150



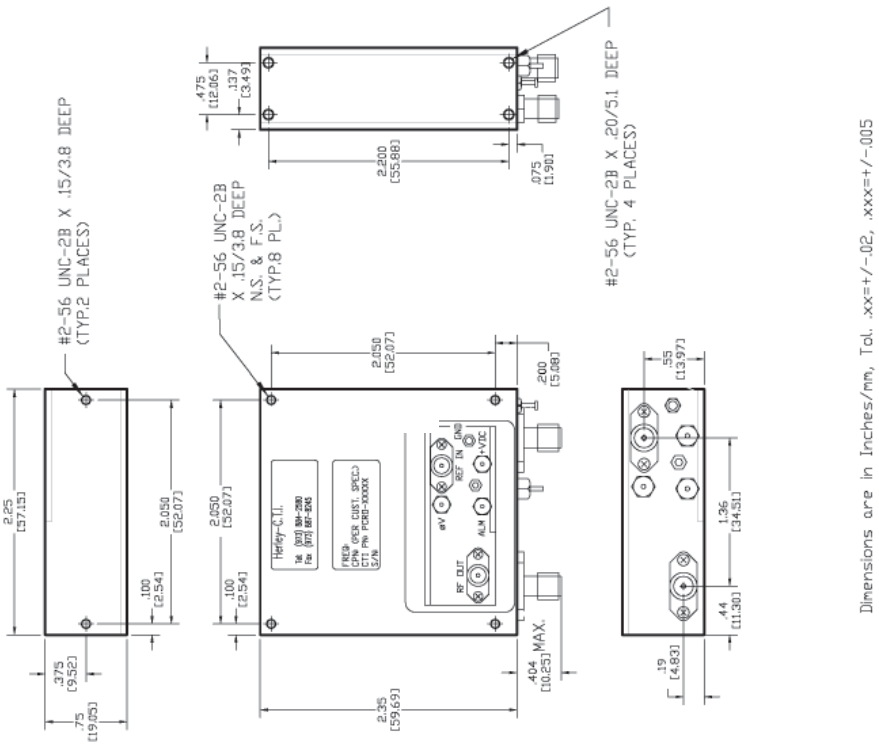
CONNECTORS

- RF output SMA-F
- Reference input SMA-F
- Reference monitor SMA-F internal reference models only
- Alarm Feed-thru
- Supply voltage Feed-thru
- Ground solder lug

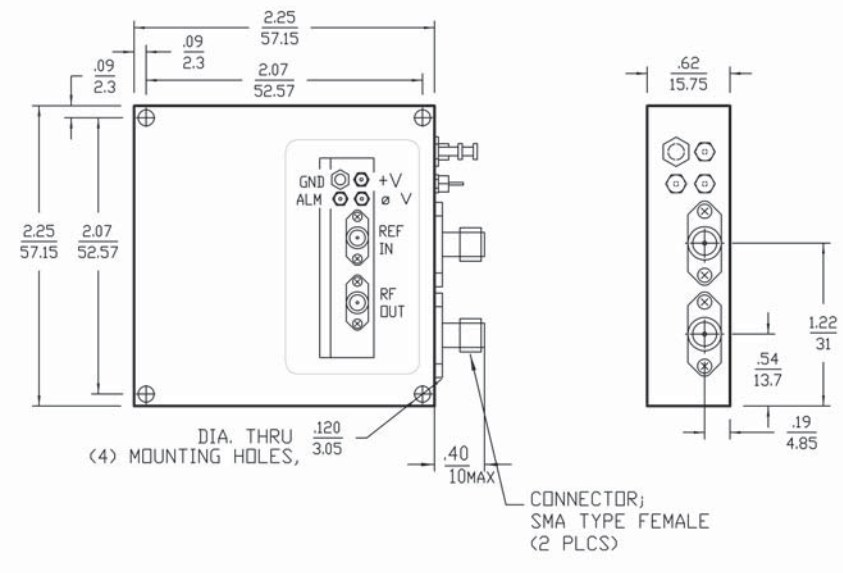
POWER, DIMENSIONS AND ENVIRONMENTAL

- Supply voltage +12V, +15 V and +8 VDC on select models
- Current 300 mA for external reference models, 450 mA steady state, 800 mA surge on internal reference models, 450 mA for dual loop models
- Operating temperature -30˚ to +70˚ centigrade
- Storage temperature -54˚ to +85˚ centigrade

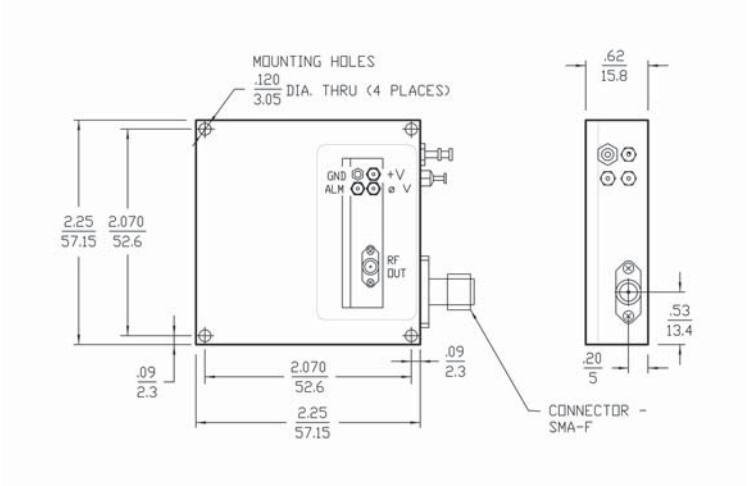
STANDARD OUTLINE DRAWING FOR EXTERNAL <50 MHz REFERENCE MODELS



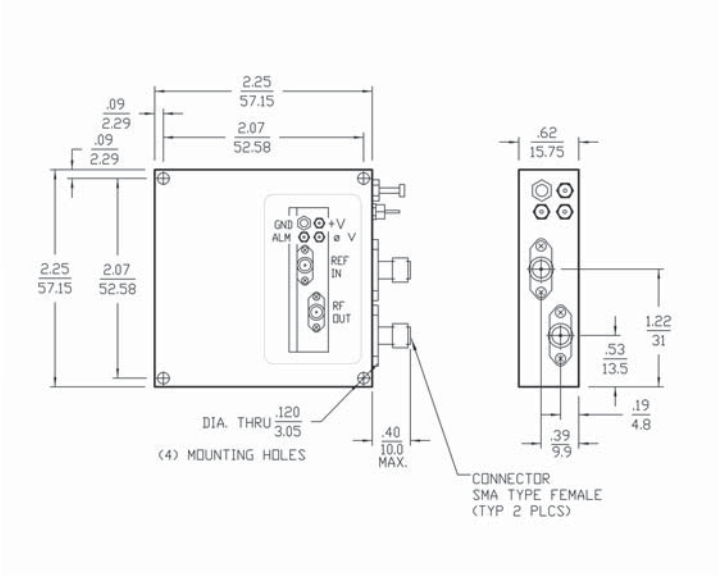
STANDARD OUTLINE DRAWING FOR EXTERNAL >50 MHz REFERENCE MODELS



STANDARD OUTLINE DRAWING FOR INTERNAL REFERENCE MODELS



STANDARD OUTLINE DRAWING FOR DUAL LOOP MODELS



Ultra ELECTRONICS

making a difference

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