

QL7 Series

5x7 SMD LVDS Clock Oscillator



Features

- Miniature 5.0 x 7.0 x 1.4mm package
- Frequency Range 77.000MHz to 625.000MHz
- Supply voltage range: 2.5 or 3.3 Volts

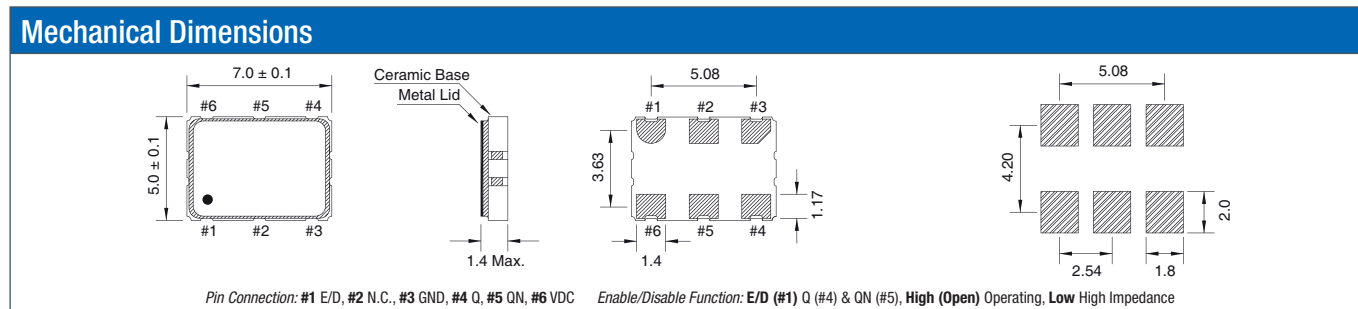
Description

QL7 series oscillators provide a high quality LVDS output at frequencies from 77.000MHz to 625.000MHz. Power supply voltages may be specified as +2.5 Volts or +3.3 Volts.

General Specifications	
Frequency Range	77.000 to 625.000MHz
Output Type	LVDS - Complementary Output
Temperature Stability*	±100ppm max.
	±50ppm max.
	±25ppm max.
Aging per year	±3ppm max.
Operating Temperature Range	Standard -20 to +70°C
	Extended -40 to +85°C
Storage Temperature Range	-55 to +125°C

* Frequency stability is inclusive of calibration tolerance at 25°C, frequency change due to shock & vibration, ±10% supply voltage variation and stability over temperature range.

Electrical Specifications			
Supply Voltage		2.5Vdd ±5%	3.3Vdd ±5%
Input Current	77.000 to 100.000MHz	60mA max.	60mA max.
	101.000 to 160.000MHz	65mA max.	65mA max.
	161.000 to 625.000 MHz	100mA max.	110mA max.
Output Voltage	Logic High (Voh)	1.6Vdd min.	
	Logic Low (Vol)	0.9Vdd max.	
Output Symmetry		45% to 55%	
Output Load (Between Q and QN)		100Ω	
Differential Output Voltage (Vod)		247mV to 454mV	
Offset Voltage (Vos)		1.125V to 1.375V	
Rise and Fall Time	77.000 to 100.000MHz	1ns max.	1ns max.
	101.000 to 160.000MHz	0.5ns max.	5ns max.
	161.000 to 625.000 MHz	1.5ns max.	1.5ns max.
Enable-Disable Function	Tri-State		
	INH - Pin 1	Q Pin 4 - QN Pin 5	
	High - Pin 1	Operating	
	Low - Pin 1	High Impedance	
Enable High Input Voltage		1.75Vdd min.	2.31Vdd min.
Output Enable Time		0.75Vdd max.	0.99Vdd max.
Phase Jitter (12KHz to 20MHz)	77.000 to 159.900 MHz	1ps RMS	
	160.000 to 625.000 MHz	4ps RMS	



Part Numbering Guide

Qantek Code	Package	Supply Voltage	Frequency Stability	Frequency	Operating Temperature Range	Packaging
Q = Qantek	L7 = 7x5	25 = 2.5V 33 = 3.3V	A = ±25ppm B = ±50ppm C = ±100ppm	in MHz, always 8 digits including the decimal point (f.i.e. 156.25000)	A = -20 to +70°C B = -40 to +85°C	R = Tape&Reel M = Minireel (250 pcs Tape&Reel)

Example: QL733B156.25000BR bold letters = recommended standard specification



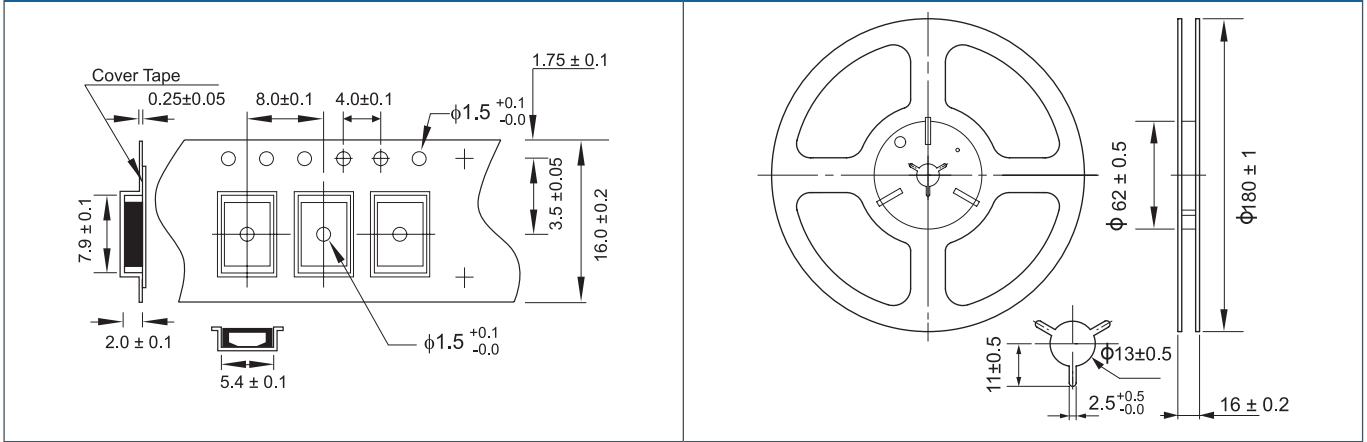
QANTEK Technology Corporation
 Phone: +1 877-227-0440 (tollfree)
 Fax: +1 877-227-0440 (tollfree)

www.qantek.com
 info@qantek.com

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Tape and Reel Dimensions



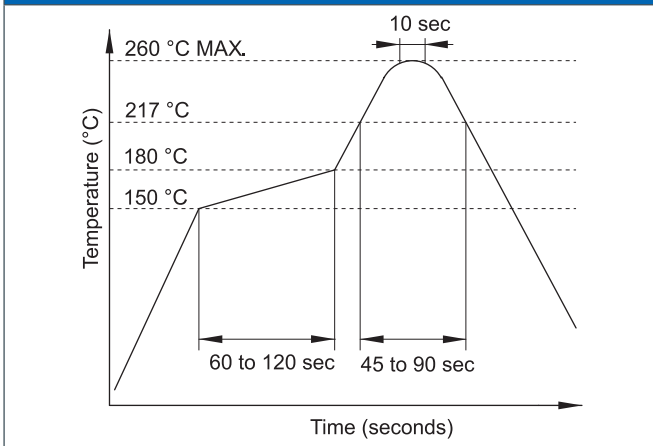
Marking Code Guide

Contains frequency, Qantek manufacturing Code, production code (month and year), stability, temperature range and voltage indicator.

Month Codes				Year Codes						Stability		Temperature Range		Voltage	
January	A	July	G	2019	9	2020	0	2021	1	ppm	PN Code	°C	PN Code	Volt	PN Code
February	B	August	H	2022	2	2023	3	2024	4	25	A	-20 to +70°C	A	2.5	2
March	C	September	I	2025	5	2026	6	2027	7	50	B	-40 to +85°C	B	3.3	3
April	D	October	J							100	C	custom	S	custom	S
May	E	November	K							custom	S				
June	F	December	L												

Example: First Line: 20.000 (Frequency) Second Line: QA9BB3 (Qantek - January - 2019 - ±50ppm - -40 to +85°C - 3.3V)

Solder Reflow Profile



Environmental Specifications

Mechanical Shock	MIL-STD-202, Method 213, C
Vibration	MIL-STD-202, Method 201 & 204
Thermal Cycle	MIL-STD, Method 1010, B
Gross Leak	MIL-STD-202, Method 112
Fine Leak	MIL-STD-202, Method 112

All specifications are subject to change without notice.



QANTEK Technology Corporation

Phone: +1 877-227-0440 (tollfree)

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