

PRONTO

PLETRONICS NEW LINE OF CERAMIC PACKAGED CRYSTAL OSCILLATORS. THE PRONTO SERIES ARE FEATURE RICH DEVICES SUITABLE FOR A WIDE RANGE OF APPLICATIONS.

FEATURES INCLUDE:

- ⌚ < 1 week *DELIVERY
- ⌚ -40°C ~85°C
- ⌚ LVCMOS: 1-160MHZ ; DIFFERENTIAL: 10-1500MHZ

Introduction

Pletronics PRONTO crystal oscillators are a new market leader. Available in multiple package sizes, good jitter performance, tight stability and high frequency range, are a few of the strengths of the Pronto product series.

In an effort to support fast paced board design, Pletronics has introduced the PRONTO Crystal Oscillator series, which can provide higher frequency crystal oscillators with comparable jitter performance.

Key benefits of the PRONTO crystal oscillator are as follows:

1 Flexible, Robust frequency output

The frequency range of PRONTO is 1MHz to 160MHz for LVCMOS output and 10MHz to 1500MHz for differential (LVDS, LVPECL) output. The higher frequency may further improve the overall system performance and cost in different ways,

- ⌚ A fully verified higher frequency clock reference to the system is always better than a lower frequency clock due to the uncertain capability of the timing handler from the system chipset.
- ⌚ PRONTO crystal oscillator can go up to 160MHz for LVCMOS and 1500MHz for LVPECL/LVDS.
- ⌚ PRONTO is a quicker turn alternative to fundamental and third overtone type crystal oscillator with better control and cost structures.

2 Flexible voltage supply (Range from 1.8V to 3.3V)

Sometimes the system supply voltage is quite complicated, different generations and functions of ICs may require different supply voltages. It is normal to have more than one voltage supply in a single system. Pletronics PRONTO series crystal oscillator design has a good voltage supply tolerance. The power rail can tolerate from 1.8V to 3.3V for LVCMOS type while 2.5V to 3.3V for Differential type which matches most system voltage requirements. This flexible voltage supply design effectively reduces the complexity of the system power design and cost.

3 Very Good phase jitter (0.6ps typ)

Pletronics PRONTO products leverage the latest generation technology and has a significant improvement in phase noise performance, especially in high-frequency applications. This performance is sufficient for most applications.

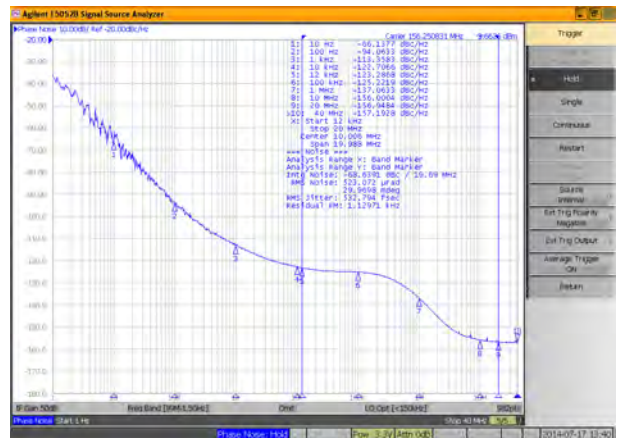


Figure 3: PRONTO, Differential Type @ 125.00MHz. Phase Jitter ~ 532fs

*Note: Quantity limit to 1Kpcs for a week delivery

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Variety of packages and compatibility to common crystal oscillator package

There are five different packages for LVCMOS output (2.0 x 1.6mm, 2.5 x 2.0mm, 3.2 x 2.5mm, 5.0 x 3.2mm and 7.0 x 5.0mm) and 3 different packages for Differential output (3.2 x 2.5mm, 5.0 x 3.2mm and 7.0 x 5.0mm). All the packages are pin and land-pattern-compatible to the traditional crystal oscillator package.

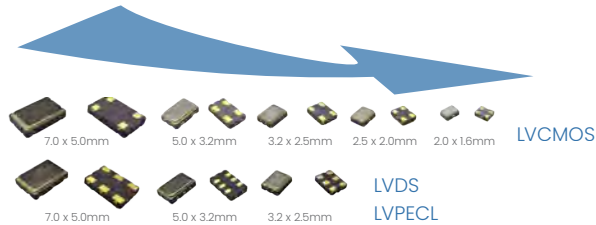


Figure 5. Package line up

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Tight frequency stability and wide operation temperature range support

There are 3 options of frequency stability support for the PRONTO series which are ± 20 ppm, ± 25 ppm, and ± 50 ppm. Also, there are 3 options for operation temperature which are standard: -10°C to $+70^{\circ}\text{C}$, Commercial: -20°C to $+70^{\circ}\text{C}$, and Extended -40°C to $+85^{\circ}\text{C}$. The combination may optimize the cost vs system application requirement.

Summary

Pletronics PRONTO is a state-of-the-art Frequency Control Product. It successfully shortens the application time to market. In addition, with its flexible frequency output, wide supply voltage, tight frequency stability, wide operation temperature and very good phase jitter features, ideal choice for most of the applications.

Product Series Line Up

Product Series	Output Logic	Frequency Range	I _{dd} max (mA)	VDD (V)	Integrated Phase Jitter (typ)(12kHz to 20MHz)	Package Size (mm)
QM22L	LVCMOS	1.0 to 160MHz	1.8V: 25mA 2.5V: 35mA 3.3V: 40mA	1.8V** 2.5V 3.3V	1.0ps	2.0 x 1.6
QM33L	LVCMOS	1.0 to 160MHz	1.8V: 25mA 2.5V: 35mA 3.3V: 40mA	1.8V** 2.5V 3.3V	1.0ps	2.5 x 2.0
QM44L	LVCMOS	1.0 to 160MHz	1.8V: 25mA 2.5V: 35mA 3.3V: 40mA	1.8V** 2.5V 3.3V	1.0ps	3.2 x 2.5
QM55L	LVCMOS	1.0 to 160MHz	1.8V: 25mA 2.5V: 35mA 3.3V: 40mA	1.8V** 2.5V 3.3V	1.0ps	5.0 x 3.2
QM77L	LVCMOS	1.0 to 160MHz	1.8V: 25mA 2.5V: 35mA 3.3V: 40mA	1.8V** 2.5V 3.3V	1.0ps	7.0 x 5.0
QL44L 2.5V/3.3V	LVDS	10 to 1500MHz	2.5V: 45mA 3.3V: 50mA	2.5V 3.3V	0.6ps	3.2 x 2.5
QL55L 2.5V/3.3V	LVDS	10 to 1500MHz	2.5V: 50mA 3.3V: 50mA	2.5V 3.3V	0.6ps	5.0 x 3.2
QL77L 2.5V/3.3V	LVDS	10 to 1500MHz	2.5V: 50mA 3.3V: 50mA	2.5V 3.3V	0.6ps	7.0 x 5.0
QP44L 2.5V/3.3V	LVPECL	10 to 1500MHz	2.5V: 45mA 3.3V: 50mA	2.5V 3.3V	0.6ps	3.2 x 2.5
QP55L 2.5V/3.3V	LVPECL	10 to 1500MHz	2.5V: 50mA 3.3V: 50mA	2.5V 3.3V	0.6ps	5.0 x 3.2
QP77L 2.5V/3.3V	LVPECL	10 to 1500MHz	2.5V: 50mA 3.3V: 50mA	2.5V 3.3V	0.6ps	7.0 x 5.0

**Note: 125MHz is the max frequency limit for 1.8V operation

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