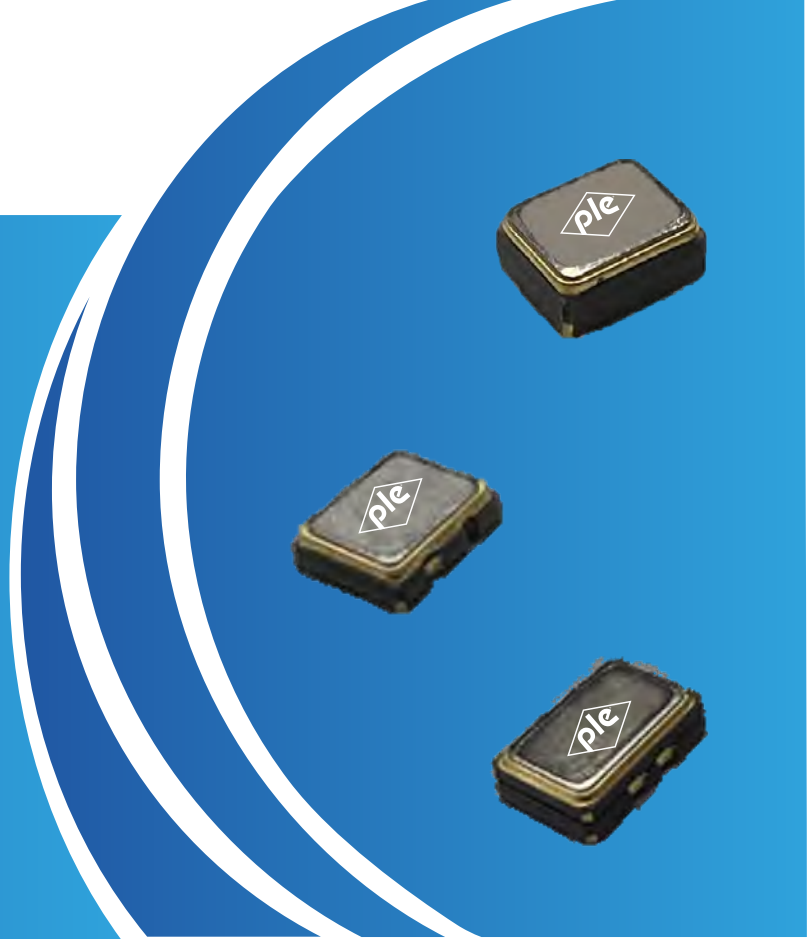




PLETRONICS
www.pletronics.com

New TCXO Series

Elevating Precision and Performance: Unveiling the Power of TCXOs



Introduction

In the fast-paced world of modern electronics, the demand for enhanced precision and performance is paramount. Temperature-Compensated Crystal Oscillators (TCXOs) have emerged as a beacon of technological advancement, addressing the need for smaller packages, impeccable frequency stability across varying temperatures, and superior phase noise performance. Pletronics's TCXO devices into the significance of TCXOs and how they are revolutionizing industries reliant on accurate timing and signal synchronization.

1. Smaller Package: Redefining Miniaturization (2.0 x 1.6mm, 2.5 x 2.0mm, 3.2 x 2.5mm)

The race towards miniaturization has spurred the creation of smaller, sleeker devices across industries. TCXOs play a pivotal role in this trend by offering a compact solution without compromising performance. With their inherently efficient design, TCXOs are engineered to fit snugly within the increasingly confined spaces of modern gadgets. Whether it's a smart home product or wireless communication equipment, TCXOs contribute to the reduction of overall device size, ensuring that technology remains unobtrusive and convenient for users.

2. Impeccable Frequency Stability Across Wide Operating Temperatures ($\pm 0.5\text{ppm}$ @ -40 to 85°C)

One of the standout features of TCXOs lies in their exceptional frequency stability across a broad range of operating temperatures. Traditional crystal oscillators can experience frequency deviations due to temperature fluctuations, causing disruptions in signal synchronization. TCXOs, however, implement advanced compensation techniques that counteract the effects of temperature variations. This results in a consistently accurate frequency output, even in the face of extreme temperature changes. Industries such as telecommunications, aerospace, and automotive, where reliable timing is critical, are among the many beneficiaries of this remarkable attribute.

3. Mastering Clarity: The Revelation of Superior Phase Noise Performance

In the realm of signal processing, phase noise is a critical factor that can impact signal quality and integrity. By significantly reducing phase noise levels, TCXOs enhance the purity of signals, enabling seamless communication and data transmission. This becomes particularly vital in applications like high-speed data transfer, wireless communication, and RF systems, where maintaining signal fidelity is paramount.

Conclusion

The ascent of TCXOs marks a significant milestone in the world of precision electronics. With their ability to provide smaller packages, superior frequency stability across a wide range of temperatures, and exceptional phase noise performance, TCXOs are redefining the standards for accuracy and reliability. As industries continue to push the boundaries of innovation, TCXOs stand as a testament to human ingenuity, elevating the potential of devices and systems that rely on impeccable timing and signal synchronization.

Product table

Product Series	Stability Options	Operation Temperature Range	Output Logic	Frequency Range	VDD (V)	Package Size (mm)
UCG4	±0.5 ~ ±2.5ppm	-40 ~ 85°C	Clipped Sinewave	10 ~ 40MHz	1.8 ~ 3.3V	2.0 x 1.6
UCG6	±0.5 ~ ±2.5ppm	-40 ~ 85°C	Clipped Sinewave	10 ~ 40MHz	1.8 ~ 3.3V	2.0 x 1.6
UCF4	±0.5 ~ ±2.5ppm	-40 ~ 85°C	Clipped Sinewave	10 ~ 40MHz	1.8 ~ 3.3V	2.5 x 2.0
UHF4	±2.5ppm	-40 ~ 85°C	CMOS	9.5 ~ 40MHz	1.8 ~ 3.3V	2.5 x 2.0
UCE4	±0.5 ~ ±2.5ppm	-40 ~ 85°C	Clipped Sinewave	10 ~ 40MHz	1.8 ~ 3.3V	3.2 x 2.5
UHE4	±2.5ppm	-40 ~ 85°C	CMOS	9.5 ~ 40MHz	1.8 ~ 3.3V	3.2 x 2.5
UCD4	±0.5ppm ±1ppm	-30 ~ 85°C -40 ~ 85°C	Clipped Sinewave	10 ~ 40MHz	2.5 ~ 3.3V	5.0 x 3.2
UHD4	±0.5ppm ±1ppm	-30 ~ 85°C -40 ~ 85°C	CMOS	10 ~ 40MHz	2.5 ~ 3.3V	5.0 x 3.2

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