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LP102
Low Power OCXO

FEATURES

135mW steady state power
350mW typical startup power
-125dBc/Hz @ 10Hz phase-noise
0.5ppb/g acceleration sensitivity

MADE IN USA

The LP102 Low Power Crystal Oscillator Series offers excellent frequency versus temperature in a compact package for applications where size and power are a concern. The internal package configuration unique to Bliley Technologies allows the LP102 to achieve a low startup power while maintaining a fast warm up of less than one minute.

DESCRIPTION

b Low-Power OCXO

PRE-ORDERING NOW USA

Samples available

N O W !

Input Characteristics

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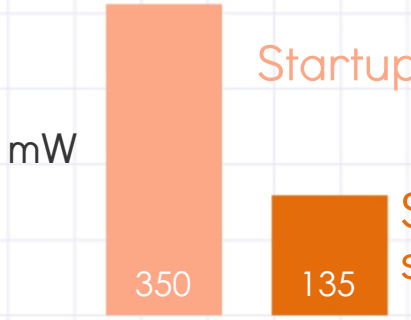
SUPPLY VOLTAGE

3.3V ± 5%
5.0V ± 5%

Vdc

BEST-IN-CLASS POWER DISSIPATION

POWER DISSIPATION



TYPICAL	350	mW
MAX	500	
3.3v typical	135	tested @25°C±1°C
5v typical	180	

ELECTRONIC FREQUENCY CONTROL

Voltage Range.....0 Vdd
Center Voltage Vdd/2
Frequency Range.....±0.5PPM
Slope.....positive
Input Impedance 100kΩ
Linearity 10%

Output Characteristics

Frequency Range

MHz 10.0 ◁▷ 50.0
initial accuracy ±100PPB

HCMOS

Level "0"	0 to 0.4 Vdc
Level "1"	4.5 to 5 Vdc
Rise/Fall Time	10 nSec
Duty Cycle	50% ±5%

values typical for 5Vdc

Sinusoidal

Output Level	9.0 dBm
Load	
Impedance	50Ω ±5Ω
VSWR	1.5:1 into 50Ω
Harmonics	-30dBc (max)

Frequency Stability

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Frequency vs. Temperature

-20°C to +70°C ±25, ±50, ±75 or ±100
-40°C to +85°C ±75 or ±100

PPB

tested @25°C±1°C

Warmup

PPB ±100 within 1 minute

Aging

1st year ±100
15 years ±500

PPB

Long term aging projection is calculated per MIL-PRF 55310 f(t) = A(ln(Bt+1))+Fo

Allan Deviation

8x10e-12
@ 1 second

Frequency vs. _____

Frequency vs. Load ±5
Frequency vs. Voltage ±5

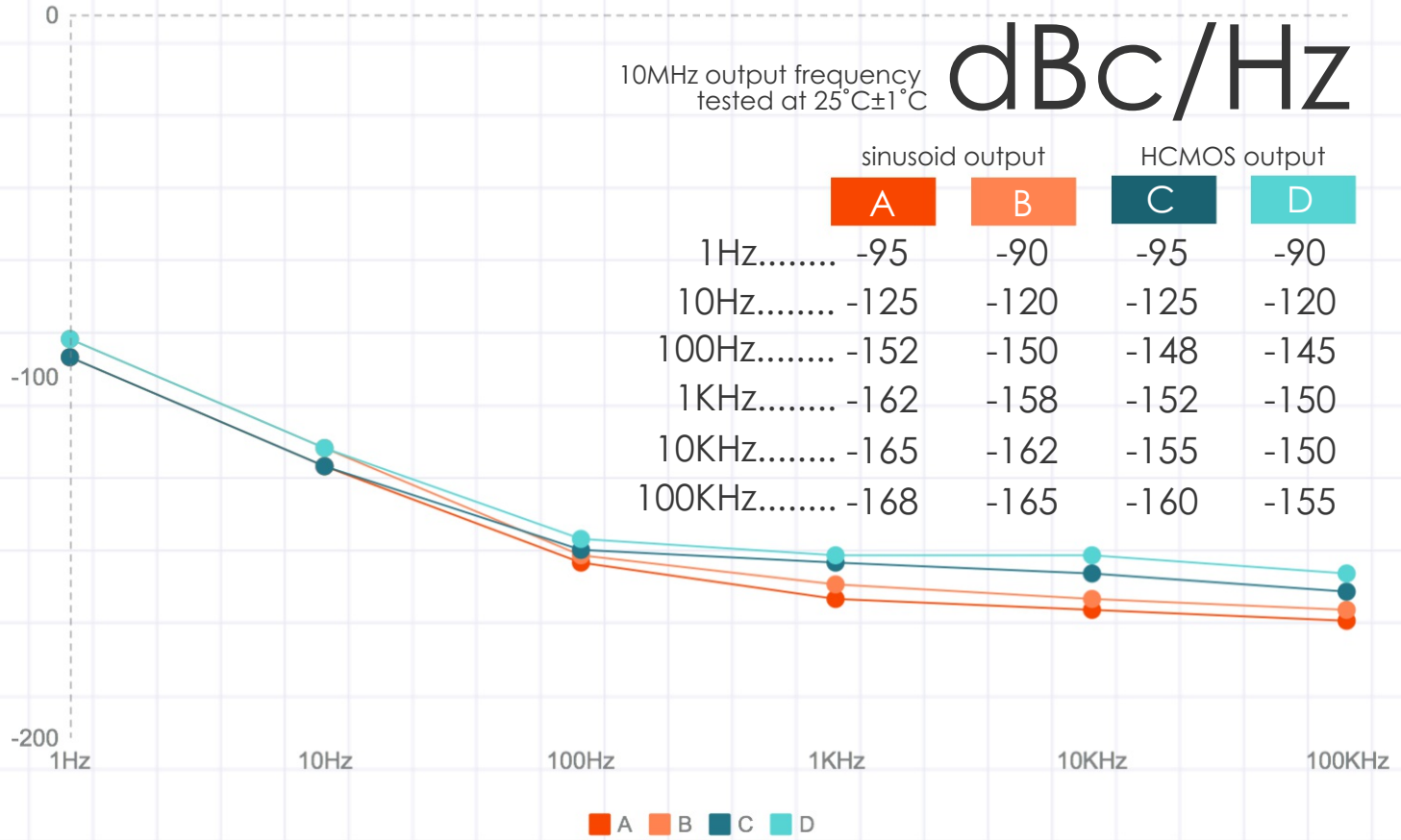
PPB

Phase Noise

10MHz output frequency
tested at 25°C±1°C

dBc/Hz

	sinusoid output		HCMOS output	
	A	B	C	D
1Hz.....	-95	-90	-95	-90
10Hz.....	-125	-120	-125	-120
100Hz.....	-152	-150	-148	-145
1KHz.....	-162	-158	-152	-150
10KHz.....	-165	-162	-155	-150
100KHz.....	-168	-165	-160	-155



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Environmental & Reliability

Temperature

°C

Operational	-40 to +85
Storage	-55 to +95

Shock and Vibration

Shock:	Mil-Std 202G - Method 213 Condition C
Random Vibe:	Mil-Std 810G - Method 514 Procedure 1
Sinusoidal Vibe:	Mil-Std 202G - Method 204 Condition A

MTTF

Hrs 153,300
calculated using MIL-HDBK-217

Ordering Information

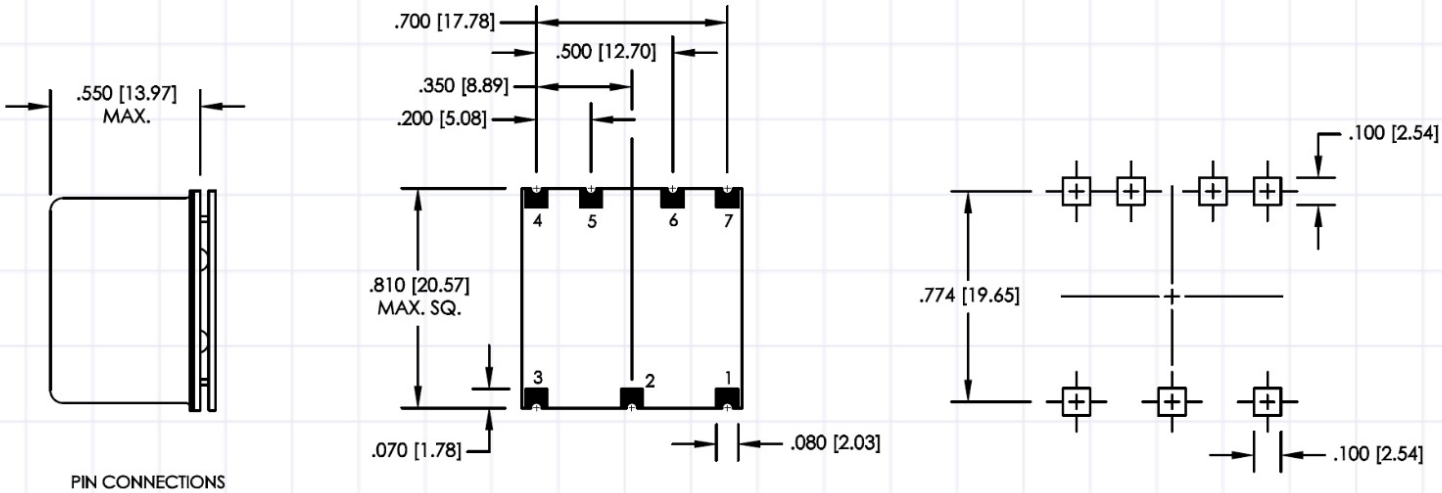
sales@bliley.com
1-814-838-3571

LP__102_____M__

- blank - leaded
  G - ROHS
- A - Thru Hole
  B - SMT
- PHASE NOISE
  A, B, C, or D
  (see table above)
- TEMP RANGE
  A -20°C to +70°C
  B -40°C to +85°C
- STABILITY
  A - ±25ppb
  B - ±50ppb
  C - ±75ppb
  D - ±100ppb
- SUPPLY
  A +3.3Vdc
  B +5.0Vdc
- OUTPUT
  A sine wave
  B HCMOS
- FREQUENCY
  10MHz to 50MHz

Mechanical Dimensions and Pin Functions

Surface Mount



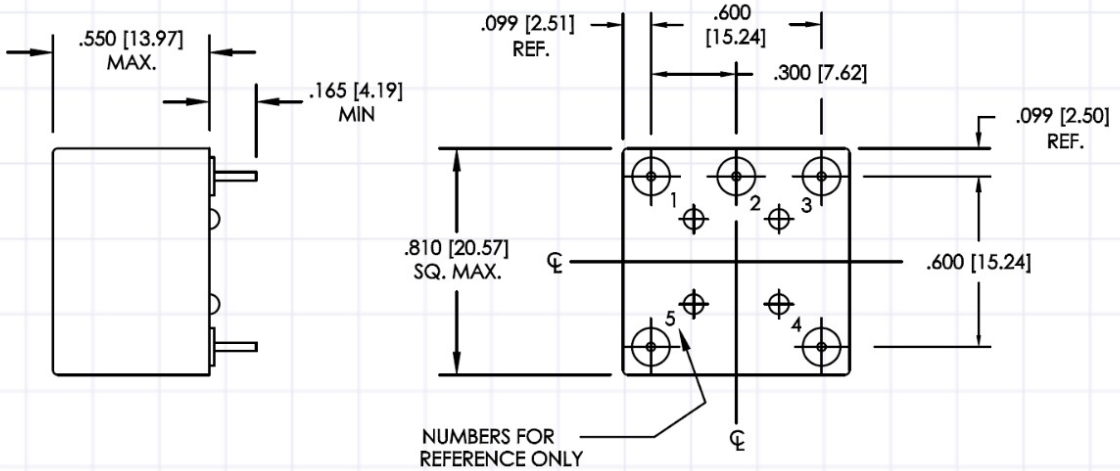
PIN CONNECTIONS

STYLE 1	STYLE 2	STYLE 3	STYLE 4
1. RF & CASE GROUND	1. +VDC	1. N.C. / E.F.C.	1. OUTPUT
2. N.C.	2. N.C.	2. N.C.	2. N.C.
3. +VDC	3. N.C. / E.F.C.	3. OUTPUT	3. RF & CASE GROUND
4. N.C. / E.F.C.	4. OUTPUT	4. RF & CASE GROUND	4. +VDC
5. N.C.	5. N.C.	5. N.C.	5. N.C.
6. N.C.	6. N.C.	6. N.C.	6. N.C.
7. OUTPUT	7. RF & CASE GROUND	7. +VDC	7. N.C. / E.F.C.

SUGGESTED FOOT PRINT

SMT PC DESIGN

Through-hole



PIN CONNECTIONS

1. N.C. / E.F.C.
2. N/C
3. OUTPUT
4. RF AND CASE GROUND
5. +VDC