

QP5 Series

3.2x5.0 SMD LVPECL Clock Oscillator



Features

- Miniature 3.2 x 5.0 x 1.3mm package
- Frequency Range 25.000 to 160.000MHz
- Supply voltage range: 2.5 or 3.3 Volts

Description

QP5 series oscillators provide a high quality differential PECL output at frequencies from 25.000 to 160.000MHz. Power supply voltages may be specified as +2.5 Volts or +3.3 Volts.

General Specifications	
Frequency Range	25.000 to 160.000MHz
Output Type	LVPECL - 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	25.000 to 100.000MHz	60mA max.	60mA max.
	100.100 to 160.000MHz	65mA max.	65mA max.
Output Voltage	Logic High (Voh)	1.475Vdd min.	2.275Vdd min.
	Logic Low (Vol)	1.095Vdd max.	1.68Vdd max.
Output Symmetry	45 to 55%		
Output Load	50Ω		
Rise and Fall Time	25.000 to 100.000MHz	1ns max.	1ns max.
	100.100 to 160.000MHz	0.5ns max.	0.5ns 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)	1ps RMS		

Mechanical Dimensions	
<p>Pin Connection: #1 E/D, #2 N.C., #3 GND, #4 Q, #5 QN, #6 VDC Enable/Disable Function: E/D (#1) Q (#4) & QN (#5), High (Open) Operating, Low High Impedance</p>	

Part Numbering Guide						
Qantek Code	Package	Supply Voltage	Frequency Stability	Frequency	Operating Temperature Range	Packaging
Q = Qantek	P5 = 3.2x5.0	25 = 2.5V 33 = 3.3V	A = ±25ppm B = ±50ppm C = ±100ppm	in MHz, always 8 digits including the decimal point (f.ie. 156.25000)	A = -20 to +70°C B = -40 to +85°C	R = Tape&Reel M = Minireel (250 pscs Tape&Reel)
Example: QP533B156.25000BR						bold letters = recommended standard specification



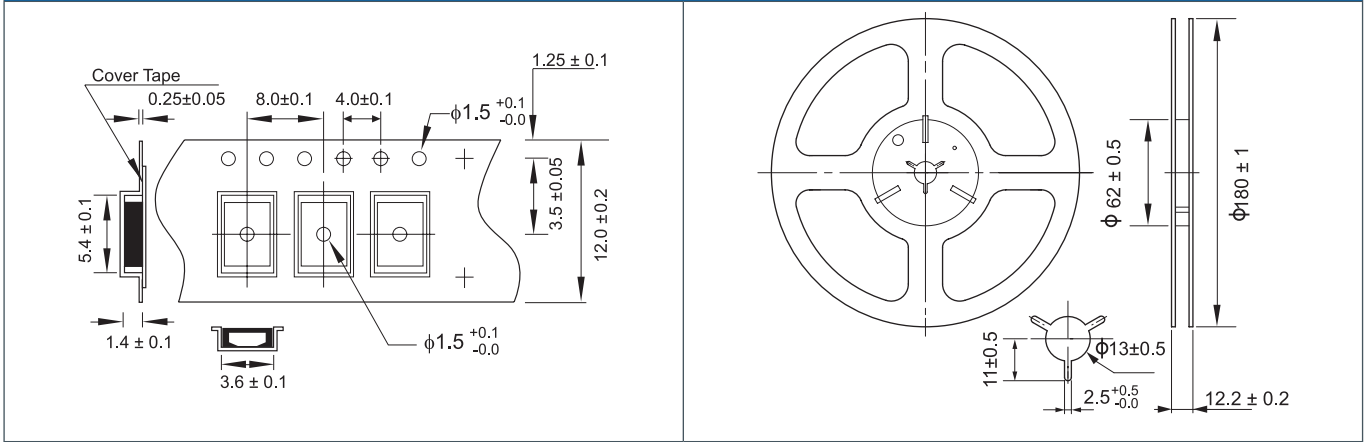
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Tape and Reel Dimensions



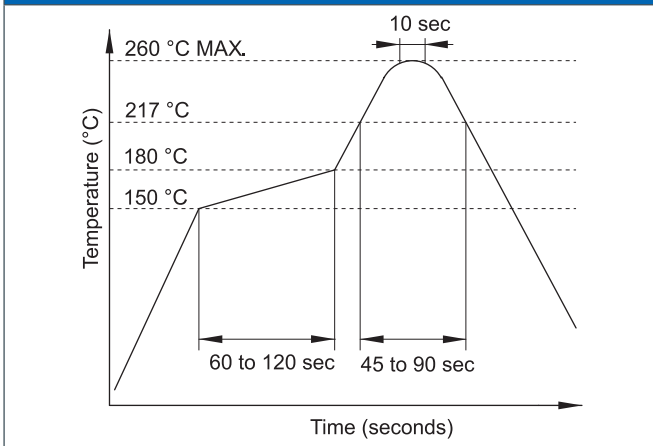
Marking Code Guide

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.



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