VX-189

Hi-Reliability Voltage Controlled Crystal Oscillator

Features

- Hybrid Sinewave design
- Processed in accordance with MIL-PRF-55310D, Class S
- Frequency Range: 201 MHZ to 500 MHZ
- Previous Model: 487Y(HHHH)

Applications

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Performance Specifications

Parameter	Min	Typ	Max	Units	Condition
Frequency Stabilities[1]					
vs. operating temperature range (referenced to +25°C)	-25		+25	ppm	-20… +70°C
Initial Tolerance vs. supply voltage change vs. load change vs. aging / 1 year vs. aging / year (following years)	-2.25 -2.0 -0.5 -3 -2		+2.25 +2.0 +0.5 +3 +2	ppm ppm ppm ppm ppm	at +25°C VS ± 5% Load ± 10%
Supply Voltage (Vs)					
Supply voltage	14.25	15.0	15.75	VDC	
Power consumption			50	mA	
RF Output					
Signal	Sinewave				
Output Power Output Power	0 +7			dBm dBm	50 Ohm load 50 Ohm load
Harmonics Sub-Harmonics Spurious			-20 -30 -80	dBc dBc dBc	
Short Term Stability			±0.01 ±0.1 ±1.0 ±10	ppb ppb ppb ppb	1 ms 10 ms 100 ms 1 sec

Performance Specifications

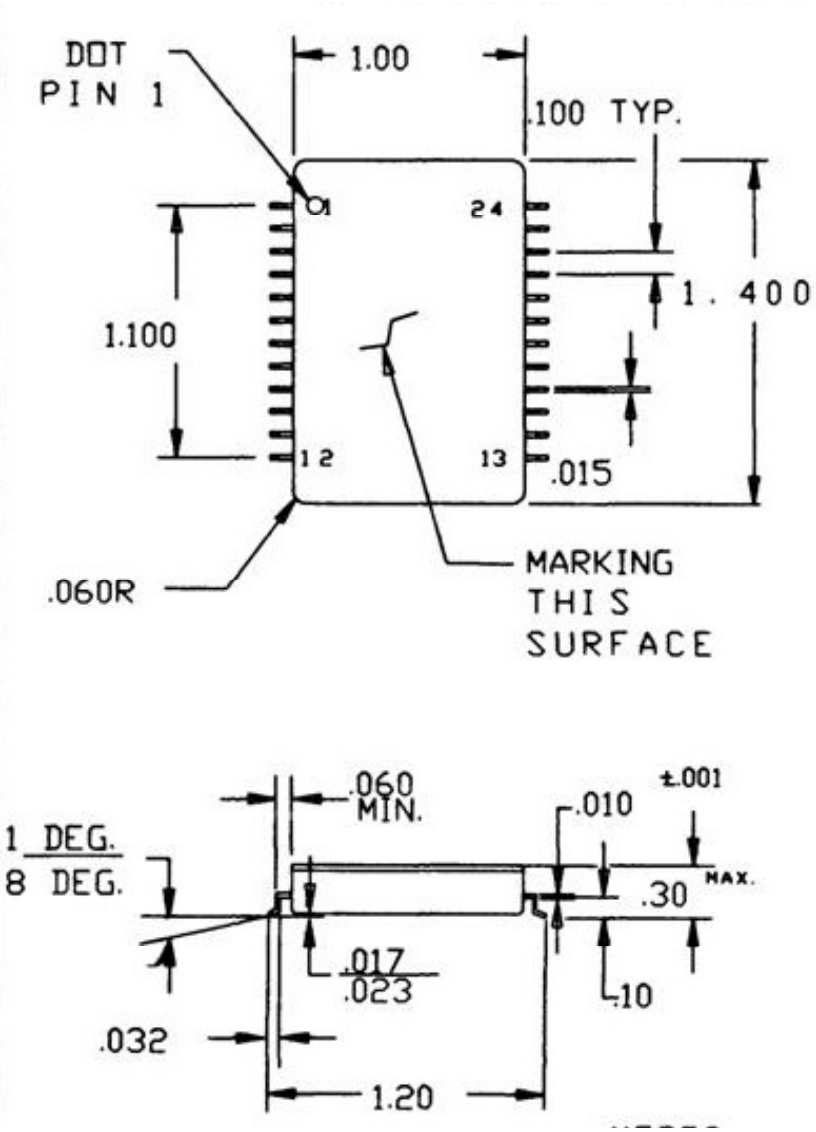
Parameter	Min	Typ	Max	Units	Condition
Frequency Tuning (EFC)					
Tuning Range	-60		+60	ppm	
Linearity			10	%	
Tuning Slope	Positive				
Control Voltage Range	0.0	2.5	5.0	VDC	
Additional Parameters					
Crystal:	Swept quartz, AT, 3 point mount				
Components:	Class "S" Microelectronic element evaluation per Appendix B of MIL-PRF-55310D				
Rework:	In accordance with MIL-PRF-55310D, Class S				
Class "S" screened:	In accordance with MIL-PRF-55310D, Table III, including internal visual inspection per MIL-STD-883, Method 2017, and PIND testing				
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.				
Group A & B:	100% Group A and 100% Group B testing				
Salt Spray:	Salt spray/salt atmosphere not included in this specification.				
Standard shock and vibration (survive; met by design, not tested):	Shock: 100G, 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				

Notes:

1. 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.

2. 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.

Outline Drawing / Enclosure



Type C		
Code	Height "H"	Pin Length
0	0.30"	NA

Pin Connections	
1	VCXO input
12	Ground (Case)
13	RF Output
24	Supply
others	Do Not Use (may be used internally)

Ordering Information

VX - 189 0 - A E J - M X S X - 10M0000000

- **Product Family**
  VX: VCXO
- **Package**
  25 x 36 mm
- **Height**
  0: C0.30"
- **Supply Voltage**
  A: 15 Vdc
- **RF Output Code**
  E: Sinewave
- **Temperature Range**
  J: -20… +70°C
- **Pullability Code**
  M: ±60ppm
- **Enable:**
  X: No Enable
- **Screening Option**
  S: "S" Level Screening
- **Platform Code**
  Output Power
  0: 0 dBm
  1: +7 dBm
- **Frequency**

Notes:

1. Contact factory for improved stabilities or additional product options. Not all options and codes are available at all frequencies.
2. Unless other stated all values are valid after warm-up time and refer to typical conditions for supply voltage, frequency control voltage, load, temperature (25°C).
3. Phase noise degrades with increasing output frequency.
4. Subject to technical modification.
5. Contact factory for availability.

For Additional Information, Please Contact

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