PX-422
Hybrid TTL Clock Oscillator

Features

- Frequency: 1 to 80 MHz
- 40-Pad Leadless Chip Carrier (LCC)
- Package equivalent of MIL-PRF-55310/19
- Surface Mount, Low Profile
- Output Option: ACMOS, TTL
- No Pure Tin is used in this product
- High Shock Survival up to 20Kg
- Previous Model: CO-408, CO-448, MC075
- Made in USA
- ECCN: EAR99

Applications

- Low Voltage Clock Applications
- Avionics and Instrumentation
- Test and Measurement Equipment
- Navigation

Performance Specifications

Parameter	Min	Typ	Max	Units	Condition
Frequency Stabilities[1]					
vs. operating temperature range (referenced to +25°C)	-15 -25 -50 -100		+15 +25 +50 +100	ppm ppm ppm ppm	0… +70°C
	-25 -50 -100		+25 +50 +100	ppm ppm ppm	-40… +85°C
	-50 -100		+50 +100	ppm ppm	-55… +85°C
	-50 -100		+50 +100	ppm ppm	-55… +105°C
	-50 -100		+50 +100	ppm ppm	-55… +125°C
Initial tolerance	-15 -25 -50 -100		+15 +25 +50 +100	ppm ppm ppm ppm	@+25°C

Performance Specifications

Parameter	Min	Typ	Max	Units	Condition
Overall tolerance (Referenced to +25°C) (includes operating temperature and initial accuracy)	-20 -25 -50 -100		+20 +25 +50 +100	ppm ppm ppm ppm	0… +70°C
	-25 -50 -100		+25 +50 +100	ppm ppm ppm	-40… +85°C
	-50 -65 -100		+50 +65 +100	ppm ppm ppm	-55… +85°C
	-50 -65 -100		+50 +65 +100	ppm ppm ppm	-55… +105°C
	-65 -80 -100		+65 +80 +100	ppm ppm ppm	-55… +125°C
vs. supply voltage change vs. load change vs. aging / 1st year vs. aging / year (following years)	-2 -1 -3 -1		+2 +1 +3 +1	ppm ppm ppm ppm	VS ± 5% Load ± 5% after 30 days of operation
Supply Voltage (Vs)					
Supply voltage	4.75	5.0	5.25	VDC	
Supply voltage	3.135	3.3	3.465	VDC	
Current consumption (+5 VDC)			15 20 40	mA mA mA	ACMOS or TTL 1.0 to 23.9 MHz ACMOS or TTL 24 to 49.9 MHz ACMOS or TTL 50 to 80.00 MHz
Current consumption (+3.3 VDC)			6 8 12 16	mA mA mA mA	ACMOS 1.0 to 14.9 MHZ ACMOS 15.0 to 39.9 MHZ ACMOS 40.0 to 59.9 MHZ ACMOS 60.0 to 80.0 MHZ

Performance Specifications

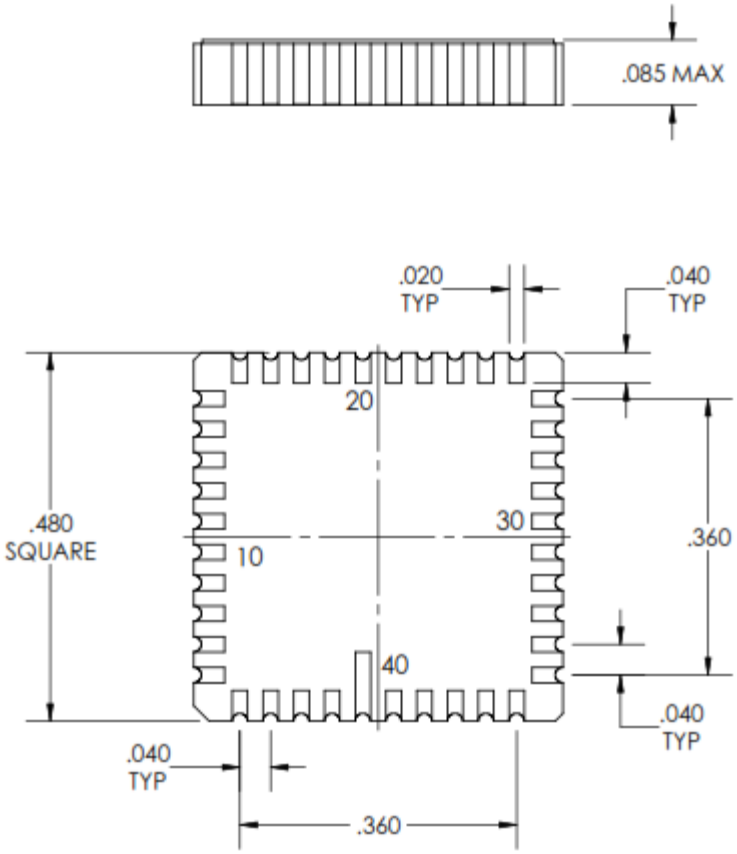
Parameter	Min	Typ	Max	Units	Condition
RF Output					
Signal	**ACMOS**				
Load		15		pF	
Signal Level (Vol)			0.5 0.3	VDC VDC	with Vs=5.0V and 15pF load with Vs=3.3V and 15pF load
Signal Level (Voh)	4.5 3.0			VDC VDC	with Vs=5.0V and 15pF load with Vs=3.3V and 15pF load
Rise and fall times for ACMOS (measured 10% to 90%)			10 6	ns ns	1.0 to 23.9 MHz and 15pF load 24.0 to 80.0 MHz and 15pF load
Duty cycle	45 40		55 60	% %	@ 50% < 15 MHz @ 50% => 15 MHz
Signal	**TTL**				
Load			10	TTL	
Signal Level (Vol)			0.4	VDC	
Signal Level (Voh)	+2.4			VDC	
Rise and fall times for TTL (measured 0.8V to 2.0V)			5 3	ns ns	1.0 to 23.9 MHz 24.0 to 125 MHz
Duty cycle	45 40		55 60	% %	@ 1.4V < 15 MHz @ 1.4V >= 15 MHz

Parameter	Min	Typ	Max	Units	Condition
	Absolute Maximum Ratings				
Supply voltage (Vs)			7.0	V	with Vs = 5.0 VDC and 3.3 VDC
Operable temperature range	-55		+125	°C	
Storage temperature range	-62		+125	°C	

Additional Parameters	
Screening	Vectron Verification
	Class B, MIL-PRF-55310

Standard Environmentals	
Vibration	MIL-STD-202, Method 204, Condition D (20 G, 10Hz-2000Hz)
Shock	MIL-STD-202, Method 213, Condition I (100 G, 6ms, Sawtooth)
Acceleration	MIL-STD-883, Method 2001, Condition A (5000 G, Y1 Plane)
Temperature Cycling	MIL-STD-883, Method 1010, Condition B
Thermal Shock	MIL-STD-883, Method 107, Condition B
Solderability	MIL-STD-202, Method 208
Leak Test (Fine and Gross)	MIL-STD-883, Method 1014, Condition A1 and C1

Outline Drawing / Enclosure



Dimensions in inches

Height		
Code	Height "H"	Pin Length "L"
0	0.085	NA

Pin Connections	
4	Supply
10	Supply
31	Ground
37	Ground
39	Output
others	all others have no internal connection

Ordering Information

PX - 422 0 - D A T - F K X B - 10M0000000

Product Family
PX: PXO

Package
13 x 13 mm

Enclosure
0: 0.085" height
1: 0.085" height with solder coated leads

Supply Voltage
D: 5.0Vdc
E: 3.3 Vdc

RF Output Code
A: ACMOS
B: TTL

Temperature Range
A: -55°C to +85°C
B: -55°C to +105°C
C: -55°C to +125°C
E: -40°C to +85°C
T: 0°C to +70°C

Accuracy Code @ 25°C or Overall Temp Stability Code (Reference to **Table: II**)
D: ±15ppm
F: ±25ppm
K: ±50ppm
P: ±80ppm
S: ±100PPM
Z: ±65PPM

Temperature Stability Code (Reference to **Table: I**)
D: ±15ppm
F: ±25ppm
K: ±50ppm
P: ±80ppm
S: ±100ppm
Z: ±65PPM
X: Use with Overall Tolerance Code

Enable Code
X: No Enable

Screening Option
B: MIL-PRF-55310 "B" Level
X: No Screening

Frequency

Available Temperature Stability Code	
Temp Range	**Temp Stability**
A: -55°C to +85°C	K: ± 50ppm
	Z ± 65ppm
B: -55°C to +105°C	P ± 80ppm
C: -55°C to +125°C	S ± 100ppm
E: -40°C to +85°C	F: ± 25ppm
	K: ± 50ppm
	Z ± 65ppm
	P ± 80ppm
	S ± 100ppm
T: 0°C to +70°C	D: ± 15ppm
	F: ± 25ppm
	K: ± 50ppm
	Z ± 65ppm
	P ± 80ppm
	S ± 100ppm

Table: I

Available Overall Tolerance Code		
Temp Range	**Overall Tolerance**	**Temp Stability**
A: -55°C to +85°C	Z: ± 65ppm	X
B: -55°C to +105°C	P: ± 80ppm	X
C: -55°C to +125°C	S: ± 100ppm	X
E: -40°C to +85°C	K: ± 50ppm	X
	Z: ± 65ppm	X
	P: ± 80ppm	X
	S: ± 100ppm	X
T: 0°C to +70°C	F: ± 25ppm	X
	K: ± 50ppm	X
	Z: ± 65ppm	X
	P: ± 80ppm	X
	S: ± 100ppm	X

Table: II

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Notes:

1. Contact factory for improved stabilities or additional product options. Not all options and codes are available at all frequencies.
2. Subject to technical modification.
3. Contact factory for custom requirements.

For Additional Information, Please Contact

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