

Surface Mount (SMT) 10 MHz Free Running Reference Oscillator, Internal Ref., Phase Noise -145 dBc/Hz, 0.9 inch Package



PE19XR1000

Features

- 10 MHz Reference Oscillator
- -145 dBc/Hz @ 10kHz offset
- Pout +7 dBm
- Harmonics -20 dBc
- Designed to meet MIL-STD-202 Environmental Conditions
- connectorized version available see PE19XR1003

Applications

- Phase Locked Loop
- Function Generators
- Frequency Synthesizers
- Receivers
- Electronic Jamming Equipment
- Local Oscillator
- Wireless Communications
- SATCOM
- Optical Communications
- Military Electronic Systems

Description

The PE19XR1000 is a 10 MHz Reference Oscillator. The Oscillator has a stability of +/-5 ppm over a temperature range of -30° C to +70° C and an aging of <1ppm 1st year @ +40°C. This design features exceptional phase noise performance of -145 dBc/Hz @ 10 kHz offset. Supply Voltage is +5V DC @ 50 mA typ. The package is 0.9 inch SMT package with an industry standard mounting footprint. The bottom surface is copper clad with 2-5 micro inches of immersion gold over 150 - 250 micro inches of electroless nickel which makes it resistant to oxidation for ease of soldering. The reference oscillator has an output power level of +7 dBm +/- 3 dB and 2nd harmonic output of -20 dBc typical. The Reference Oscillator operates over a temperature range of -30°C to +70°C and is designed to meet MIL-STD-202 test conditions for Vibration and Shock.

Electrical Specifications

Description	Minimum	Typical	Maximum	Units
Output Frequency		10		MHz
Output Impedance		50		Ohms
Output Power	+4	+7	+10	dBm
Phase Noise @ 10Hz Offset		-85		dBc/Hz
Phase Noise @ 100Hz Offset		-105		dBc/Hz
Phase Noise @ 1kHz Offset		-135		dBc/Hz
Phase Noise @ 10kHz Offset		-145		dBc/Hz
2nd Harmonics		-20	-15	dBc
Spurious		-70	-65	dBc
Frequency Stability			±5	ppm
Supply Voltage (DC)		5		Vdc
Supply Current (DC)		50		mA

Mechanical Specifications

Size

Length	0.9 in [22.86 mm]
Width	0.9 in [22.86 mm]
Height	0.21 in [5.33 mm]
Weight	0.0285 lbs [12.93 g]
Mounting Surface Material and Plating	Copper Clad Nickel, Gold

Surface Mount (SMT) 10 MHz Free Running
Reference Oscillator, Internal Ref., Phase
Noise -145 dBc/Hz, 0.9 inch Package



PE19XR1000

Design
Reference Type
Package Style

Commercial
Internal
Surface Mount

Environmental Specifications

Temperature

Operating Range

Shock

Vibration

ESD Sensitivity

-30 to +70 deg C

IAW MIL-STD-202, Method 213, Condition A

IAW MIL-STD-202, Method 204, Condition A

ESD Sensitive Material, Transport material in Approved ESD bags.

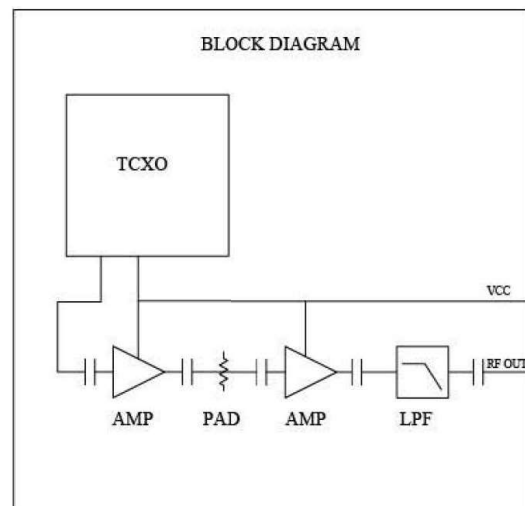
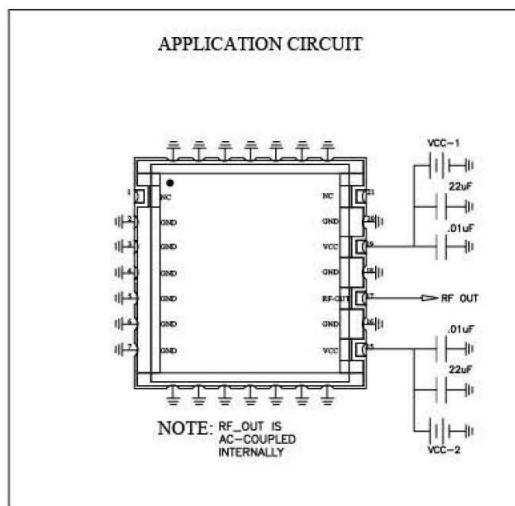
Handle only in ESD Workstation.

Compliance Certifications (see [product page](#) for current document)

Plotted and Other Data

Notes:

Functional Block Diagram

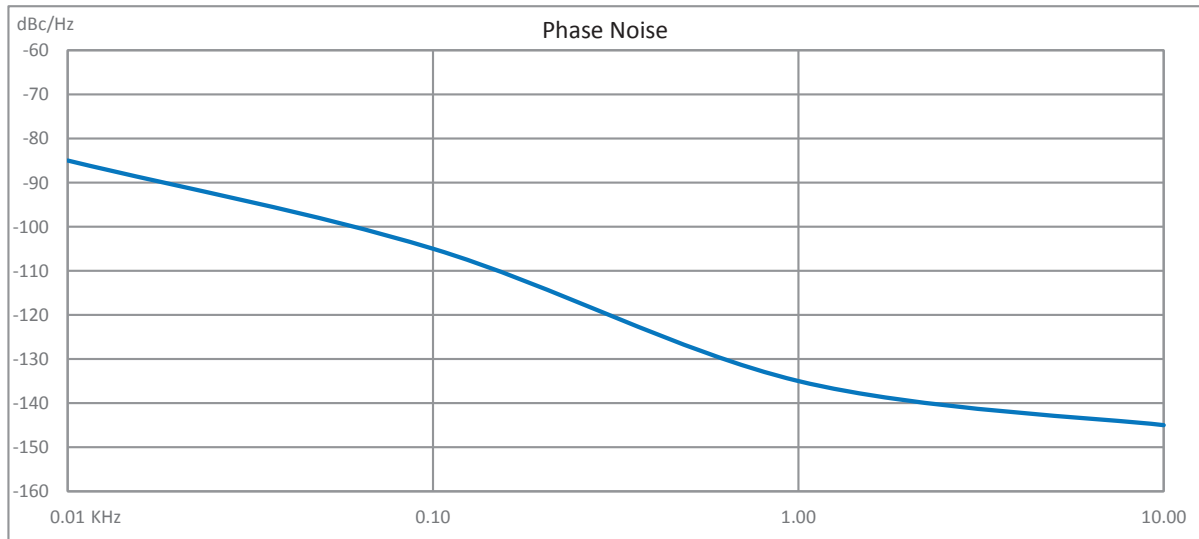


Surface Mount (SMT) 10 MHz Free Running
Reference Oscillator, Internal Ref., Phase
Noise -145 dBc/Hz, 0.9 inch Package



PE19XR1000

Typical Performance Data



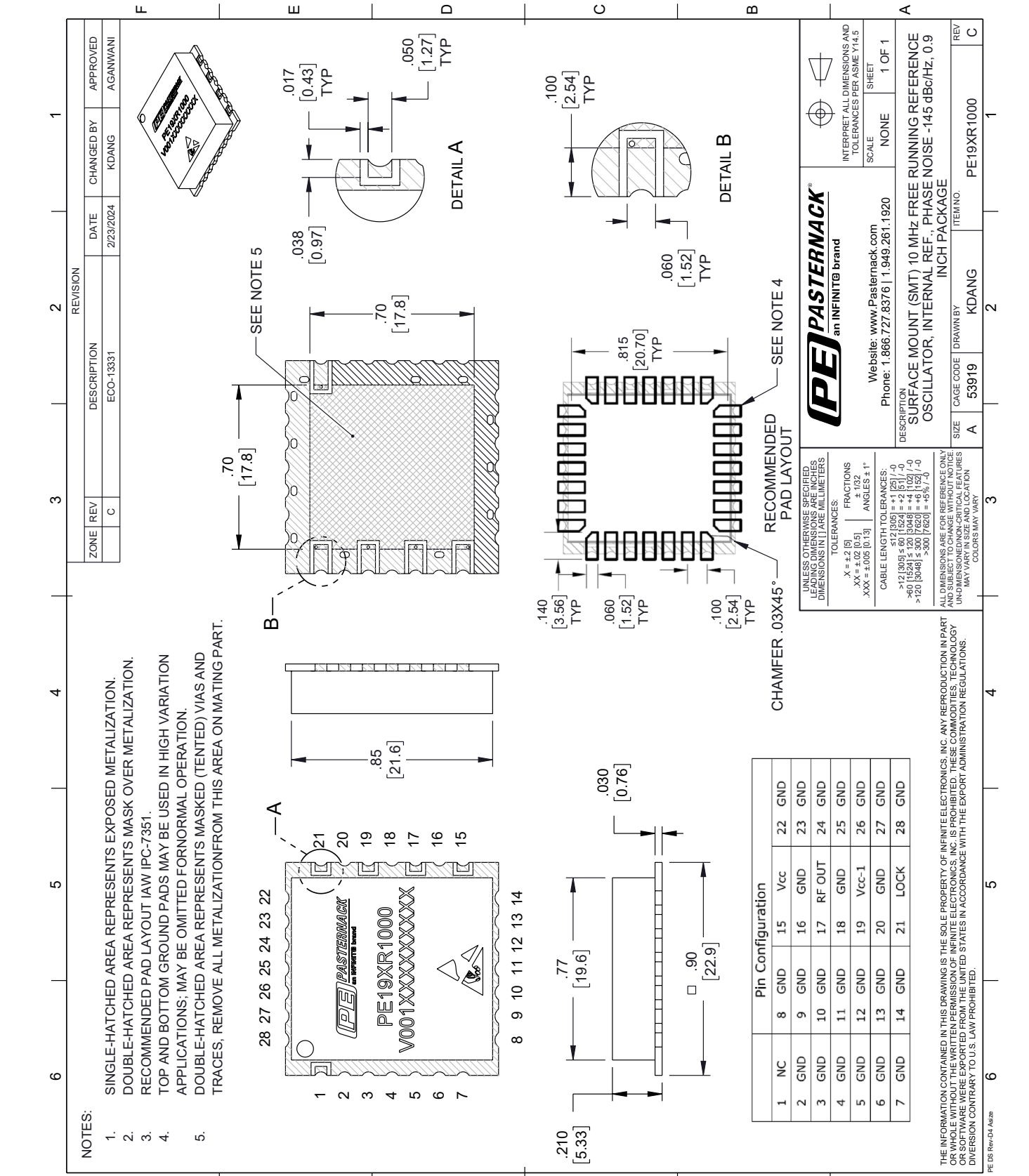
Surface Mount (SMT) 10 MHz Free Running Reference Oscillator, Internal Ref., Phase Noise -145 dBc/Hz, 0.9 inch Package from Pasternack Enterprises has same day shipment for domestic and International orders. Our RF, microwave and millimeter wave products maintain a 99.4% availability and are part of the broadest selection in the industry.

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [Surface Mount \(SMT\) 10 MHz Free Running Reference Oscillator, Internal Ref., Phase Noise -145 dBc/Hz, 0.9 inch Package PE19XR1000](https://www.pasternack.com/surface-mount-smt-10-mhz-free-running-reference-oscillator-internal-pe19xr1000-p.aspx)

URL: <https://www.pasternack.com/surface-mount-smt-10-mhz-free-running-reference-oscillator-internal-pe19xr1000-p.aspx>

The information contained within this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or the documentation of the part in order to implement improvements. Pasternack Enterprises reserves the right to make such changes as required. Unless otherwise stated, all specifications are nominal. Pasternack Enterprises does not make any representation or warranty regarding the suitability of the part described herein for any particular purpose, and Pasternack Enterprises does not assume liability arising out of the use of any part or document.

PE19XR1000 CAD Drawing
Surface Mount (SMT) 10 MHz Free Running Reference Oscillator, Internal Ref., Phase Noise -145 dBc/Hz, 0.9 inch Package



Surface Mount (SMT) 10 MHz Free Running Reference Oscillator, Internal Ref., Phase Noise -145 dBc/Hz, 0.9 inch Package

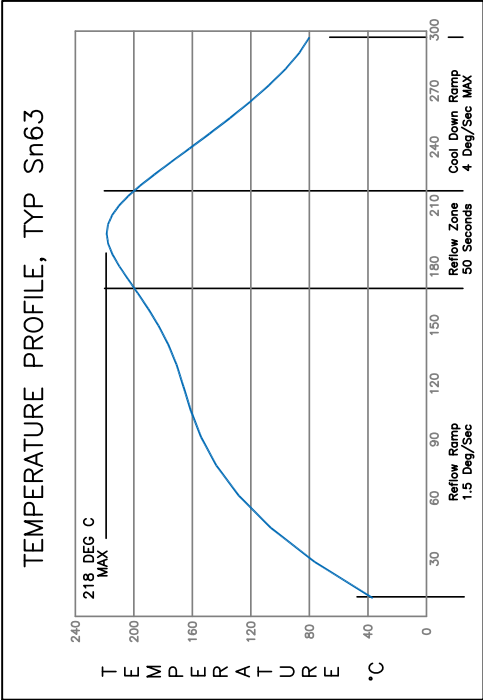


2233

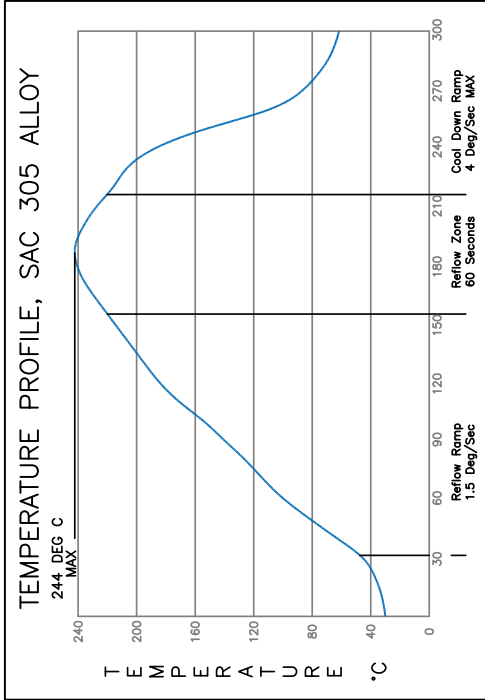
PE19XR1000 CAD Drawing

Surface Mount (SMT) 10 MHz Free Running Reference Oscillator, Internal Ref., Phase Noise -145 dBc/Hz, 0.9 inch Package

TYPICAL ATTACHMENT REFLOW PROFILES



NON-RoHS



RoHS

NOTES:
1. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE NOMINAL.
2. ALL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE AT ANY TIME.
3. DIMENSIONS ARE IN INCHES (mm).

DWG TITLE

PE19XR1000

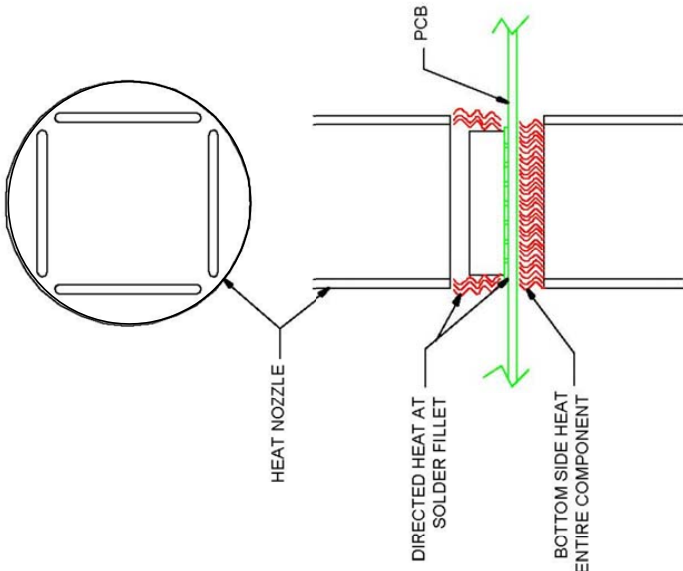
FSCM NO. 53919

CAD FILE 120116

SCALE N/A

SIZE A

2233



REMOVAL INSTRUCTIONS

- ESD PRECAUTIONS MUST BE OBSERVED DURING REMOVAL.
- APPLY A LIBERAL AMOUNT OF FLUX TO ALL SOLDER CONNECTIONS.
- REMOVE EXCESS SOLDER WITH A SOLDERING IRON AND WICK.
- APPLY HEAT AND LIFT THE COMPONENT STARTING AT ONE CORNER WITH A SMALL SPATULA OR SIMILAR TOOL. CARE MUST BE TAKEN NOT TO BUMP THE LID WHICH MAY CAUSE INTERNAL SHORTS.
- REMOVE ANY REMAINING SOLDER ON THE PADS PRIOR TO RE-ATTACHMENT.



Pasternack Enterprises, Inc.
P.O. Box 16759 | Irvine | CA | 92623
Phone: (949) 261-1920 | Fax: (949) 261-7451
Website: www.pasternack.com | E-Mail: sales@pasternack.com