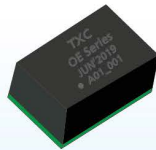
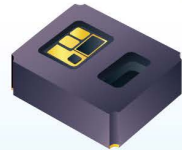














## Product Brochure











# Quartz Crystals







## SMD Seam Sealing Crystals

Series	Photo	Dimension	Lead Connection	Frequency Range	Vibration Mode		Green Products
					Fund.	3rd.	
7B		5.0 x 3.2 x 0.9 mm	4 pads 	8 ~ 125MHz	V	V	RoHS Compliant
7M		3.2 x 2.5 x 0.7 mm	4 pads 	10 ~ 132MHz	V	V	RoHS Compliant
DX		3.2 x 2.5 x 0.7 mm	4 pads 	100 ~ 200MHz	V		RoHS Compliant
推荐 8Z		2.5 x 2.0 x 0.55 mm	4 pads 	12 ~ 66MHz	V		RoHS Compliant
推荐 8Y		2.0 x 1.6 x 0.5 mm	4 pads 	16 ~ 96MHz	V		RoHS Compliant
9Q		1.6 x 1.2 x 0.33 mm	4 pads 	24 ~ 96MHz	V		RoHS Compliant

## SMD Glass Sealing Crystals















Series	Photo	Dimension	Lead Connection	Frequency Range	Vibration Mode		Green Products
					Fund.	3rd.	
7A		5.0 x 3.2 x 1.2 mm	2 pads 	8 ~ 54MHz	V	V	Exempted by RoHS directive
7V		3.2 x 2.5 x 0.8 mm	4 pads 	9.9 ~ 54MHz	V		Exempted by RoHS directive
7V		3.2 x 2.5 x 0.9 mm	4 pads 	8 ~ 10MHz	V		Exempted by RoHS directive
7R		2.0 x 1.6 x 0.6 mm	4 pads 	20 ~ 64MHz	V		Exempted by RoHS directive

## SMD kHz Crystals



Series	Photo	Dimension	Lead Connection	Frequency Range	Package Type	Green Products
推荐 9H T10		3.2 x 1.5 x 0.75 mm	2 pads 	32.768kHz	Ceramic	RoHS Compliant
推荐 9H T11		2.0 x 1.2 x 0.6 mm	2 pads 	32.768kHz	Ceramic	RoHS Compliant
推荐 9H T12		1.6 x 1.0 x 0.5 mm	2 pads 	32.768kHz	Ceramic	RoHS Compliant

# Automotive Crystals & Oscillators

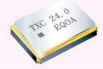









## SMD Glass Sealing Crystals

Series	Photo	Dimension	Lead Connection	Frequency Range	Vibration Mode		Green Products
					Fund.	3rd.	
AX		8.0 x 4.5 x 1.6 mm	2 pads 	6~ 40MHz	V		Exempted by RoHS directive
A2		8.0 x 4.5 x 1.7 mm	2 pads 	4~ 40MHz	V		Exempted by RoHS directive
A3		3.2 x 2.5 x 0.9 mm	2 pads 	8 ~ 62.4MHz	V		Exempted by RoHS directive
AA		5.0 x 3.2 x 1.25 mm	2 pads 	7.2 ~ 48MHz	V		Exempted by RoHS directive
AV		3.2 x 2.5 x 0.8 mm	4 pads 	9.8 ~ 62.4MHz	V		Exempted by RoHS directive
AV		3.2 x 2.5 x 0.9 mm	4 pads 	8 ~ 9.7MHz	V		Exempted by RoHS directive
AR		2.2 x 1.65 x 0.7 mm(reference)	2 pads 	16 ~ 50MHz	V		Exempted by RoHS directive



## SMD kHz Crystals

Series	Photo	Dimension	Lead Connection	Frequency Range	Package Type	Green Products
AH		3.2 x 1.5 x 0.75 mm	2 Pads 	32.768kHz	Ceramic	RoHS Compliant






## SMD Seam Sealing Crystals

Series	Photo	Dimension	Lead Connection	Frequency Range	Vibration Mode		Green Products
					Fund.	3rd.	
AB		5.0 x 3.2 x 0.9 mm	4 pads 	8 ~ 50MHz	V		RoHS Compliant
AM		3.2 x 2.5 x 0.7 mm	4 pads 	9.84 ~ 62.4MHz	V		RoHS Compliant
AZ		2.5 x 2.0 x 0.55 mm	4 pads 	16 ~ 60MHz	V		RoHS Compliant
AY		2.05 x 1.65 x 0.5 mm	4 pads 	16 ~ 60MHz	V		RoHS Compliant
AJ		1.6 x 1.2 x 0.35 mm	4 pads 	25 ~ 60MHz	V		RoHS Compliant




## SMD Seam Temperature Sensing Crystals

Series	Photo	Dimension	Lead Connection	Frequency Range	Oscillation Type	Green Products
AE		2.5 x 2.0 x 1.0 mm	4 pads 	19.2MHz	Fundamental	RoHS Compliant




## SMD Oscillators - CMOS Output

Series	Photo	Dimension	Voltage					Frequency Range	Oscillation Type	Green Products
			3.3	3.0	2.8	2.5	1.8			
AC		5.0 x 3.2 x 1.2 mm	V	V	V	V	V	1 ~ 40MHz	Fundamental	RoHS Compliant
AU		3.2x 2.5 x 1.0 mm	V	V	V	V	V	1 ~ 70MHz	Fundamental	RoHS Compliant
AW		2.5 x 2.0 x 0.8 mm	V	V	V	V	V	1 ~ 80MHz	Fundamental	RoHS Compliant
AN		2.0 x 1.6 x 0.76 mm	V	V	V	V	V	4 ~ 54MHz	Fundamental	RoHS Compliant
A5		1.65 x 1.25 x 0.6 mm	V	V	V	V	V	4 ~ 54MHz	Fundamental	RoHS Compliant

## SMD kHz Crystals Oscillators


















Series	Photo	Dimension	Voltage					Frequency Range	Oscillation Type	Green Products
			3.3	3.0	2.8	2.5	1.8			
ACZ		5.0 x 3.2 x 1.2 mm	V	V	V	V	V	32.768 kHz	Fundamental	RoHS Compliant
AUZ		3.2 x 2.5 x 1.0 mm	V	V	V	V	V	32.768 kHz	Fundamental	RoHS Compliant
AWZ		2.5 x 2.0 x 0.8 mm	V	V	V	V	V	32.768 kHz	Fundamental	RoHS Compliant

## SMD Temperature Compensated Crystal Oscillators (TCXO)



Series	Photo	Dimension	Output	Voltage	Frequency Range	Oscillation Type	Green Products
AQ		3.2 x 2.5 x 1.0 mm	Clipped Sinewave	1.68 ~ 3.63V	6 ~ 52MHz	Fundamental	RoHS Compliant
AL		2.5 x 2.0 x 0.8 mm	Clipped Sinewave	1.68 ~ 3.63V	6 ~ 52MHz	Fundamental	RoHS Compliant
AK		2.0 x 1.6 x 0.8 mm	Clipped Sinewave	1.68 ~ 3.63V	6 ~ 52MHz	Fundamental	RoHS Compliant

# Oscillators








## SMD Crystal Oscillators - Differential Output

Series	Photo	Dimension	Output	Voltage		Frequency Range	Oscillation Type	Green Products
				3.3	2.5			
BA		7.0 x 5.0 x 1.3 mm	LVPECL	V	V	25 ~ 200MHz	Fundamental	RoHS Compliant
BB		7.0 x 5.0 x 1.3 mm	LVPECL	V	V	25 ~ 200MHz	3rd Overtone	RoHS Compliant
BC		7.0 x 5.0 x 1.3 mm	LVPECL	V	V	10 ~ 2.1G	PLL	RoHS Compliant
BE		7.0 x 5.0 x 1.3 mm	LVDS	V	V	25 ~ 200MHz	Fundamental	RoHS Compliant
BF		7.0 x 5.0 x 1.3 mm	LVDS	V	V	25 ~ 200MHz	3rd Overtone	RoHS Compliant
BG		7.0 x 5.0 x 1.3 mm	LVDS	V	V	10 ~ 2.1G	PLL	RoHS Compliant
BX		7.0 x 5.0 x 1.3 mm	HCSL	V	V	10 ~ 2.1G	Fundamental / 3rd Overtone / PLL	RoHS Compliant
CC		5.0 x 3.2 x 1.2 mm	LVPECL	V	V	10 ~ 2.1G	PLL	RoHS Compliant
CA		5.0 x 3.2 x 1.2 mm	LVPECL	V	V	25 ~ 200MHz	Fundamental	RoHS Compliant
CB		5.0 x 3.2 x 1.2 mm	LVPECL	V	V	25 ~ 200MHz	3rd Overtone	RoHS Compliant
CE		5.0 x 3.2 x 1.2 mm	LVDS	V	V	25 ~ 200MHz	Fundamental	RoHS Compliant
CF		5.0 x 3.2 x 1.2 mm	LVDS	V	V	25 ~ 200MHz	3rd Overtone	RoHS Compliant
CG		5.0 x 3.2 x 1.2 mm	LVDS	V	V	10 ~ 2.1G	PLL	RoHS Compliant
CX		5.0 x 3.2 x 1.2 mm	HCSL	V	V	10 ~ 2.1G	Fundamental / 3rd Overtone / PLL	RoHS Compliant
DA		3.2 x 2.5 x 0.95 mm	LVPECL	V	V	25 ~ 200MHz	Fundamental	RoHS Compliant
DB		3.2 x 2.5 x 0.95 mm	LVPECL	V	V	25 ~ 200MHz	3rd Overtone	RoHS Compliant
DC		3.2 x 2.5 x 0.95 mm	LVPECL	V	V	10 ~ 2.1G	PLL	RoHS Compliant
DE		3.2 x 2.5 x 0.95 mm	LVDS	V	V	25 ~ 200MHz	Fundamental	RoHS Compliant




## SMD Crystal Oscillators - Differential Output

Series	Photo	Dimension	Output	Voltage		Frequency Range	Oscillation Type	Green Products
				3.3	2.5			
DG		3.2 x 2.5 x 0.95 mm	LVDS	V	V	10 ~ 2.1G	PLL	RoHS Compliant
DH		3.2 x 2.5 x 0.95 mm	HCSL	V	V	10 ~ 2.1G	Fundamental / 3rd Overtone / PLL	RoHS Compliant





## SMD Voltage Controlled Crystal Oscillators (VCXO)

Series	Photo	Dimension	Output	Voltage	Frequency Range	Oscillation Type	Green Products
				3.3			
6U		7.0 x 5.0 x 1.3 mm	CMOS	V	1 ~ 59MHz	Fundamental	RoHS Compliant
BR		7.0 x 5.0 x 1.3 mm	CMOS	V	50 ~ 200MHz	Fundamental	RoHS Compliant
BJ		7.0 x 5.0 x 1.3 mm	LVPECL	V	50 ~ 200MHz	Fundamental	RoHS Compliant
BK		7.0 x 5.0 x 1.3 mm	LVPECL	V	10 ~ 2.1G	PLL	RoHS Compliant
BN		7.0 x 5.0 x 1.3 mm	LVDS	V	50 ~ 200MHz	Fundamental	RoHS Compliant
BP		7.0 x 5.0 x 1.3 mm	LVDS	V	10 ~ 2.1G	PLL	RoHS Compliant
CP		5.0 x 3.2 x 1.2 mm	LVDS	V	10 ~ 2.1G	PLL	RoHS Compliant
CK		5.0 x 3.2 x 1.2 mm	LVPECL	V	10 ~ 2.1G	PLL	RoHS Compliant
CN		5.0 x 3.2 x 1.2 mm	LVDS	V	50 ~ 200MHz	Fundamental	RoHS Compliant
CJ		5.0 x 3.2 x 1.2 mm	LVPECL	V	50 ~ 200MHz	Fundamental	RoHS Compliant
CR		5.0 x 3.2 x 1.2 mm	CMOS	V	50 ~ 200MHz	Fundamental	RoHS Compliant
DN		3.2 x 2.5 x 0.95 mm	LVDS	V	50 ~ 200MHz	Fundamental	RoHS Compliant
DJ		3.2 x 2.5 x 0.95 mm	LVPECL	V	50 ~ 200MHz	Fundamental	RoHS Compliant
DR		3.2 x 2.5 x 0.95 mm	CMOS	V	50 ~ 200MHz	Fundamental	RoHS Compliant





## Precise SMD Temperature Compensated Crystal Oscillators Stratum - 3 Grade (TCXO)

Series	Photo	Dimension	Output	Voltage				Frequency Range	Oscillation Type	Green Products
				5.0	3.3	2.8	2.5			
7N (4 Pad)		7.0 x 5.0 x 2.0 mm	CMOS / Clipped Sinewave	V	V	V	V	10 ~ 52MHz	Fundamental	RoHS Compliant
7N (10 Pad)		7.0 x 5.0 x 2.0 mm	CMOS / Clipped Sinewave	V	V	V	V	10 ~ 52MHz	Fundamental	RoHS Compliant
7P		5.0 x 3.2 x 1.5 mm	CMOS / Clipped Sinewave	V	V	V	V	10 ~ 52MHz	Fundamental	RoHS Compliant

## SMD kHz Crystal Oscillators





Series	Photo	Dimension	Voltage				Frequency Range	Oscillation Type	Green Products
			3.3	2.8	2.5	1.8			
7WZ		7.0 x 5.0 x 1.3 mm	V	V	V	V	32.768kHz	AT Crystal Based	RoHS Compliant
7CZ		5.0 x 3.2 x 1.2 mm	V	V	V	V	32.768kHz	AT Crystal Based	RoHS Compliant
7XZ		3.2 x 2.5 x 1.0 mm	V	V	V	V	32.768kHz	AT Crystal Based	RoHS Compliant
8WZ		2.5 x 2.0 x 0.8 mm	V	V	V	V	32.768kHz	AT Crystal Based	RoHS Compliant

## SMD Temperature Compensated Crystal Oscillators (TCXO)







Series	Photo	Dimension	Output	Voltage			Frequency Range	Oscillation Type	Green Products
				3.3	2.8	1.8			
7Q		3.2 x 2.5 x 1.0 mm	Clipped Sinewave	V	V	V	13 ~ 52MHz	Fundamental	RoHS Compliant
7L		2.5 x 2.0 x 0.8 mm	Clipped Sinewave	V	V	V	8 ~ 70MHz	Fundamental	RoHS Compliant
7Z		2.0 x 1.6 x 0.75 mm	Clipped Sinewave	V	V	V	8 ~ 70MHz	Fundamental	RoHS Compliant
8P		1.6 x 1.2 x 0.55 mm	Clipped Sinewave	V	V	V	8 ~ 70MHz	Fundamental	RoHS Compliant





## SMD SAW Oscillators - Differential Output

Series	Photo	Dimension	Output	Voltage		Frequency Range	Oscillation Type	Green Products
				3.3	2.5			
BS		7.0 x 5.0 x 1.6 mm	LVPECL (SAW base)	V	V	150 ~ 700MHz	Fundamental	RoHS Compliant
BT		7.0 x 5.0 x 1.6 mm	LVDS (SAW base)	V	V	150 ~ 700MHz	Fundamental	RoHS Compliant
CS		5.0 x 3.2 x 1.2 mm	LVPECL (SAW base)	V	V	150 ~ 700MHz	Fundamental	RoHS Compliant
CT		5.0 x 3.2 x 1.2 mm	LVDS (SAW base)	V	V	150 ~ 700MHz	Fundamental	RoHS Compliant

## SMD Crystal Oscillators - CMOS Output

Series	Photo	Dimension	Voltage				Frequency Range	Oscillation Type	Green Products
			3.3	2.8	2.5	1.8			
7W		7.0 x 5.0 x 1.3 mm	V	V	V	V	1 ~ 170MHz	Fun. / 3rd OT	RoHS Compliant
7C		5.0 x 3.2 x 1.2 mm	V	V	V	V	1 ~ 170MHz	Fun. / 3rd OT	RoHS Compliant
7X		3.2 x 2.5 x 1.0 mm	V	V	V	V	1 ~ 170MHz	Fun. / 3rd OT	RoHS Compliant
8W		2.5 x 2.0 x 0.8 mm	V	V	V	V	4 ~ 125MHz	Fun. / 3rd OT	RoHS Compliant
8N		2.0 x 1.6 x 0.75 mm	V	V	V	V	4 ~ 54MHz	Fundamental	RoHS Compliant
8R		1.65 x 1.25 x 0.6 mm	V	V	V	V	4 ~ 54MHz	Fundamental	RoHS Compliant

## Oven - Controlled Crystal Oscillators (OCXO)

Series	Photo	Dimension	Output	Voltage	Frequency Range	Freq. / Tem. Stability	Green Products
				3.3			
OE		14 x 9mm SMD Type	CMOS / CS	V	10, 19.2, 20, 30.72, 38.4, 25, 40MHz	±20 ~ 50ppb	RoHS Compliant
OG		9.7 x 7.5mm SMD Type	CMOS / CS	V	10, 19.2, 20, 30.72, 38.4, 25, 40MHz	±20 ~ 50ppb	RoHS Compliant

## SMD AuSn Sealing Crystals



Series	Photo	Dimension	Lead Connection	Frequency Range	Vibration Mode		Green Products
					Fund.	3rd.	
8Q		1.6 x 1.2 x 0.35 mm	4 pads	24 ~ 96MHz	V		RoHS Compliant
8J		1.2 x 1.0 x 0.30 mm	4 pads	24 ~ 54MHz	V		RoHS Compliant

## Metal Can Type Crystals

Series	Photo	Dimension	Lead Connection	Frequency Range	Vibration Mode		Green Products
					Fund.	3rd.	
9B		HC- 49S	2 leads	3.2 ~ 90MHz	V	V	RoHS Compliant
9C		HC- 49S SMD	2 flattened leads	3.2 ~ 90MHz	V	V	RoHS Compliant

## SMD Seam Temperature Sensing Crystals

Series	Photo	Dimension	Lead Connection	Frequency Range	Vibration Mode		Green Products
					Fund.	3rd.	
OZ		2.5 x 2.0 x 1.0 mm	4 pads	19.2MHz, 26 MHz	V		RoHS Compliant
OY		2.0 x 1.6 x 0.8 mm	4 pads	19.2MHz, 26 MHz, 38.4MHz	V		RoHS Compliant
OW		1.6 x 1.2 x 0.65 mm	4 pads	38.4MHz, 52MHz, 76.8MHz	V		RoHS Compliant

# Sensors

## Ambient Light & Proximity Sensors

Series	Photo	Dimension	Type	Voltage	Output	Light Peak Wave Length
PA122		2.5 x 2.0 x 1.0 mm	ALS + PS	2.5 ~ 3.6V	Digital I2C	850 or 940nm ( LED )
PA224		2.5 x 2.0 x 1.0 mm	PS Only	2.5 ~ 3.6V	Digital I2C	940nm ( VCSEL )
PA22A		2.5 x 2.0 x 1.0 mm	ALS + PS	2.5 ~ 3.6V	Digital I2C	940nm ( VCSEL )
PA22C		2.5 x 2.0 x 1.0 mm	CS + ALS + PS	2.7 ~ 3.3V	Digital I2C	940nm ( VCSEL )



## 台灣

## Taiwan

### 總公司

台北市北投區中央南路二段16號4樓  
郵編：112  
Tel: +886-2-28941202

### Headquarters

4F, No. 16, Sec. 2, Chung Yang S. Rd.  
Peitou 112, Taipei, Taiwan  
Tel: +886-2-28941202

### 平鎮工廠

桃園市平鎮區平鎮工業區工業六路4號  
郵編：324  
Tel: +886-3-4698121  
Fax: +886-3-4696954

### Ping Cheng Factory

No. 4, Kung Yeh 6th Road, Ping Cheng  
Industrial District Ping Cheng Dist.,  
Taoyuan City 324, Taiwan  
Tel: +886-3-4698121  
Fax: +886-3-4696954

## 日本

## Japan

### TXC JAPAN CORPORATION- YOKOHAMA Office

Shin-Yokohama Urban Square., 1-3-1,  
Shin-yokohama.Kohoku-ku, Yokohama, 222-0033 Japan  
Tel: +81 45 477 5305  
Fax: +81 45 477 5306

### TXC JAPAN CORPORATION- OSAKA Office

3F, Nihonseimei-Esaka-Ekimae Bldg., 10-34,  
Toyotsu-cho, Suita-City, Osaka, 564-0051 JAPAN  
Tel: +81 6 6821 7150  
Fax: +81 6 6821 7151

## 中國

## China

### 寧波工廠

浙江省寧波市北侖區黃山西路189號  
郵編：315800  
Tel: +86-574-86874666  
Fax: +86-574-86874066

### Ningbo Factory

No. 189 Huangshan West Rd.,  
Beilun District, 315800, Ningbo,  
Zhejiang, China  
Tel: +86-574-86874666  
Fax: +86-574-86874066

### 重慶工廠

重慶市九龍坡區鳳笙路22號  
郵編：401329  
Tel: +86-023-61511888  
Fax: +86-023-61511889

### Chungking Factory

No. 22 Fung Sheng Rd., Jiulongpo  
District, 401329, Chungking, China  
Tel: +86-023-61511888  
Fax: +86-023-61511889

### 上海分公司

上海市浦東張江高科技園區張東路  
1388號科技領袖之都二期  
28-01棟  
郵編：201203  
Tel: +86-21-58318060  
Fax: +86-21-58318033

### Shanghai Branch

NO.1388,Zhangdong RD,Room  
2801, Pudong New District,  
Shanghai,China  
Tel: +86-21-58318060  
Fax: +86-21-58318033

### 深圳分公司

深圳市寶安區前進二路中熙ECO  
國際1712室  
郵編：518101  
Tel: +86-0755 32993969  
Fax: +86-0755 32993968

### Shenzhen Branch

No. 1712, Zhongxi ECO  
International, Qianjin 2nd Road,  
BaoAn District, 518101, Shenzhen  
Tel: +86-0755-32993969  
Fax: +86-0755-32993968

### 蘇州分公司

蘇州市虎丘區獅山天街廣場8幢  
1614室  
郵編：215004  
Tel: +86-512-886-06060  
Fax: +86-512-686-60133-6110

### Suzhou Branch

Room 1614 · Building 8 · Shishan  
tianjie Plaza, Suzhou, Jiangsu,  
China. Post Code: 215004  
Tel: +86-512-886-06060  
Fax: +86-512-686-60133-6110

### 北京分公司

北京市朝陽區百子灣西里403號樓  
金海商富中心B座1911室  
郵編：100124  
Tel: +86-10-59577380  
Fax: +86-10-59694509

### Beijing Branch

Room 1911, Block B, Jinghaishangfu  
Centre NO.403 Baiziwang Xili,  
Chaoyang District, Beijing, China  
East Street Chaoyang District,  
100124, Beijing, China  
Tel: +86-10-59577380  
Fax: +86-10-59694509

### 武漢辦事處

湖北省武漢市東湖開發區光谷大道  
58號光穀總部國際2棟1905室  
郵編：430000  
Tel: +86-0574-86874666

### Wuhan Office

Room1905,International Building2,  
Guanggu Headquarters,No.58,  
Guanggu Avenue,East Lake Hi-Tech  
Development Zone,Wuhan City,  
Hubei Province,PRC  
Tel: +86-0574-86874666

## 美洲

## America

### TXC Technology Inc.

#### - Southern California - Brea Office

451 West Lambert Road Suite 201 Brea, CA 92821 U.S.A  
Tel: +1-714-990-5510  
Fax: +1-714-990-5520

### TXC Technology Inc.

#### - Northern California - Milpitas Office

1158 Cadillac Court, Milpitas, CA 95035, U.S.A.  
Tel: +1-408-433-1610  
Fax: +1-408-433-1613

## 歐洲

## Europe

### TXC Europe GmbH

Sebastian-Kneipp-Strasse 41, 60439 Frankfurt am Main, Germany  
Tel: +49-69-505064-272