

MEMS Oscillator-32.768kHz MEMS Oscillator

LQ1532/LQ1630 32.768kHz MEMS Oscillator

32.768kHz

Output: CMOS

Package: 1508/2012



Features

- Any frequency from 1MHz~110MHz(LQ8918), 115MHz~137MHz (LQ8919), accurate to 6 decimal places
- Low power consumption of 3.5mA typical at 1.8V
- LVCMOS /LVTTTL compliant output
- Excellent total frequency stability: ± 20 ppm
- Operating temperature: $-40\sim+125^{\circ}\text{C}$, for AEC-Q100 oscillators
- Application for industrial, Medical, Industrial sensors, Motor sevro, PLC, Asset tracking system, High temperature applications, etc
- RoHS Compliant /Pb Free



Standard Specifications

Item	Type	LQ1532 32.768kHz MEMS Oscillator	LQ1630 32.768kHz MEMS Oscillator
Output Type		LVCMOS /NanoDrive	LVCMOS
Load condition		15pF	15pF
Frequency Range		32.768kHz	32.768kHz / 16.384kHz
Supply Voltage		1.2V~3.63V($-10\sim+70^{\circ}\text{C}$), 1.5V~3.63V($-40\sim+85^{\circ}\text{C}$)	1.5V~3.63V
Frequency Tolerance(@25°C)		± 10 ppm, ± 20 ppm	± 20 ppm
Frequency Stability		± 75 ppm~ ± 250 ppm	± 75 ppm~ ± 150 ppm
Aging (@ 25°C)(@ 1st year)		± 1 ppm max.	
Operating Current		1.4 μA max.	2.8 μA max.
Power-Supply Ramp		100ms max.	
Start-up Time at Power-up		450ms max.	450ms max.($-40\sim+85^{\circ}\text{C}$), 500+1 period($-55\sim+105^{\circ}\text{C}$)
Output Stage Operating Current		0.0125 $\mu\text{A}/\text{Vpp}$	/
LVCMOS Output Option, T_A=$-40^{\circ}\text{C}\sim+85^{\circ}\text{C}$, Typical Values Are at T_A:25°C			
Output Rise/Fall Time		200ns max.(@ Load:15pF), 50ns max. (@ Load:5pF)	200ns max.
Output Clock Duty Cycle		48~52%	
Output Voltage High(V _{OH})		0.9×V _{CC} min.	
Output Voltage Low (V _{OL})		0.1×V _{CC} max.	
Maximum Output Drive		/	50pF
NanoDrive Programmable, Reduced Swing Output			
Output Rise/Fall Time		200ns max.	
Output Clock Duty Cycle		48~52%	
AC-Coupled Programmable Output Swing (V _{sw})		0.20~0.80V	
DC-Biased Programmable Output Voltage High Range (V _{OH})		0.60~1.225V	
DC-Biased Programmable Output Voltage Low Range (V _{OL})		0.35~0.8V	
Programmable Output Voltage Swing Tolerance		-0.055~0.055V	
Jitter, Temperature, Dimension, Footprint			
Period Jitter		35ns max.	
Operating Temperature		$-10\sim+70^{\circ}\text{C}$, $-40\sim+85^{\circ}\text{C}$	$-10\sim+70^{\circ}\text{C}$, $-40\sim+85^{\circ}\text{C}$, $-40\sim+105^{\circ}\text{C}$ $-55\sim+85^{\circ}\text{C}$, $-55\sim+105^{\circ}\text{C}$
Storage Temperature		$-65\sim+150^{\circ}\text{C}$	
Package Size (L×W×H) (Unit: mm)		1.5×0.8×0.6	2.0×1.2×0.6
Footprint Package		4-Pin Package	