

Ultra Low Phase Noise XO / VCXO

ABLNO



ESD Sensitive



RoHS Compliant



9.2 x 14.8 x 5.5 mm SMT

FEATURES:

- High "Q", 3rd Overtone Crystal Technology
- Ultra Low Phase Noise -162 dBc/Hz Typ. @ 10kHz offset, 100MHz carrier
- Standard LVCMOS RF Output
- Wide Operating Temperature (-40°C to +85°C) standard
- ±28 ppm Max. All inclusive Stability (including Aging) over 10-years
- Available Frequency range from 50MHz to 156.25MHz
- 9.2 x 14.8mm RoHS Compliant SMT package

APPLICATIONS:

- Satellite Modem Communication Systems
- COTS - Military communications
- Avionics
- Low Phase Noise Signal Sources
- High Definition TV
- Test & Measurement
- Ultra Low Jitter RF Communication Circuitry

STANDARD SPECIFICATIONS

| Parameters | | Minimum | Typical | Maximum | Units | Notes |
|------------------------------------|---------------------|---|---------|---------|----------------------|---|
| RF Output Frequency Range | | 50.00 | | 156.250 | MHz | |
| Standard Available Frequencies | | 50.00MHz, 80.00MHz, 81.92MHz, 92.16MHz, 96.00MHz, 98.304MHz, 100MHz, 104.00MHz, 106.25MHz, 120.00MHz, 122.88MHz, 125.00MHz, 150.00MHz, 155.52MHz & 156.250MHz | | | | Custom frequencies available upon request |
| Supply Voltage (Vdd) | | 3.135 | 3.300 | 3.465 | Volts | |
| Current Drain | 50MHz ~ 99.999MHz | | | 25.00 | mA | |
| | 100MHz ~ 149.999MHz | | | 35.00 | | |
| | ≥ 150.00MHz | | | 40.00 | | |
| Waveform | | LVCMOS | | | | |
| Output Load | | | | 15 | pF | |
| V _{OH} | | 0.9*Vdd | | | Volts | |
| V _{OL} | | | | 0.1*Vdd | Ω | |
| Symmetry | | 45 | 50 | 55 | % | |
| Rise & Fall Times | | | | 3.0 | ns | |
| Operating Temperature Range | | -40 | | +85 | °C | |
| Frequency Stability | | | | | | |
| Over (-40° C to +85°C) | | | ±12.00 | ±18.00 | ppm | Relative to measured frequency @ 25°C |
| ALL effects, including Aging | | | | ±28.00 | ppm | |
| Storage Temperature Range | | -40 | | +90 | °C | |
| Aging | First Year | | | ±2.00 | ppm | |
| | 5-Years | | | ±5.00 | ppm | |
| | 10-Years | | | ±7.00 | ppm | |
| Phase Noise (50MHz Carrier) | | | | | | Vdd=3.3V |
| @ 10 | Hz offset | | -90 | -82 | dBc/Hz | <i>Note #1 & #2</i> |
| @ 100 | Hz offset | | -120 | -115 | dBc/Hz | |
| @ 1,000 | Hz offset | | -145 | -140 | dBc/Hz | |
| @ 10,000 | Hz offset | | -165 | -160 | dBc/Hz | |
| @ 100,000 | Hz offset | | -166 | -165 | dBc/Hz | |
| @ 1,000,000 | Hz offset | | -166 | -165 | dBc/Hz | |
| rms Jitter (12kHz ~ 20MHz BW) | | | < 100 | 125 | <i>Femto Seconds</i> | 0.125 ps Max. |



Ultra Low Phase Noise XO / VCXO

ABLNO



ESD Sensitive



RoHS Compliant



9.2 x 14.8 x 5.5 mm SMT

| Parameters | Minimum | Typical | Maximum | Units | Notes |
|--|---------|----------|---------|----------------------|---------------------------|
| Phase Noise (100MHz Carrier) | | | | | Vdd=3.3V |
| @ 10 Hz offset | | -88 | -82 | dBc/Hz | <i>Note #1 & #2</i> |
| @ 100 Hz offset | | -118 | -115 | dBc/Hz | |
| @ 1,000 Hz offset | | -141 | -138 | dBc/Hz | |
| @ 10,000 Hz offset | | -160 | -155 | dBc/Hz | |
| @ 100,000 Hz offset | | -161 | -160 | dBc/Hz | |
| @ 1,000,000 Hz offset | | -165 | -160 | dBc/Hz | |
| rms Jitter (12kHz ~ 20MHz BW) | | < 50 | 100 | <i>Femto Seconds</i> | 0.10 ps Max. |
| Phase Noise (156.25MHz Carrier) | | | | | Vdd=3.3V |
| @ 10 Hz offset | | -75 | -70 | dBc/Hz | <i>Note #1 & #2</i> |
| @ 100 Hz offset | | -110 | -105 | dBc/Hz | |
| @ 1,000 Hz offset | | -140 | -135 | dBc/Hz | |
| @ 10,000 Hz offset | | -155 | -150 | dBc/Hz | |
| @ 100,000 Hz offset | | -161 | -160 | dBc/Hz | |
| @ 1,000,000 Hz offset | | -165 | -160 | dBc/Hz | |
| rms Jitter (12kHz ~ 20MHz BW) | | < 50 | 100 | <i>Femto Seconds</i> | 0.10 ps Max. |
| Electrical Frequency Adjustment | | | | | |
| Control Voltage Range (Vc) | 0.0 | 1.65 | 3.30 | Volts | |
| Frequency Pull Range | ±28.00 | | ±55.00 | ppm | Referenced to the carrier |
| Frequency Pull Slope | | Positive | | | |
| Control Voltage Port Impedance | 10 | | | kΩ | |
| Control Port Linearity | | | ±10 | % | |

Note #1: Maximum Phase Noise is verified on 100% of the parts at 25°C ± 3°C.

Note #2: The above specified Phase Noise & Jitter is with the oscillator device configured as a VCXO. In XO configuration, the Phase Noise will be slightly better at each offset between 10Hz and 10 kHz, by approximately -3dB to -5dB.

Ultra Low Phase Noise XO / VCXO

ABLNO



ESD Sensitive



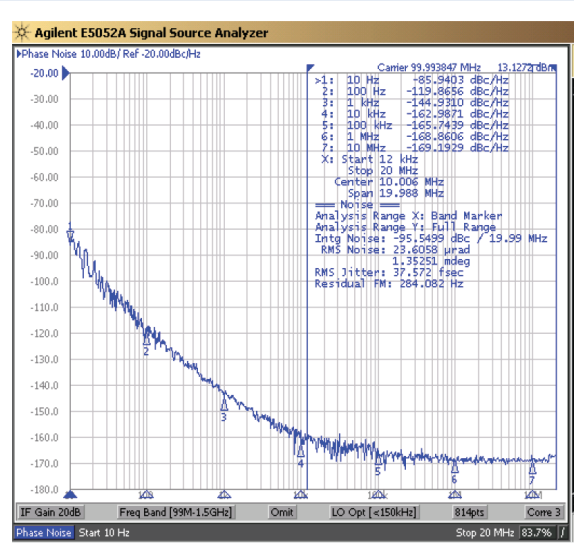
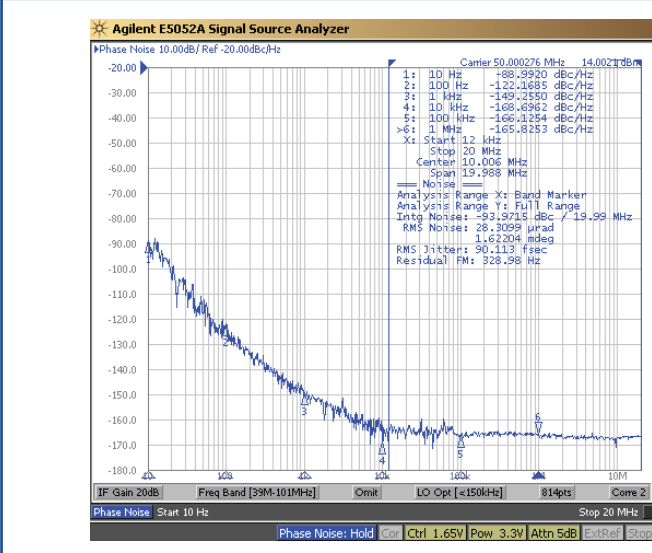
RoHS Compliant



9.2 x 14.8 x 5.5 mm SMT

TYPICAL PHASE NOISE PERFORMANCE @ 50.00 MHz CARRIER

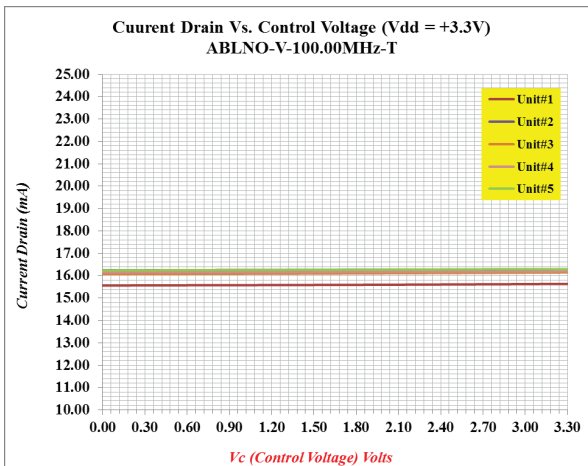
TYPICAL PHASE NOISE PERFORMANCE @ 100.00 MHz CARRIER



FREQUENCY PULL VERSUS CONTROL VOLTAGE (REFERENCED TO 100.000MHz)



CURRENT DRAIN VERSUS CONTROL VOLTAGE @ VDD = +3.3V



ABRACON IS
ISO9001:2008
CERTIFIED



ABRACON
CORPORATION

Visit www.abracon.com for Terms & Conditions of Sale **Revised: 10.17.14**
30332 Esperanza, Rancho Santa Margarita, California 92688
tel 949-546-8000 | fax 949-546-8001 | www.abracon.com

Ultra Low Phase Noise XO / VCXO

ABLNO



ESD Sensitive

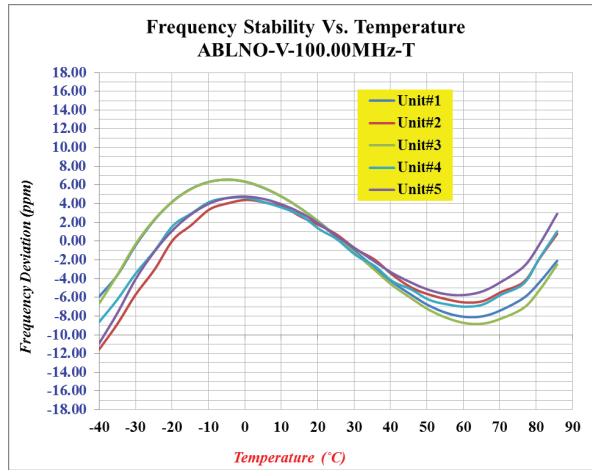


RoHS Compliant



9.2 x 14.8 x 5.5 mm SMT

FREQUENCY STABILITY VS. TEMPERATURE @ VDD = +3.3V (REFERENCED TO MEASURED FREQUENCY @ 25°C)



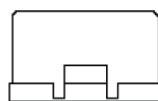
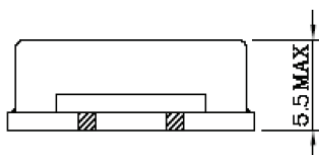
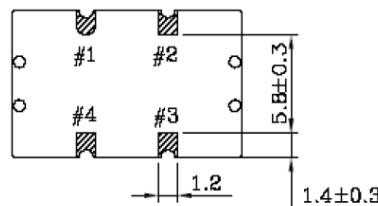
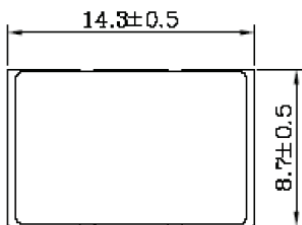
PART IDENTIFICATION:

ABLNO - Frequency (MHz) -

| Fixed Clock Vs. VCXO Option | |
|-----------------------------|--------------------------------|
| Blank | Fixed Clock Oscillator |
| V | VCXO (± 28 ppm min. Pull) |

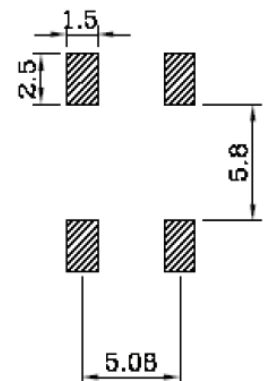
| Tape & Reel Options | |
|---------------------|-------------------------|
| Blank | < 250 units on cut tape |
| T2 | 250 units per reel |
| T | 1,000 units per reel |

OUTLINE DIMENSIONS:



| Pin # | Functionality |
|-------|--|
| 1 | Voltage Control (Vc) for VCXO No Connect (N/C) for XO |
| 2 | Ground |
| 3 | RF Output |
| 4 | Vdd |

Recommended Land Pattern



Dimensions: mm

Ultra Low Phase Noise XO / VCXO

ABLNO



ESD Sensitive

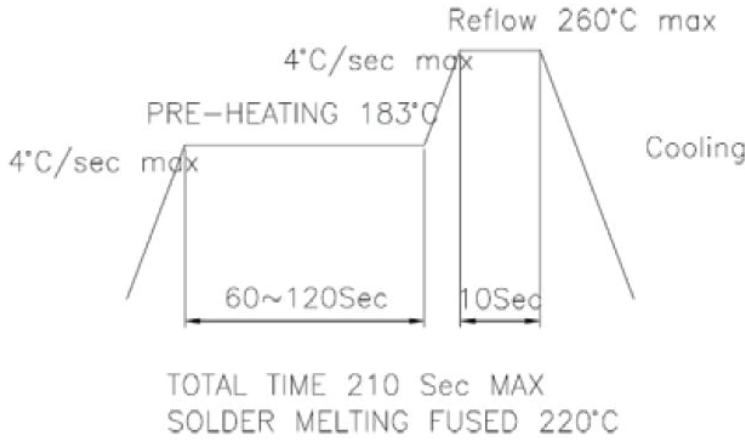


RoHS Compliant



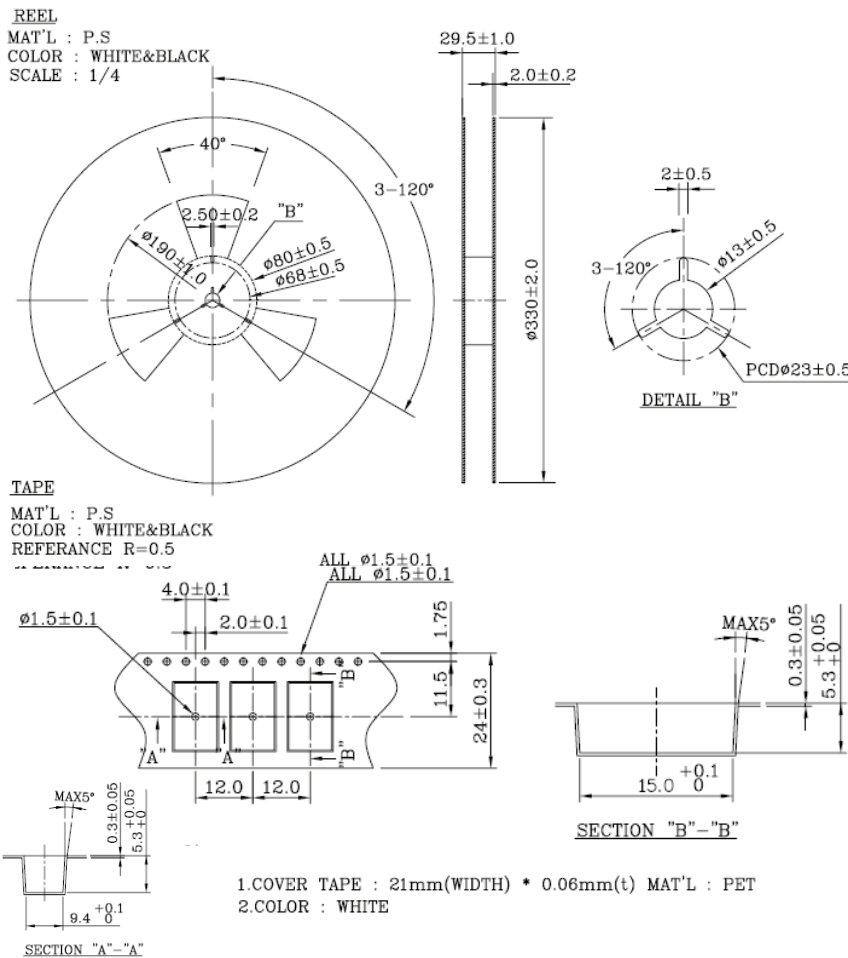
9.2 x 14.8 x 5.5 mm SMT

REFLOW PROFILE:



TAPE & REEL:

(1,000) units per reel standard, (250) units per reel available (option # T2)



ATTENTION: Abracon Corporation's products are COTS – Commercial-Off-The-Shelf products; suitable for Commercial, Industrial and, where designated, Automotive Applications. Abracon's products are not specifically designed for Military, Aviation, Aerospace, Life-dependant Medical applications or any application requiring high reliability where component failure could result in loss of life and/or property. For applications requiring high reliability and/or presenting an extreme operating environment, written consent and authorization from Abracon Corporation is required. Please contact Abracon Corporation for more information.

ABRACON IS
ISO9001:2008
CERTIFIED



Visit www.abracon.com for Terms & Conditions of Sale **Revised: 10.17.14**
30332 Esperanza, Rancho Santa Margarita, California 92688
tel 949-546-8000 | fax 949-546-8001 | www.abracon.com



Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

Телефон: 8 (812) 309 58 32 (многоканальный)

Факс: 8 (812) 320-02-42

Электронная почта: org@eplast1.ru

Адрес: 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.