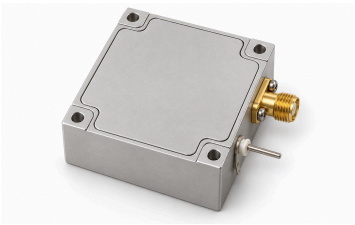
100 MHz OCXO with ±50 ppb Temperature Stability

LCOCXO-100M-50P-LN-5V provides a 100 MHz nominal sine-wave reference. Temperature stability is stated as ±50 ppb over −55 to +85 °C relative to +25 °C. Output level is 6 dBm minimum and 8 dBm typical; static phase noise is −160 dBc/Hz maximum at 1 kHz offset. Initial accuracy ±0.2 ppm has the source's +25 °C, 15-minute warmup and 90-day shipment-window conditions.



Supply is 4.8 V minimum, 5.0 V typical and 5.2 V maximum. Startup current is 600 mA minimum and 700 mA typical; no maximum is supplied. Steady-power values differ at +25 and −40 °C. The original outline measures 35 × 40 × 16.5 mm.

Listed humidity, vibration and shock methods are test conditions, without evidence of completed qualification; output characteristics outside the stated −55 to +85 °C range are not guaranteed.

Electrical specifications

Parameter	Value	Unit
Output frequency	100 (Typical)	MHz
Initial frequency accuracy [1]	±0.2	ppm
Waveform	Sine wave	-
Output level [2]	+6 / +8	dBm
Load impedance [3]	50	Ω
Harmonic level	≤−40	dBc
Output spurious [4]	≤−120	dBc
Supply voltage [5]	4.8 / 5.0 / 5.2	VDC
Startup current [6]	600 / 700	mA
Steady-state power at +25 °C [7]	1.0 / 1.3	W
Steady-state power at −40 °C [8]	2.0 / 2.3	W

[1] Stated signed tolerance; not a scalar minimum limit. At +25 °C, 15 minutes after power-on, within 90 days of shipment.
[2] Typical: 8 dBm. Minimum: 6 dBm.
[3] Minimum: 50 Ω.
[4] Offset from nominal frequency ±2 MHz.
[5] Typical: 5 VDC.
[6] Typical: 700 mA. Minimum: 600 mA.
[7] Temperature: +25 °C. Typical: 1.3 W. Minimum: 1 W.
[8] Temperature: −40 °C. Typical: 2.3 W. Minimum: 2 W.

Frequency stability

Parameter	Value	Unit
Frequency stability with temperature [1]	±50	ppb
Daily aging before shipment [2]	±1	ppb
Daily aging [3]	±1	ppb
Yearly aging [4]	±0.1	ppm
Ten-year aging [5]	±0.5	ppm
Supply-voltage sensitivity [6]	±50	ppb
Load sensitivity [7]	±50	ppb
Short-term frequency stability [8]	0.05 (Typical)	ppb/s
Power-on frequency stability [9]	±50	ppb
Acceleration sensitivity [10]	≤0.5	ppb/g

[1] Stated signed tolerance; not a scalar minimum limit. From −55 to +85 °C, relative to +25 °C.
[2] Stated signed tolerance; not a scalar minimum limit. Daily aging.
[3] Stated signed tolerance; not a scalar minimum limit. After 14 days of operation.
[4] Maximum absolute aging magnitude; source display retains ±. Maximum: 0.1 ppm.
[5] Maximum absolute aging magnitude; source display retains ±. Maximum: 0.5 ppm.
[6] Stated signed tolerance; not a scalar minimum limit. Supply voltage variation ±5%.
[7] Stated signed tolerance; not a scalar minimum limit. Load variation ±5%.
[8] Allan deviation retains the source unit ppb/s; averaging time is unspecified.
[9] Stated signed tolerance; not a scalar minimum limit. At +25 °C, 5 minutes after power-on.
[10] All three axes.

Phase noise

Parameter	Value	Unit
Phase noise at 10 Hz	≤-100	dBc/Hz
Phase noise at 100 Hz	≤-130	dBc/Hz
Phase noise at 1 kHz	≤-160	dBc/Hz
Phase noise at 10 kHz	≤-175	dBc/Hz
Phase noise at 100 kHz	≤-178	dBc/Hz
Phase noise at 1 MHz	≤-178	dBc/Hz

Environmental limits

Parameter	Value	Unit
Temperature range for specified characteristics	−55–+85	°C
Extreme operating temperature	−55–+90 (Specified characteristics apply from −55 to +85 °C; operation outside that interval may fall outside specifications.)	°C
Storage temperature	−55–+105	°C

Interfaces and contacts

Interface	Specification
Power interface	+5 V / GND
RF output connector	REF (Source port label is retained; connector type is not specified.)

Integration guidance

Parameter	Value
Control-pin state	Floating

Specified test conditions

Parameter	Value
Humidity test conditions [1]	95% RH; +40 °C; 240 h
Nonoperating vibration test conditions [2]	0.75 mm; 10–55 Hz
Nonoperating shock test conditions [3]	30 g; 11 ms

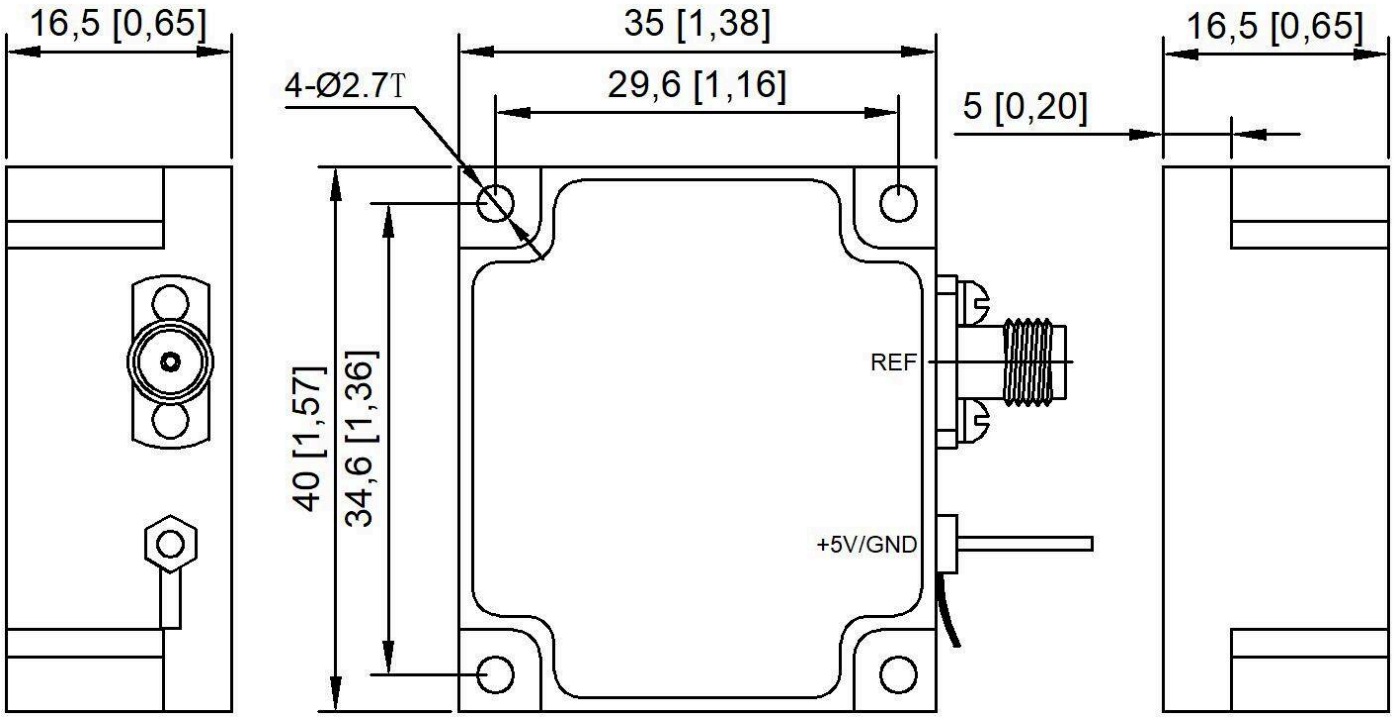
[1] Specified test conditions; completed qualification is not established. GJB360A-96, method 103.

[2] Specified test conditions; completed qualification is not established. GJB360A-96, method 201; nonoperating.

[3] Specified test conditions; completed qualification is not established. GJB360A-96, method 213; nonoperating, half-sine pulse.

Mechanical specifications

Parameter	Value	Unit
Outline dimensions	35 × 40 × 16.5	mm
Mounting-hole center spacing	29.6 × 34.6	mm
Mounting holes	4 × Φ2.7	mm



Document notice

Specifications are subject to revision. Before design release, confirm the current document revision and product-specific requirements with LCRF. The approved quotation and order documentation define the supplied configuration.