

NEW PRECISION (VC)TCXOS: ULTRA-TIGHT FREQUENCY STABILITY OF ± 50 PPB AND WIDE OPERATING TEMPERATURE RANGE



A new range of Precision Temperature Compensated Crystal Oscillators (TCXOs) and the Voltage Controlled option (VCTCXO) will be launched by Jauch Quartz at electronica 2022. The new components impress with their tight frequency stability of ± 50 parts per billion (ppb) and wide operating temperature range of -40 to $+105^{\circ}\text{C}$. The products are available in three standard surface mount packages, 7.0×5.0 , 5.0×3.2 and 3.2×2.5 mm.

The JTP75HC(V) and JTP53HC(V) have an HCMOS output with a 3.3 V current supply and a maximum current consumption of 10 mA. The JTP32CS(V) has a Clipped Sinewave Output and is available in a range of voltages from 1.8 to 3.3 V and a maximum current consumption of 3 mA.

A wide range of frequencies are developed including 10.00 MHz, 19.20 MHz, 20.00 MHz, 25.00 MHz, 38.88 MHz, 40.00 MHz & 50.00 MHz.

The rapid growth of 5G applications over the next five to ten years will mean that tighter stability frequency products which can operate over wider operating temperature ranges will be required. Jauch's new range of Precision (VC)TCXOs are the first step in new products to support our customers in these markets.

5G is run on a lower power than 4G which means that it requires a Massive In Massive Out (MIMO) system which in turn will require many millions of small cells throughout cities, urban areas and within homes, offices and factories. The Pico & Femto small cells will be the key to Critical IoT and Industrial Automation where a low latency of less than 1ms and high reliability of 99.9% is required. By 2025 the estimate is that there will be 5 Billion IoT connections. There will also be a growth in the Positive Optical Network (PON) market as many more offices homes are connected by Fibre to the Home/Office (FTTH/O).

These new Precision (VC)TCXOs are ideal for applications involved with 5G, Critical Internet of Things (IoT), Industrial Automation, Small Cells and GNSS/GPS.

All of these and many other critical applications will require Precision or Stratum 3 (VC)TCXOs. For Stratum 3 versions please refer to JTS75HC(V), JTS53HC(V) & JTS32CS(V).