

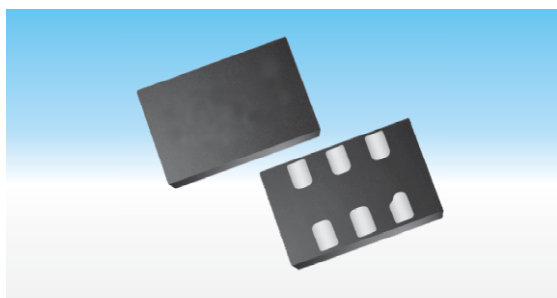
# MEMS Oscillator–Low Jitter Differential Output

LQ9121/LQ9122 Low-Jitter MEMS Oscillator

1MHz~625MHz

Output: LVPECL/LVDS

Package: 3225~7050



## Features

- Any frequency from 1MHz~220MHz(LQ9121), 220MHz~625MHz (LQ9122), accurate to 6 decimal places
- 0.6ps RMS phase jitter (random) over 12KHz~20MHz bandwidth
- LV-PECL /LVDS compliant output
- Excellent total frequency stability:  $\pm 10$ ppm
- Application for 10Gb Ethernet, SONET, SATA, SAS, Fibre channel, PCI-Express, Instrumentation, Storage, Server, Telecom, etc
- RoHS Compliant /Pb Free



## Standard Specifications

Item	Type	LQ9121 Low Jitter MEMS Oscillator	LQ9122 Low Jitter MEMS Oscillator	
Output Type		LV-PECL / LVDS		
Frequency Range		1MHz~220MHz	220MHz~625MHz	
Supply Voltage		2.5V, 3.3V, 2.25V~3.63V		
Frequency Stability (All Condition)		$\pm 10$ ppm, $\pm 20$ ppm, $\pm 25$ ppm, $\pm 50$ ppm		
Aging (@ 25°C)		$\pm 2$ ppm max.(First year); $\pm 5$ ppm max. (10-year)		
Operating Temperature Range		-20~+70°C, -40~+85°C		
Storage Temperature Range		-65~+150°C		
Input Voltage High (V <sub>IH</sub> )		0.7×V <sub>CC</sub> min.		
Input Voltage Low (V <sub>IL</sub> )		0.3×V <sub>CC</sub> max.		
Input Pull-up Impedance		50~150KΩ (Pin1 OE or ST logic high) 2MΩ min. (Pin1 ST logic low)		
Start-up Time		2.7ns max.		
Resume Time		0.3×V <sub>CC</sub> max.		
Duty Cycle		0.7×V <sub>CC</sub> min.		
LV-PECL	Current Consumption	69mA max.		
	OE Disable Supply Current	35mA max.		
	Output Disable Leakage Current	1μA max.		
	Standby Current	100μA max.		
	Maximum Output Current	30mA max.		
	Output High Voltage (V <sub>OL</sub> )	V <sub>CC</sub> -1.9V~V <sub>CC</sub> -1.5V		
	Output Low Voltage (V <sub>OH</sub> )	V <sub>CC</sub> -1.1V~V <sub>CC</sub> -0.7V		
	Output Differential Voltage Swing	1.6V Typ. (1.2V~2.0V)		
	Rise /Fall Time	300ps Typ. (700ps max.)	300ps Typ. (500ps max.)	
	OE Enable/Disable Time	115ns max.		
	RMS Period Jitter	1.7ps max.		
	RMS Phase Jitter (12KHz~20MHz)	0.6ps Typ. (0.85ps max.)		
LVDS	Current Consumption	55mA max.		
	OE Disable Supply Current	35mA max.		
	Differential Output Voltage	450mV max.		
	Output Disable Leakage Current	1μA max.		
	Standby Current	100μA max.		
	Delta VOD	50mV max.		
	Offset Voltage	1.2V Typ. (1.125V~1.375)		
	Delta VOS	50mV max.		
	Rise /Fall Time	495ps Typ. (700ps max.)	495ps Typ. (600ps max.)	
	OE Enable/Disable Time	115ns max.		
	RMS Period Jitter	1.7ps max.		
	RMS Phase Jitter (12KHz~20MHz)	0.6ps Typ. (0.85ps max.)		
Package Size (L×W×H) (Unit: mm)		3.2×2.5×0.8, 5.0×3.2×0.8, 7.0×5.0×1.0		
Footprint Package		6-Pin Package		