

KDS

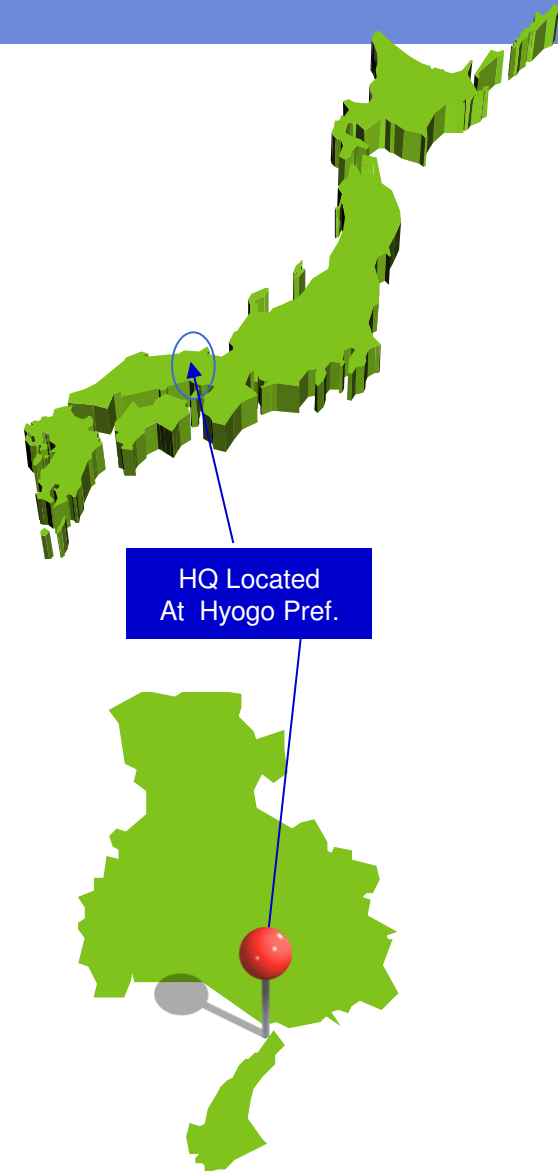
Introduction



March 28, 2014
Daishinku Corporation

Company Profile

- Headquarters : Kakogawa, Hyogo JAPAN
- Company Name : DAISHINKU Corp.
- Brand Name : KDS
- Type of Business : Manufacturing and sales of electronic components
- Start Business : November 03, 1959
- Capital Fund : JPY19.345bil
- Business Year : April - March
- Annual Business : JPY32.9bil
as of March 2013
- Listing : Tokyo Stock Exchange
(March, 1983)
- Employees : 4,455 (Consolidated)
(As of July 16,2013)



Management Philosophy

Global Quality

Reliable People

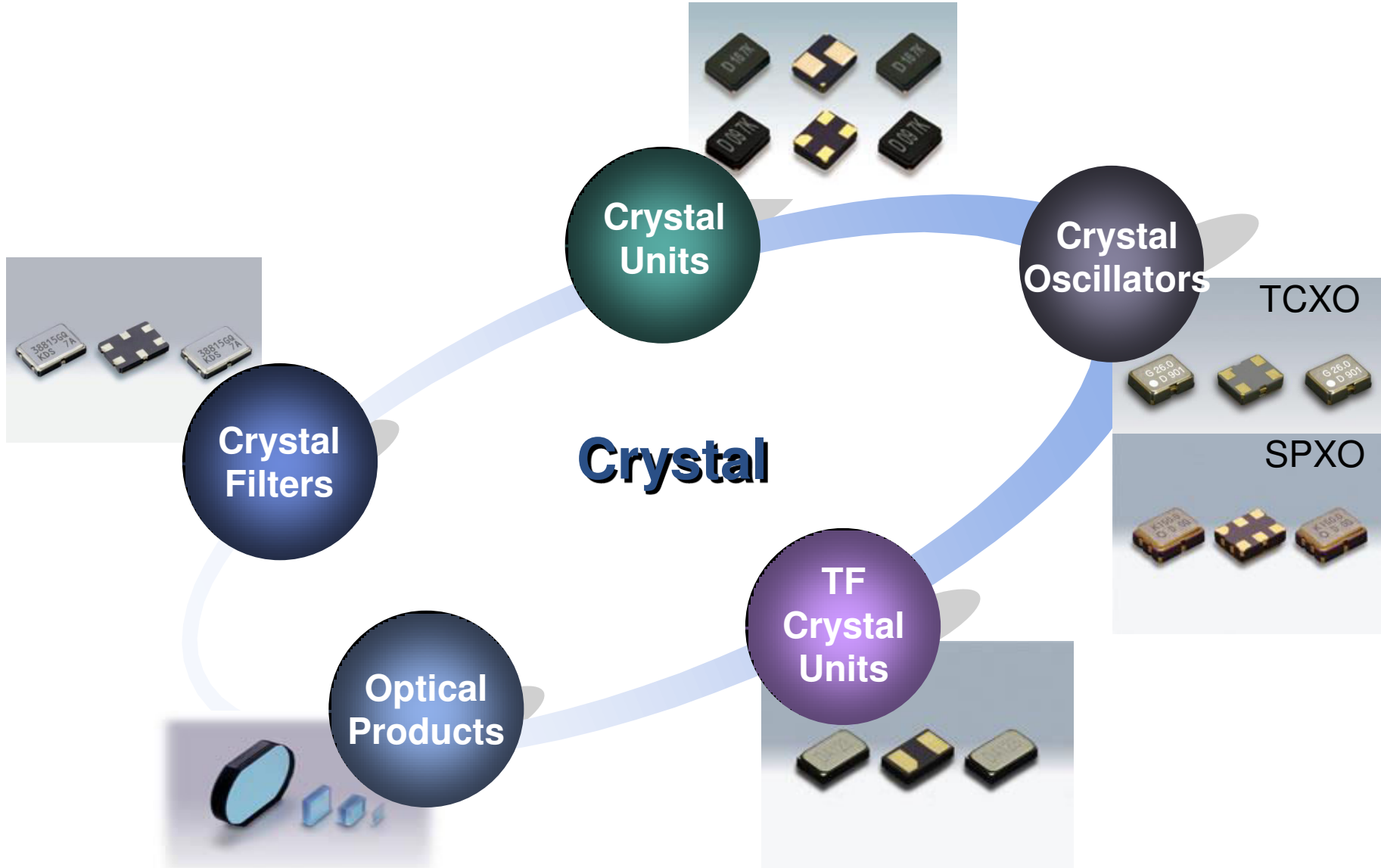
Reliable Products

Reliable Company

Vertically integrated manufacturer



Our Products



Sales, R&D Sites - Japan



Central Lab.



Tokyo Lab.



Tokyo Sales



Head Office



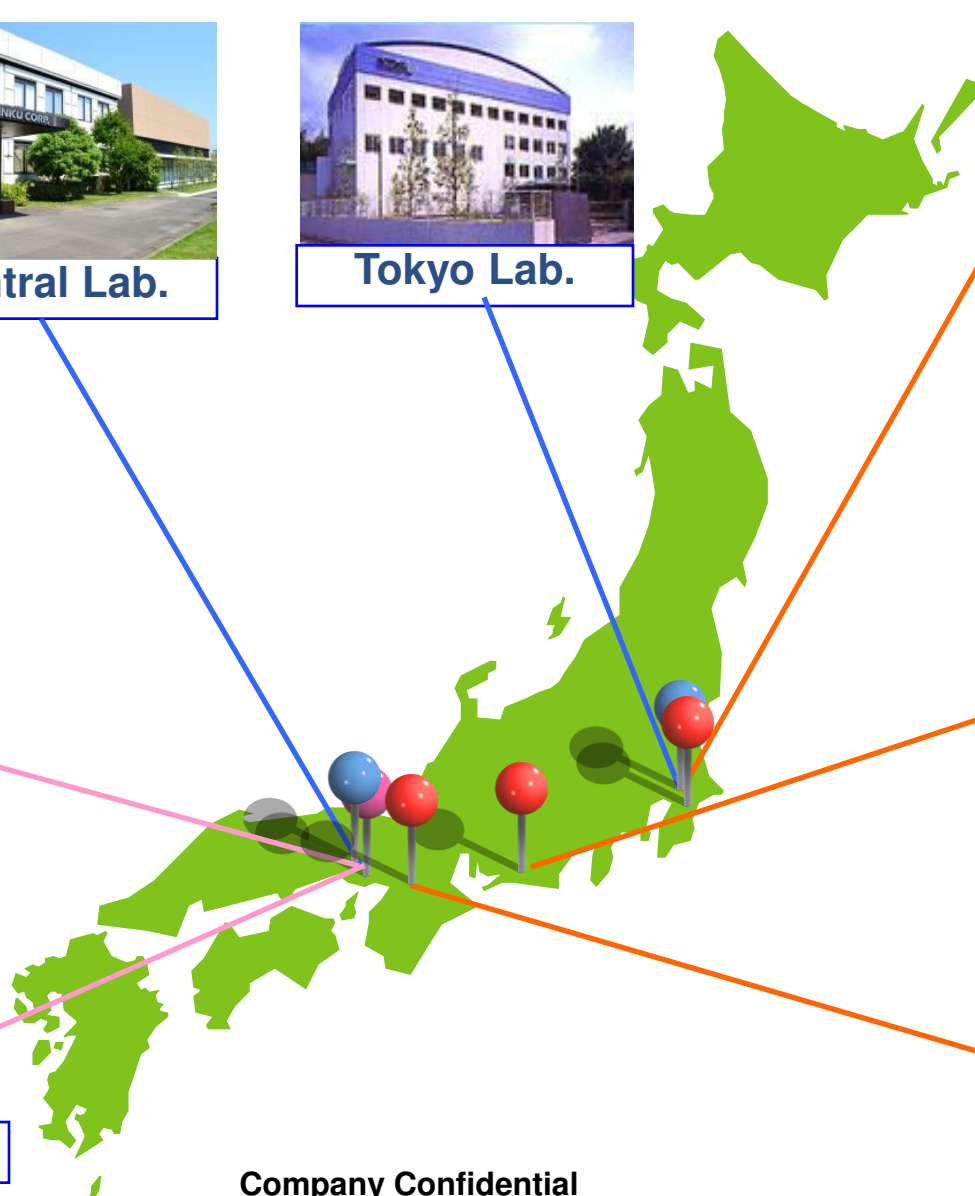
Nagoya Sales



Annex to Head Office



Osaka Sales



Manufacturing Sites - Japan



Tottori

Establishment ; October 1980

Size; 35,000m²

Main Products; TCXO, Crystal Resonator,
TF Crystal Units



Nishiwaki

Establishment ; January 1973

Size; 15,600m²

Main Products;
Synthetic Quartz



Kyushu

Establishment; November 1976

Land; 24,300m²

Main Products; TF Crystal



Tokushima

Establishment : April 1984

Size; 88,900m²

Main Products;
Synthetic Quartz, SPXO, MCF

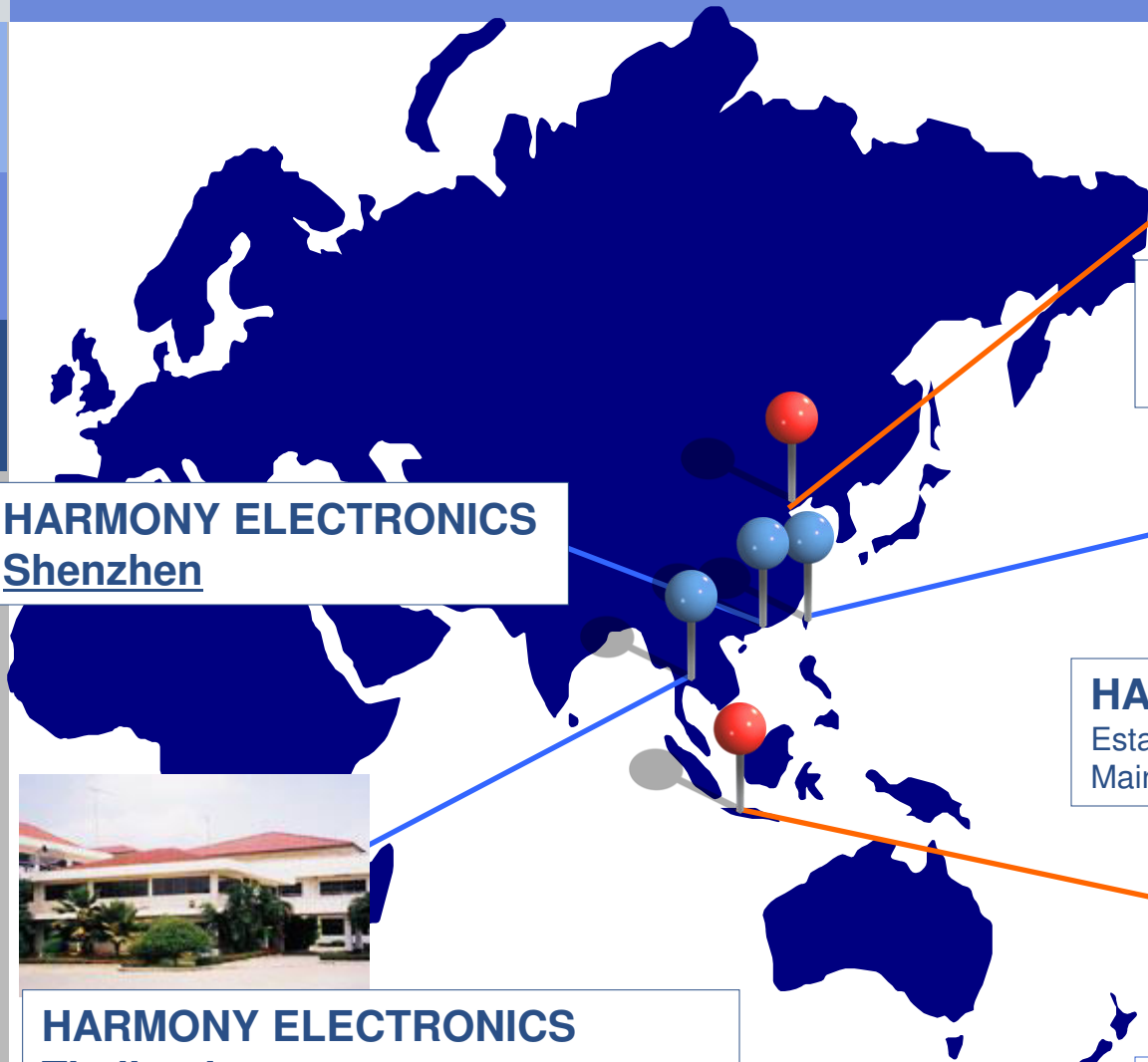


Kanzaki

Establishment ; June 1974

Size; 12,500m²

Manufacturing Sites - Overseas



Tianjin KDS
Establishment ; May 1993 Size; 45,000m²
Main Products; TF Crystal , OLPF



HARMONY ELECTRONICS Taiwan
Establishment ; September. 1976 Size; 6,930m²
Main Products; Crystal Resonator, SPXO



HARMONY ELECTRONICS Thailand
Establishment ; March, 1990 Size; 11,570m²
Main Products; Crystal Resonator

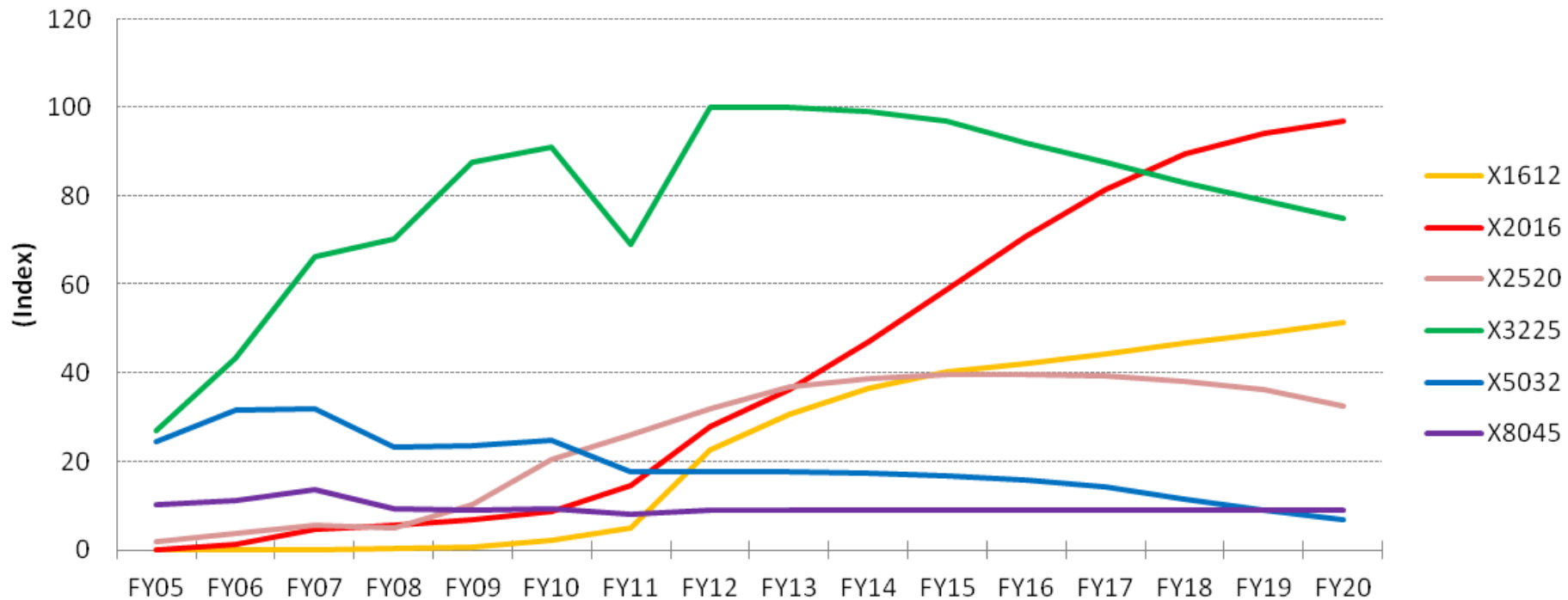


PT. KDS INDONESIA
Establishment ; July 1989 Size; 33,000m²
Main Products; Crystal Resonator

Crystal Trend for All Markets

- ❖ **3225 size will continue to be widely used**
- ❖ **2016 size to grow rapidly. Crossover point with 3225 in FY17**

Xtal Unit for All Markets



Note: 3225 size in Y2012 is the base for all trends

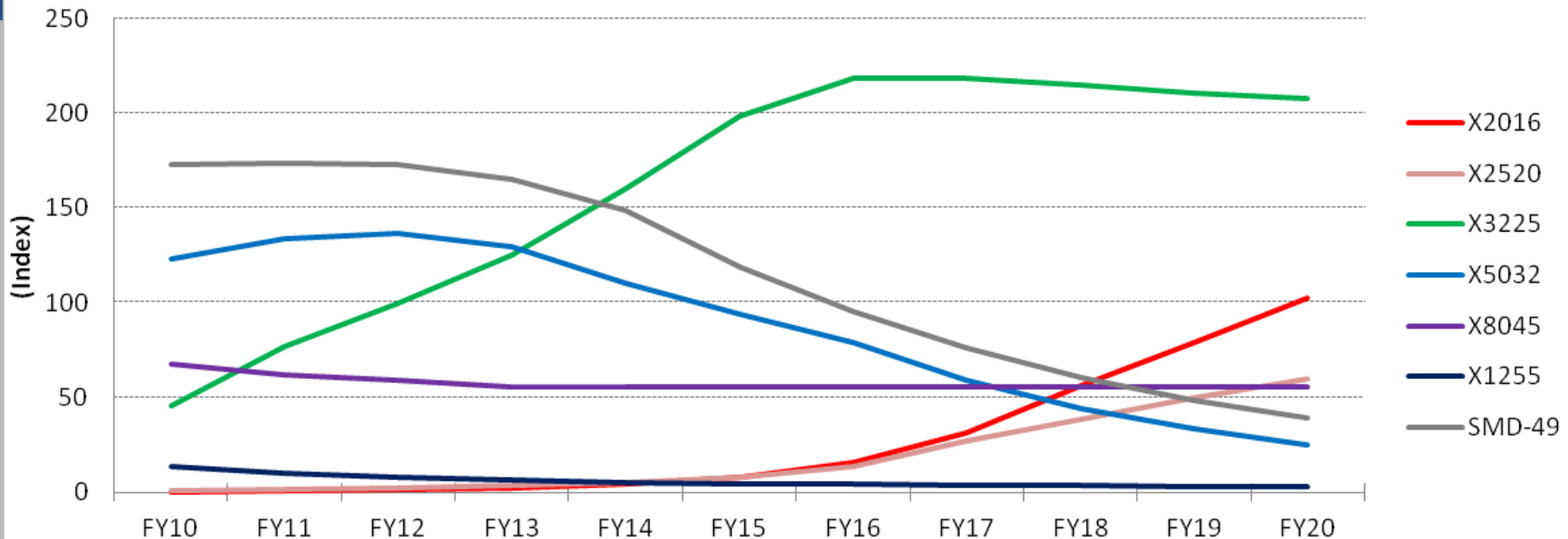
Source: KDS estimate

Company Confidential

Crystal Trend for Automotive Market

❖ **3225 size will continue to be widely used**

Xtal Unit for Automotive



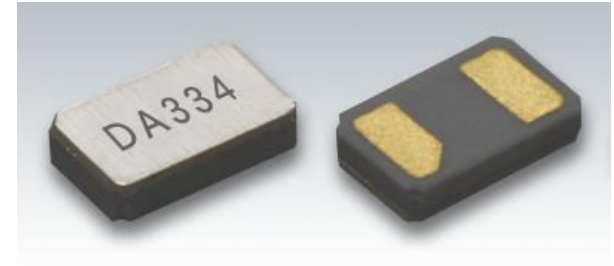
Note: 3225 size in Y2012 is the base for all trends

Source: KDS estimate

World's Thinnest 32kHz, DST1610AL 0.35mm Max. Height

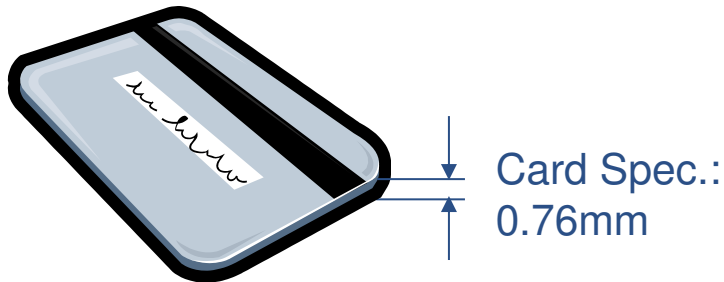
Features

- Frequency: 32.768kHz
- F. Tolerance: +/-20 ppm
- ESR: 90k Ohms max.
- Dimension: 1.6 x 1.0 x 0.35mm

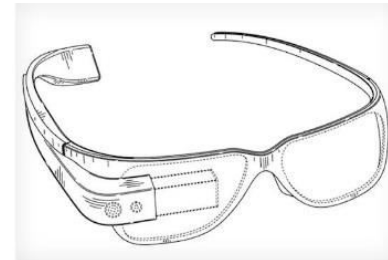


Target Applications

Smart Card



Wearable Devices



Hi-Fi Audio Oscillator

Findings from Market

- Sound Quality is changed by Xtal / XO
- “Phase Noise” is a Key Characteristics
- 18 out of 18 customers chose “Low Phase Noise XO”
- KDS’s Low Phase Noise XO was taken for Hi-Resolution Audio Components

KDS Recommends

DSO221SHF

- 2520 size
- 1.5 – 60MHz

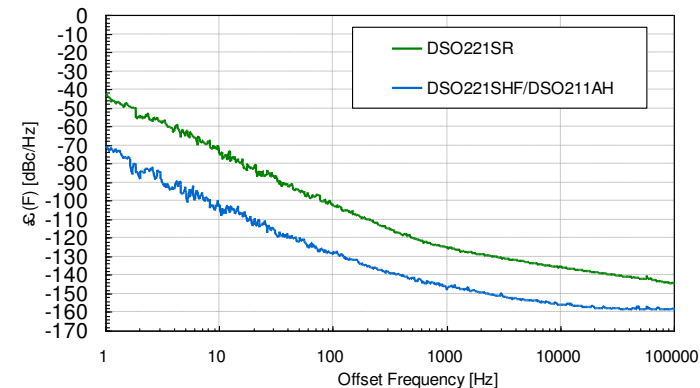


DSO211AH

- 2016 size
- 1.2 – 80MHz



Phase Noise Data



Focal Products – Mobile Device

3G/4G

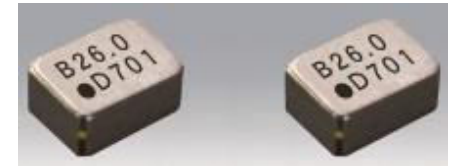
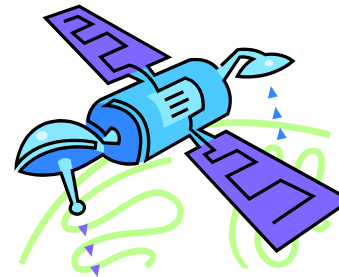
DSR211ATH



- XTAL with built in Temp. Sensor
- 2016 size

GPS/GNSS

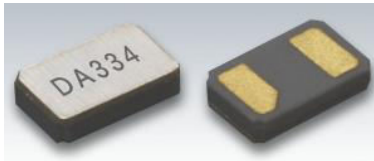
DSB1612SDM



- High Stability TCXO
- Low Phase Noise
- 1612 Size

PM

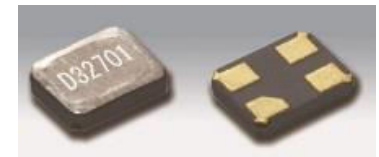
DST1610AL



- Ultra small, thin 32.768kHz
- 1610 size
- 0.35mm Max. Height

WiFi/BT/NFC

DSX1612S

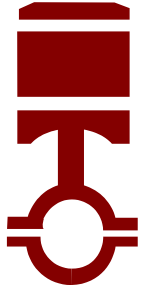


- XTAL Unit
- 1612 size



Focal Products – Automotive Electronics

ECU

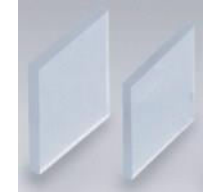


DSX320GE



- Heat cycling 3000 cycles durable
- Low frequency 8MHz available
- AEC-Q200

Camera OLPF, IRCF



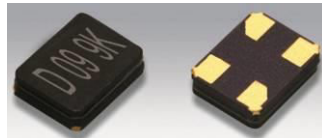
- High reliability Optical thin film
- Applicable for various image sensors



RKE/TPMS



DSX321G

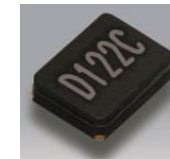


- High shock durability
- AEC-Q200

ITS



DSX321G DSK321STD



- XTAL Unit
- 3225 size
- AEC-Q200

- 32.768kHz TCXO
- 13s mo. deviation over temp range
- AEC-Q100

Focal Products – Smart Meter



Metering Unit

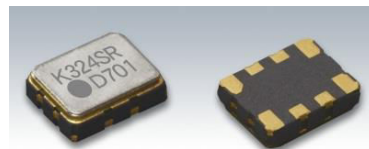
DST311S



- 32.768kHz crystal unit
- Low EMI
- 3215 size

Timekeeping

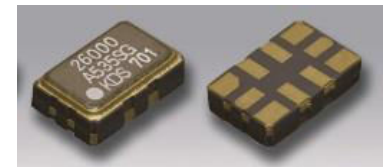
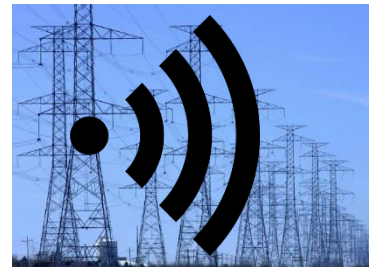
DSK324SR



- High Stability RTC Module
- Low Current Consumption
- I²C BUS interface (400kHz)
- 3225 size

Wireless Data Transfer

DSB535SG



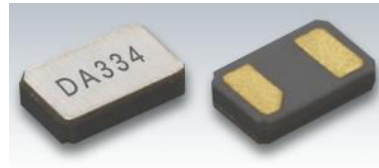
- Ultra High Stability TCXO
- Stratum 3
- 5032 size

Focal Products – Other Applications

Smart Card

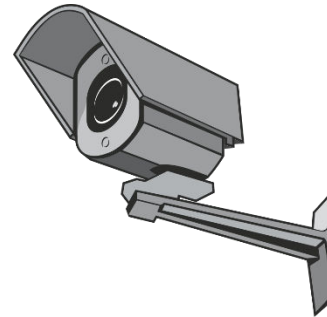


DST1610AL

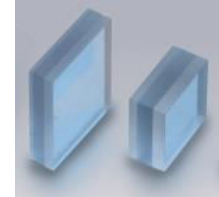


- Ultra small, thin 32.768kHz
- 1610 size
- 0.35mm Max. Height

Surveillance Camera



OLPF, IRCF

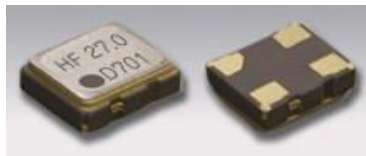


- High resolution design
- High sensitivity in low illumination
- Applicable for various image sensors

HiFi Audio

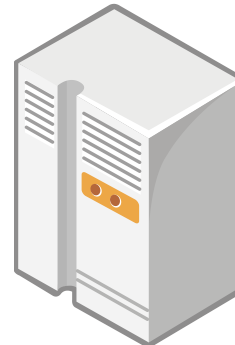


DSO221SHF

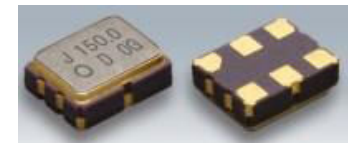


- Low Phase Noise SPXO
- Improve Sound Quality
- 2520 size

Network Equipment



DSO323SK/SJ/SD



- Small Differential Oscillator
- Fundamental up to 212.5MHz
- LV-PECL, LVDS, HCSL

Thank you for your attention!

http://www.kds.info/index_en.htm

