

**Press Release  
November 2005**

## ***Epson Toyocom Announces First Product***

***Munich, November 22nd 2005: Epson Toyocom Corp. today announced the development of its first product, the new small package TCXO "TG-5010LH," combining highly reliable crystal unit design and production technology with new package technology for better volume production capacity.***

The TG-5010LH is the first product to reap the synergy coming from the integration of Toyo Communication Equipment Co., Ltd. and the quartz device business of Seiko Epson Corp. ("Epson"). This compact temperature-compensated crystal oscillator is a further improvement of the new platform oscillator (NPO) structure that is so well suited to volume production. Production will begin in late October 2005.

By applying plastic mold technology (developed for clock oscillators that have a solid record of multi-item mass production) to a TCXO, the new product is better designed for mass production than ceramic package TCXOs. The new product achieves mounting reliability (effectiveness against stress relief, vibration shock proof, easy recognition of solder conditions, etc.), which is a characteristic of NPO structures, in addition to exceptional characteristics such as low package heat transfer required especially for GPS applications.

Because existing plastic mold equipment and wire bonding equipment can be used, it is also possible to accommodate future production increases flexibly. Compared to a current product (TG-5001LA, without mounted terminals) the new TG-5010LH is 0.2mm thinner and has about 27% less volume, achieving a new level of compactness.

## Product specifications

Item	Specifications
Output frequency range	10 MHz - 38.4 MHz (Standard 13 MHz, 19.2 MHz, 26 MHz)
Frequency temperature properties	$\pm 2.0 \times 10^{-6}$
Operating temperature range	-30 °C - +85 °C
Supply voltage	2.8 V
External dimensions (without mounted terminals)	3.3 x 2.5 x 0.96 mm Typ. (3.0 x 2.5 x 0.96 mm Typ.)

### About Epson

Epson is a global leader in imaging products including printers, projectors and LCDs. With an innovative and creative culture, Epson is dedicated to exceeding the vision and expectations of customers worldwide with products known for their superior quality, functionality, compactness and energy efficiency.

Epson is a network of 98,480 employees in 107 companies around the world, and is proud of its ongoing contributions to the global environment and to the communities in which it is located. Led by the Japan-based Seiko Epson Corp., the Group had consolidated sales of 1479.7 billion yen in fiscal 2004.

### About Epson Europe Electronics GmbH

Epson Europe Electronics GmbH is a marketing, engineering and sales company of Seiko Epson Corporation Japan. Established in 1989, the Headquarters is based in Munich, Germany with branch offices in London, Paris, Düsseldorf and Barcelona.

Representing Seiko Epson Corporation products for Europe, Middle East and Africa, Epson Europe Electronics GmbH provides value added services for Semiconductors, Displays, Quartz Devices, Silicon Foundry and Assembly targeted to the mobile communication, automotive and home visual market.

Epson products are recognised for energy saving, low power, small form factors and rapid time to market. Information about Epson Europe Electronics GmbH is available in the Internet under **[www.epson-electronics.de](http://www.epson-electronics.de)**.

### About Epson Toyocom Corporation

Information about Epson Europe Electronics GmbH is available in the Internet under [www.epsontoyocom.co.jp/english](http://www.epsontoyocom.co.jp/english).

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