



# TAITIEN

**QUARTZ CRYSTAL  
CRYSTAL OSCILLATOR  
VCXO  
VCTCXO / TCXO  
OCXO  
TIMING MODULE**



TAIWAN  
EXCELLENCE  
2006



Our Performance, Your Reputation

# Our Products

**OCXO**  
0.06-200ppb

**TCXO**  
0.1-2ppm

**Crystal Oscillators/  
VCXO**  
25-100ppm

**Crystal Units**  
10-100ppm



Marine communication  
Aerial radio  
Satellite  
Small cell

- **VCXO**, **TCXO**  
- **X'TAL**, **TCXO**  
- **OCXO**  
- **TCXO**, **OCXO**



Car (ICE/IVI)  
GPS  
RKE, TPMS  
ADAS

- **X'TAL**, **XO**, **TCXO**  
- **X'TAL**, **TCXO**  
- **X'TAL**  
- **X'TAL**, **XO**



Watch  
DSC  
Mobile phone  
HiFi, HD video

- **Tuning Fork**  
- **X'TAL**, **XO**  
- **X'TAL**, **TCXO**  
- **X'TAL**, **XO**



Personal Computer  
Scanner  
Satellite TV  
Radio  
DVD player  
FAX  
Cordless telephone  
ADSL  
3G, 4G/LTE  
High Speed Network  
Base Station

- **X'TAL**, **XO**  
- **X'TAL**, **XO**  
- **X'TAL**, **TCXO**  
- **X'TAL**, **TCXO**  
- **X'TAL**, **XO**  
- **X'TAL**, **TCXO**, **OCXO**  
- **X'TAL**  
- **X'TAL**, **XO**  
- **TCXO**, **OCXO**  
- **XO**, **VCXO**  
- **VCXO**, **TCXO**, **OCXO**



**Maintain sustainable competitive advantage from the satisfaction of customers, shareholders and employees**

Taitien Electronics, a Quartz Frequency Control Product (FCP) solution provider, started its first production run of Tuning Fork Crystal in 1976. Our main products include XTAL, OSC, VCXO, TCXO, and is the only manufacturer in Taiwan that provides the technique of OCXO and inverted mesa (Qmesa) quartz resonator. Taitien service is capable of addressing one-stop procurement for all FCP requirements.





## Our missions are:

- 1** Provide our customers with quality Frequency Control Products at competitive price.
- 2** Create knowledge from the integration of information technology and educational training.
- 3** Maintain our quality through continuous improvement; challenge the goal of zero defects.
- 4** Focus product innovation on our core technology.
- 5** To be a world-class Frequency Control Products solution provider, building network of strategic alliances with quality resources to maintain our market competitiveness.


# Crystal Units

TYPE	PACKAGE	FREQ. RANGE	FEATURE
<b>NEW</b> X3	 <b>1.6 x 1.2 x 0.35mm</b> Ceramic SMD Package	24MHz ~ 54MHz	<ul style="list-style-type: none"> <li>• Tight Tolerance</li> <li>• Ultra Low Profile</li> </ul>
<b>NEW</b> XZ	 <b>2.05 x 1.65 x 0.45mm</b> Ceramic SMD Package	16MHz~60MHz	<ul style="list-style-type: none"> <li>• AEC-Q200 Ready</li> <li>• Smaller Size</li> <li>• Tight Tolerance</li> </ul>
<b>HOT</b> XY	 <b>2.5 x 2.0 x 0.45mm</b> Ceramic SMD Package	12MHz~54MHz	<ul style="list-style-type: none"> <li>• Smaller Size</li> <li>• Tight Tolerance</li> </ul>
<b>HOT</b> XX	 <b>3.2 x 2.5 x 0.7mm</b> Ceramic SMD Package	12MHz~60MHz	<ul style="list-style-type: none"> <li>• AEC-Q200 qualified</li> <li>• Tight Tolerance</li> </ul>
X2	 <b>3.2 x 2.5 x 0.75mm</b> Ceramic SMD package Glass Seal	12MHz~48MHz	<ul style="list-style-type: none"> <li>• Full Ceramic Package</li> </ul>
XV	 <b>5.0 x 3.2 x 0.8mm</b> Ceramic SMD Package	8MHz~80MHz	<ul style="list-style-type: none"> <li>• AEC-Q200 qualified</li> <li>• Tight Tolerance</li> </ul>
XS	 <b>5.0 x 3.2 x 1.2mm</b> Ceramic SMD Package Glass Seal	8MHz~54MHz	<ul style="list-style-type: none"> <li>• AEC-Q200 qualified</li> <li>• Full Ceramic Package</li> </ul>
XR	 <b>6.0 x 3.5 x 1.0mm</b> Ceramic SMD Package	8MHz~50MHz	<ul style="list-style-type: none"> <li>• AEC-Q200 Ready</li> <li>• Tight Tolerance</li> </ul>
XQ	 <b>8.0 x 4.5 x 1.4mm</b> Ceramic SMD Package Glass Seal	7.3728MHz~70MHz	<ul style="list-style-type: none"> <li>• AEC-Q200 qualified</li> <li>• Full Ceramic Package</li> </ul>
XI	 <b>10.8 x 4.5 x 3.4mm</b> Metal Can Through Hole Package	3.58MHz~80MHz	<ul style="list-style-type: none"> <li>• AEC-Q200 qualified</li> <li>• Standard Footprint</li> <li>• Low Profile For Close PCB Stacking</li> </ul>
XJ	 <b>12.5 x 4.5 x 4.0mm</b> Metal Can SMD Package	3.58MHz~80MHz	<ul style="list-style-type: none"> <li>• Metal Can SMD Package</li> </ul>



# Tuning Fork Crystal Units

TYPE	PACKAGE	FREQ. RANGE	FEATURE
<b>NEW</b> XB	 <b>1.0 x 4.6mm</b> <b>2.0 x 6.0mm</b> Through Hole Package	32.768kHz	<ul style="list-style-type: none"> <li>• Watch Crystal</li> </ul>
XA	 <b>3.0 x 8.0mm</b> Through Hole Package	32.768kHz	<ul style="list-style-type: none"> <li>• Watch Crystal</li> </ul>
<b>HOT</b> XD	 <b>2.0 x 1.2 x 0.6mm</b> <b>3.2 x 1.5 x 0.9mm</b> <b>4.1 x 1.5 x 0.9mm</b> Ceramic SMD Package	32.768kHz	<ul style="list-style-type: none"> <li>• AEC-Q200 qualified</li> <li>• Low Profile SMD Watch Crystal</li> </ul>
XN	 <b>6.9 x 1.4mm</b> <b>8.0 x 3.8mm</b> Plastic SMD Package	32.768kHz	<ul style="list-style-type: none"> <li>• SMD Watch Crystal</li> </ul>

## Crystal Oscillators (CMOS Output)

TYPE	PACKAGE	FREQ. RANGE	OUTPUT	FEATURE
<b>NEW</b> OZ	 <b>2.05 x 1.65 x 0.75mm</b> Ceramic SMD Package	1.5MHz~50MHz	CMOS	<ul style="list-style-type: none"> <li>• Ultra-compact and light</li> <li>• Low Jitter</li> <li>• Low Standby Current</li> </ul>
<b>HOT</b> OY	 <b>2.5 x 2.0 x 0.85mm</b> Ceramic SMD Package	32.768kHz~125MHz	CMOS	<ul style="list-style-type: none"> <li>• Smaller Size</li> <li>• AEC-Q200 Ready</li> <li>• Low Jitter</li> <li>• Low Standby Current</li> <li>• Operating Temp. Up To 125°C</li> <li>• Enhanced Stability Support</li> </ul>
<b>HOT</b> OX	 <b>3.2 x 2.5 x 0.95mm</b> Ceramic SMD Package	32.768kHz~125MHz	CMOS	<ul style="list-style-type: none"> <li>• Low Jitter</li> <li>• AEC-Q200 qualified</li> <li>• Low Standby Current</li> <li>• Operating Temp. Up To 125°C</li> <li>• Enhanced Stability Support</li> </ul>
OV	 <b>5.0 x 3.2 x 1.2mm</b> Ceramic SMD Package	13.7kHz~160MHz	CMOS	<ul style="list-style-type: none"> <li>• AEC-Q200 Ready</li> <li>• Low Jitter</li> <li>• Low Standby Current</li> </ul>
OC	 <b>7.0 x 5.0 x 1.3mm</b> Ceramic SMD Package	13.7kHz~166MHz	CMOS	<ul style="list-style-type: none"> <li>• Low Jitter</li> <li>• Low Standby Current</li> </ul>
OC-M	 <b>7.0 x 5.0 x 1.3mm</b> Ceramic SMD Package	2.048MHz~200MHz	CMOS	<ul style="list-style-type: none"> <li>• Up To 200MHz</li> </ul>

## Programmable Crystal Oscillators

TYPE	PACKAGE	FREQ. RANGE	OUTPUT	FEATURE
<b>HOT</b> PY	 <b>FASTXO</b> <b>2.5 x 2.0 x 0.85mm</b> Ceramic SMD Package	2.048MHz~200MHz	CMOS	<ul style="list-style-type: none"> <li>• Smaller Size</li> <li>• Fast Delivery</li> <li>• Custom Freq. from 2.048 to 200MHz</li> <li>• Low Standby Current</li> </ul>
<b>HOT</b> PX	 <b>FASTXO</b> <b>3.2 x 2.5 x 0.95mm</b> Ceramic SMD Package	2.048MHz~200MHz	CMOS	<ul style="list-style-type: none"> <li>• Fast Delivery</li> <li>• Custom Freq. from 2.048 to 200MHz</li> <li>• Low Standby Current</li> </ul>


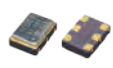
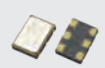

## Crystal Oscillators (LVPECL/LVDS/HCSL Output)

TYPE	PACKAGE	FREQ. RANGE	OUTPUT	FEATURE
<b>NEW</b> OA	 <b>3.2 x 2.5 x 0.9mm</b> Ceramic SMD Package	10MHz~250MHz 90Mz ~125MHz	LVPECL / LVDS HCSL	<ul style="list-style-type: none"> <li>• Very Low Jitter</li> <li>• Differential Logic</li> <li>• Up To 250MHz</li> </ul>
<b>NEW</b> OW	 <b>5.0 x 3.2 x 1.25mm</b> Ceramic SMD Package	10MHz ~320MHz 90Mz ~125MHz	LVPECL / LVDS HCSL	<ul style="list-style-type: none"> <li>• Very Low Jitter</li> <li>• Differential Logic</li> <li>• Up To 320MHz</li> </ul>
<b>HOT</b> OW-M	 <b>FASTXO</b> <b>5.0 x 3.2 x 1.25mm</b> Ceramic SMD Package	10MHz~1.5GHz	LVPECL / LVDS	<ul style="list-style-type: none"> <li>• Low Jitter</li> <li>• Differential Logic</li> <li>• Up To 1.5GHz</li> </ul>
<b>HOT</b> OT	 <b>7.0 x 5.0 x 1.45mm</b> Ceramic SMD Package <small>台灣精品 2006 TAIWAN EXCELLENCE</small>	10MHz ~320MHz 90MHz ~125MHz	LVPECL / LVDS HCSL	<ul style="list-style-type: none"> <li>• Very Low Jitter</li> <li>• Differential Logic</li> <li>• Up To 320MHz</li> </ul>
<b>HOT</b> OT-M	 <b>FASTXO</b> <b>7.0 x 5.0 x 1.75mm</b> Ceramic SMD Package	10MHz~1.5GHz	LVPECL / LVDS	<ul style="list-style-type: none"> <li>• Low Jitter</li> <li>• Differential Logic</li> <li>• Up To 1.5GHz</li> </ul>
<b>NEW</b> OT-U Ultra Low Jitter	 <b>7.0 x 5.0 x 1.45mm</b> Ceramic SMD Package	70~170MHz	LVPECL	<ul style="list-style-type: none"> <li>• RMS Phase Jitter &lt; 0.1ps, from 12kHz to 20MHz</li> <li>• Differential Logic</li> </ul>


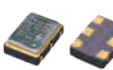
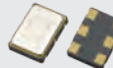
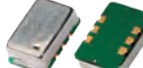
# Voltage Controlled Temperature Compensated Crystal Oscillators

TYPE	PACKAGE	FREQ. RANGE	OUTPUT	FEATURE
<b>NEW</b> TZ	 <b>2.0 x 1.6 x 0.8mm</b> Ceramic SMD Package	10MHz~52MHz	Clipped Sine Wave	<ul style="list-style-type: none"> <li>• Miniature SMD type</li> <li>• Low Power Consumption</li> <li>• VCTCXO Available</li> </ul>
<b>HOT</b> TY	 <b>2.5 x 2.0 x 0.7mm</b> Ceramic SMD Package	10MHz~52MHz	Clipped Sine Wave	<ul style="list-style-type: none"> <li>• Smaller Size</li> <li>• Low Power Consumption</li> <li>• VCTCXO Available</li> </ul>
<b>NEW</b> TY-J	 <b>2.5 x 2.0 x 0.85mm</b> Ceramic SMD Package	9.5MHz~60MHz	CMOS	<ul style="list-style-type: none"> <li>• Low Power Consumption</li> </ul>
<b>HO</b> TX	 <b>3.2 x 2.5 x 0.9mm</b> Ceramic SMD Package	10MHz~52MHz	Clipped Sine Wave	<ul style="list-style-type: none"> <li>• Low Power Consumption</li> <li>• VCTCXO Available</li> </ul>
<b>NEW</b> TX-J	 <b>3.2 x 2.5 x 0.95mm</b> Ceramic SMD Package	9.5MHz~60MHz	CMOS	<ul style="list-style-type: none"> <li>• Low Power Consumption</li> </ul>
<b>HOT</b> TW High Precision	 <b>5.0 x 3.2 x 1.55mm</b> Ceramic SMD Package	10MHz~52MHz	CMOS / Clipped Sine Wave	<ul style="list-style-type: none"> <li>• High Precision For -20°C~+70°C, ±0.1ppm -40°C~+85°C, ±0.2ppm</li> </ul>
<b>HOT</b> TS High Precision	 <b>7.0 x 5.0 x 1.9mm</b> Ceramic SMD Package	5MHz~40MHz	CMOS / Clipped Sine Wave	<ul style="list-style-type: none"> <li>• High Precision For -20°C~+70°C, ±0.1ppm -40°C~+85°C, ±0.2ppm</li> </ul>
<b>HOT</b> TT Stratum3	 <b>7.0 x 5.0 x 1.9mm</b> Ceramic SMD Package	5MHz~52MHz	CMOS / Clipped Sine Wave	<ul style="list-style-type: none"> <li>• Overall ±4.6ppm Including 20 Years Aging(@ -40°C~+85°C)</li> </ul>
<b>HOT</b> TA	 <b>7.0 x 5.0 x 1.9mm</b> Ceramic SMD Package	5MHz~52MHz	CMOS / Clipped Sine Wave	<ul style="list-style-type: none"> <li>• Low Power Consumption</li> <li>• VCTCXO Available</li> </ul>
TK	 <b>14.3 x 8.7 x 4.9mm</b> Metal Cover, FR-4 PCB Based SMD Package	5MHz~40MHz	CMOS / Clipped Sine Wave	<ul style="list-style-type: none"> <li>• FR-4 PCB Based</li> <li>• Low Current Option</li> <li>• VCTCXO Available</li> </ul>
TF	 <b>20.4 x 12.8 x 7.8mm</b> Metal Can Through Hole Package	1.25MHz~52MHz	CMOS / Clipped Sine Wave	<ul style="list-style-type: none"> <li>• Standard DIP 14 Pin</li> <li>• VCTCXO Available</li> </ul>

## Voltage Controlled Crystal Oscillators (CMOS/Sine Wave Output)

TYPE	PACKAGE	FREQ. RANGE	OUTPUT	FEATURE
<b>NEW</b> VW	 <b>5.0 x 3.2 x 1.25mm</b> Ceramic SMD Package	1.5MHz~170MHz	CMOS	<ul style="list-style-type: none"> <li>• Smaller Size</li> <li>• Tight Symmetry</li> <li>• Low Jitter</li> </ul>
<b>HOT</b> VT	 <b>7.0 x 5.0 x 1.75mm</b> Ceramic SMD Package	1.5MHz~170MHz	CMOS	<ul style="list-style-type: none"> <li>• Tight Symmetry</li> <li>• Low Jitter</li> </ul>
VT-M	 <b>7.0 x 5.0 x 1.75mm</b> Ceramic SMD Package	10MHz~250MHz	CMOS	<ul style="list-style-type: none"> <li>• Up to 250MHz</li> </ul>
<b>NEW</b> VLCU	 <b>14.0 x 9.0 x 5.5mm</b> Metal Can SMD Package	50MHz~125MHz	Sine Wave	<ul style="list-style-type: none"> <li>• Ultra Low Phase Noise</li> <li>• Low Power Consumption</li> </ul>

# Voltage Controlled Crystal Oscillators (LVPECL/LVDS Output)

TYPE	PACKAGE	FREQ. RANGE	OUTPUT	FEATURE
<b>NEW</b> VW 	<b>5.0 x 3.2 x 1.25mm</b> Ceramic SMD Package	30MHz~250MHz	LVPECL / LVDS	<ul style="list-style-type: none"> <li>• Smaller Size</li> <li>• Tight Symmetry</li> <li>• Differential Logic</li> <li>• Very Low Jitter</li> </ul>
<b>HOT</b> VT 	<b>7.0 x 5.0 x 1.75mm</b> Ceramic SMD Package	1.5MHz~200MHz	LVPECL / LVDS	<ul style="list-style-type: none"> <li>• Tight Symmetry</li> <li>• Wide Pulling Range</li> <li>• Differential Logic</li> <li>• Very Low Jitter</li> </ul>
VT-M 	<b>7.0 x 5.0 x 1.75mm</b> Ceramic SMD Package	10MHz~1.5GHz	LVPECL / LVDS	<ul style="list-style-type: none"> <li>• Tight Symmetry</li> <li>• Wide Pulling Range</li> <li>• Differential Logic</li> <li>• Up to 1.5GHz</li> <li>• Low Jitter</li> </ul>
VK 	<b>14.2 x 9.3 x 5.4mm</b> Metal Cover, FR-4 PCB Based SMD Package	30MHz~250MHz	LVPECL / LVDS	<ul style="list-style-type: none"> <li>• FR-4 PCB Based</li> <li>• Differential Logic</li> </ul>

# Oven Controlled Crystal Oscillators

TYPE	PACKAGE	FREQ. RANGE	OUTPUT	FEATURE
<b>HOT</b> NK-N 	<b>14.3 x 9.3 x 6.5mm</b> Metal Can SMD Package	10MHz~40MHz	CMOS	<ul style="list-style-type: none"> <li>• Low Power Consumption</li> <li>• Overall <math>\pm 4.6</math>ppm Including 20 Years Aging</li> <li>• Fast Warm-Up</li> </ul>
<b>HOT</b> NF 	<b>20.3 x 12.7 x 11.0mm</b> Metal Can Through Hole Package	5MHz~40MHz	CMOS	<ul style="list-style-type: none"> <li>• AT or SC Cut Crystal</li> <li>• Standard DIP 14 Pin</li> <li>• Excellent Stability</li> <li>• SMD Optional</li> <li>• NF-25MHz-2050 series (Fast Delivery: 1 week, Quantity <math>\leq 20</math>pcs)</li> </ul>
<b>HOT</b> NA 	<b>25.4 x 25.4 x 12.7mm</b> Metal Can Through Hole Package	5MHz~100MHz	LVTTTL / Sine Wave	<ul style="list-style-type: none"> <li>• SC-CUT Crystal</li> <li>• High Stability</li> <li>• Low Phase Noise</li> <li>• Fast Warm-Up</li> <li>• NA-10MHz-2000/ NA-10MHz-2500 Series (Fast Delivery: 1 week, Quantity <math>\leq 20</math>pcs)</li> </ul>
NJ 	<b>25.4 x 22.1 x 11.0mm</b> Metal Can SMD Package	5MHz~100MHz	CMOS / Sine Wave	<ul style="list-style-type: none"> <li>• SC or AT Cut Crystal</li> <li>• High Stability</li> <li>• Low Phase Noise</li> <li>• Fast Warm-Up</li> </ul>
<b>HOT</b> NI 	<b>36.3 x 27.2 x 12.7mm</b> Metal Can Through Hole Package	5MHz~100MHz	LVTTTL / Sine Wave	<ul style="list-style-type: none"> <li>• SC-CUT Crystal</li> <li>• High Stability</li> <li>• Stratum 3E compliant</li> <li>• Up To -110dBc @ 1Hz</li> <li>• NI-10MHz-2400/NI-10MHz-2500/ NI-100MHz-2900 Series (Fast Delivery: 1 week, Quantity <math>\leq 20</math>pcs)</li> </ul>
NP 	<b>20.6 x 20.6 x 11.0mm</b> Metal Can Through Hole Package	5MHz~40MHz	CMOS	<ul style="list-style-type: none"> <li>• SC or AT Cut Crystal</li> <li>• Stratum 3E compliant</li> <li>• High Stability</li> <li>• Up To -110dBc @ 1Hz</li> </ul>

**TAITIEN ELECTRONICS CO., LTD (Headquarter)**

No.5, Shutan Street, Shulin Dist., New Taipei City 238, Taiwan, ROC  
Tel: +886-2-2686-1287 Fax: +886-2-2681-9610

**Taitien Electronics (Nanjing) Co., Ltd. / East China Office**

JiangNing Economic & Technology Development Zone, No.18, Chi-Tian Road,  
Nanjing, JiangSu, China 211100  
Tel: +86-025-5210-8713 Fax: +86-025-5210-2580

**Taitien Electronics (Shenzhen) Co., Ltd. / South China Office**

8F., Block 7, Nanyou Tian'an Industrial Estate, Nanshan Dist., Shenzhen,  
Guangdong, China 518054  
Tel: +86-755-2652-2955 Fax: +86-755-2605-2967

**Wintron Electronics Co., Ltd.**

Building. 2, the High-Technology Industrial Park, No. 129, the Fifth St.,  
Eastern Hanghai Rd., Zhengzhou, Henan, China 450000  
Tel: +86-371-6739-1541 Fax: +86-371-6739-1546

**Taitien U.S.A. Inc.**

3720 Oceanic Way, Suite 210, Oceanside, CA 92056, USA  
Tel: +1-510-252-0686 Fax: +1-510-252-0148

**Isotemp Research Inc.**

1801 Broadway Street, Charlottesville, VA 22902, USA  
Tel: +1-434-295-3101 Fax: +1-434-481-8020

**Colorado Crystal Corporation**

2303 West 8th Street, Loveland, CO 80537, USA  
Tel: +1-970-667-9248 Fax: +1-970-667-3500



Website: [www.taitien.com](http://www.taitien.com)  
E-mail: [sales@taitien.com.tw](mailto:sales@taitien.com.tw)

