XTALONG



Xtalong Electronics

Product Brochure

Oven Controlled Crystal Oscillators(OCXO)

Features

Ultra Low Phase Noise, Ultra High Stability, Vibration Resistance, Mass Production, Miniaturization, Low Acceleration Sensitivity, Customization.

Ultra Low Phase Noise

Frequency Range	Package(mm)	Freq. Stability	Temp. Range	Waveform	Voltage	Stabilization Time	Phase Noise (Typ.)
5MHz ~ 100MHz	DIP50*50*15 DIP36*27*12.7 DIP25*25*12.7	≤±0.5ppb	-40~+70℃ -55~+85℃	Sine Wave	12V	≤1.5E - 13 ≤8E - 14	1Hz: -122dBc/Hz 1KHz: -165dBc/Hz 10KHz:-165dBc/Hz
80MHz ~ 120MHz	DIP36*27*12.7 DIP25*25*12.7	≤±5ppb	-40~+85℃ -55~+105℃	Sine Wave	5V 12V	≤8E - 12	1KHz:-168dBc/Hz 100KHz:-188dBc/Hz
	SMD14.4*9.5*6.5				5V 3.3V	≤2E - 11	1KHz: -162dBc/Hz 10KHz:-175dBc/Hz 100KHz:-178dBc/H
100MHz	DIP 12.5*12.5*6.5	≤±0.3ppm	-40~+75℃ -55~+85℃	Sine Wave	5V	≤±3ppb	-172dBc/Hz @100kHz
10MH~200MHz	DIP 21*13.6*8.5					≤±2ppb	-173dBc/Hz @100 kHz
10MH~200MHz	DIP25.4*15.24*9.7				5V 12V		-175dBc/Hz @100 kHz
5MH~20MHz	DIP35.4*26.7*12.7	≤±20ppb		Sine Wave Square Wave		≤±0.5ppb	-120dBc/Hz@1hz

Ultra-High Stability(Double Oven Controlled Crystal Oscillators)

Frequency Range	Package(mm)	Freq. Stability	Temp. Range	Waveform	Voltage	Daily Aging	Phase Noise @10MHz (Typ.)
5MHz ~ 200MHz	DIP50.8*50.8*15	≤±0.01ppb	-40~+70℃ -55~+85℃	Sine Wave Square Wave	5V 12V	≤±0.05ppb	-150dBc/Hz@1kHz
	DIP36.2*27.2*12.7	≤±0.1ppb	-40~+85℃ -55~+105℃		3.3V 5V 12V	≤±0.1ppb	-150dBc/Hz@1kHz
	DIP25.4*25.4*12.7 DIP25.4*22*12	≤±0.2ppb				≤±0.2ppb	-155dBc/Hz@1kHz
	DIP20.2*20.2*10	≤±0.5ppb				≤±0.5ppb	-155dBc/Hz@1kHz

Miniaturization, Surface Mount

Frequency Range	Package(mm)	Freq. Stability	Tempe. Range	Waveform	Voltage	Daily Aging	Phase Noise @10MHz (Typ.)
5MHz ~ 100MHz	SMD 14.4*9.5*6.5	≤±2ppb	-40~+85℃ -55~+105℃	Sine Wave Square Wave	3.3V 5V	≤±1ppb	-155dBc/Hz @ 1kHz
9.6MHz ~ 100MHz	SMD 9.7*7.5*3.9	≤±10ppb		Square Wave		≤±1ppb	-162dBc/Hz @ 1kHz
19.2MHz ~ 48MHz	SMD 7.7*5.5*3.3	≤±10ppb				≤±1ppb	-162dBc/Hz @ 1kHz

Vibration Resistance

Freq. Range	Package(mm)	Freq. Stability	Temp. Range	Waveform	Voltage	Yearly Aging	Static Phase Noise@100MHz	Dynamic Phase Noise @100MHz (Typ.)
10MHz ~ 120MHz	DIP92*82*92	≤±50ppb	-40~+85℃ -55~+105℃	Sine Wave	5V 12V	≤±200ppb	100Hz:-135dBc/Hz 1KHz:-160dBc/Hz 10KHz:-170dBc/Hz 100KHz:-175dBc/Hz	100Hz:-130dBc/Hz 1KHz:-160dBc/Hz 10KHz:-165dBc/Hz 100KHz:-168dBc/Hz
	DIP36*27*15.5 DIP25*25*12.7							G-Sensitivity(*/Y/Z A*is): ≤0.2ppb/g(Low Standard) ≤0.1ppb/g(Medium Standard) ≤0.05ppb/g(High Standard)
10MHz~ 200MHz	DIP38*38*19	≤±0.3ppm	-40~+75℃ -55~+85℃	Sine Wave			100Hz: -120 ~ -135dBc/Hz 1KHz: -150 ~ -165dBc/Hz 10KHz: -165 ~ -178dBc/Hz	100Hz: -85 ~ -95dBc/Hz 1KHz: -135 ~ -150dBc/Hz 10KHz:-160 ~-175dBc/Hz

Phase-Locked Crystal Oscillator

Freq. Range	Package(mm)	Freq. Stability	Temp. Range	Daily Aging	Voltage	Wave form	Phase Noise
10MHz ~ 100MHz	DIP 20.8*20.8*11	≤±0.3ppm	-40~+75℃ -55~+85℃	≤±2ppb	5V 12V	Sine wave Square Wave	-175dBc/Hz@10 kHz @100MHz (Typ.)
10MHz ~ 100MHz	DIP25.4*25.4*12.7	≤±0.3ppm		≤±2ppb			-175dBc/Hz@10 kHz @100MHz (Typ.)
5MHz ~ 100MHz	DIP35.4*26.7*12.7	≤±0.1ppm		≤±0.5ppb	5V		-165dBc/Hz@1 kHz @10MHz (Typ.)

Frequency Doubler Crystal Oscillator

Freq. Range	Package	Freq. Stability	Temp. Range	Daily Aging	Voltage	Waveform	Phase Noise
Customized	DIP 35.4*26.7*20mm	≤±0.3ppm	-40~+75℃ -55~+85℃	≤±2ppb	5.5V (Typ.)	Sinewave	-170dBc/Hz@10 kHz @100MHz (Typ.)

Temperature Controlled Crystal Oscillator(TCXO)

Features

Mass Production, Low Phase Noise, High Stability, Vibration Resistance, Miniaturization, Customization

Low Phase Noise

Frequency Range	Package(mm)	Frequency Stability	Temperature Range	Waveform	Supply Voltage	Yearly Aging	Phase Noise
10MHz ~ 52MHz	SMD7.0*5.0*2.2	≤±0.1ppm ≤±2ppm	-40~+85℃ -55~+105℃ -55~+125℃ (Operable Range)	Square Wave Clipped sine wave	2.5V 3.3V	≤±1ppm	@20MHz 100Hz:-130dBc/Hz 1KHz:-148dBc/Hz 10KHz:-156dBc/Hz

High Stability

Freq. Range	Package(mm)	Freq. Stability	Temp. Range	Waveform	Voltage	Yearly Aging	Phase Noise
10MHz ~ 52MHz	SMD7.0*5.0*2.0	≤±0.05ppm ≤±0.5ppm	-40~+85℃ -55~+105℃	Square Wave Sine Wave Clipped sine wave	3.3V 5.0V	≤±1ppm	@10MHz 10Hz:-90dBc/Hz 100Hz:-120dBc/Hz 1KHz:-138dBc/Hz 10KHz:-147dBc/Hz 100KHz:-155dBc/Hz
	SMD5.0*3.2*1.85	≤±0.2ppm ≤±2ppm	-40~+85℃ -55~+105℃ -55~+125℃ (Operable Range)	Square Wave Clipped sine wave	1.8V 3.3V 5.0V		@19.2MHz 100Hz:-122dBc/Hz 1KHz:-142dBc/Hz 100KHz:-157dBc/Hz 1MHz:-159dBc/Hz

Miniaturization, Surface Mount

Frequency Range	Package(mm)	Frequency Stability	Temperature Range	Waveform	Supply Voltage	Yearly Aging	Phase Noise
10MHz ~ 52MHz	SMD3.2*2.5*0.9	≤±0.5ppm ≤±2ppm	-40~+85℃ -55~+105℃ -55~+125℃ (Operable Range)	Square Wave Clipped sine wave	1.8V 3.3V	≤±1ppm	@19.2MHz 100Hz:-115dBc/Hz 1KHz:-135dBc/Hz 10KHz:-148dBc/Hz
	SMD2.5*2.0*0.7			Clipped sine wave			
	SMD2.0*1.6*0.7			Clipped sine wave			

Voltage Controlled Crystal Oscillators(VCXO)

Freq. Range	Package(mm)	Temp. Range	Waveform	Supply Voltage	Total Drifting
1.25MHz~ 250MHz	DIP20*13/DIP13*13	-20~70℃ -40~85℃	HCMOS	1.8V/2.5V/3.3V/6V	±50ppm/±20ppm~±100ppm
100MHz ~ 128MHz	SMD14*9*5.8	-40~+85℃ -55~+125℃	CMOS/Sine Wave	3.3V/5.0V	≤±20ppm/≤±50ppm
10MHz ~ 1500MHz	SMD3.2*2.5		LVDS/HCSL/CMOS/LVPECL	2.5V/3.3V	≤±25ppm ≤±50ppm
10MHz~ 2100MHz	SMD5.0*3.2			1.8V/2.5V/3.3V	
	SMD7.0*5.0				

Ultra Low Phase Noise Crystal Oscillators

Frequency Range	Package(mm)	Phase Jitter(12KHz ~ 20MHz)	Waveform	Supply Voltage	Total Drifting
100MHz ~ 128MHz	SMD14*9*8.5	8ps@100MHz	CMOS/Sine Wave	3.3V/5V	≤±20ppm
20MHz ~ 200MHz	SMD3.2*2.5	0.1ps@155MHz	LVPECL	2.5V/3.3V	≤±50ppm
			LVDS	1.8V/ 2.5V/ 3.3V	

Crystal Oscillators

Frequency Range	Package(mm)	Temperature Range	Waveform	Supply Voltage	Total Drifting
32.768KHz 1MHz ~ 200MHz	SMD2.0*1.6	-40~+85℃ -55~+125℃	CMOS	1.0V 2.5V 3.3V	≤±25ppm ≤±50ppm
32.768KHz 1MHz ~ 250MHz	SMD2.5*2.0		LVDS HCSL CMOS LVPECL	1.0V 2.5V 3.3V 5.0V	
32.768KHz 1MHz ~ 2100MHz	SMD3.2*2.5				
	SMD5.0*3.2				
	SMD7.0*5.0				

SAW Filter

Our Surface Acoustic Wave (SAW) filters are designed for high-frequency signal processing, offering excellent selectivity and low insertion loss in a compact form factor. Ideal for wireless communication systems, these filters ensure reliable performance in demanding RF applications.

GPS, Compass GLONASS (Selection Table)

P/N	Central Frequency	IL(TYPE)	USEFUL BANDWITH	BANDWIDTH	SIZE
XTF1227T-S6	1227MHz	2dB	20MHz	57.4MHz	3mm*3mm
XTF1602A-S6	1602MHz	3.3dB	10MHz	35MHz (3dB)	3mm*3mm
XTF1561-S6	1561MHz	4dB	4MHz	12MHz (3dB)	3mm*3mm
XTF1268A-S6	1268.52MHz	3dB	20.46MHz	36.6MHz (3dB)	3mm*3mm
XTF1189A-B2	1189MHz	2.5dB		50MHz (3dB)	1.1mm*0.9mm
XTDL1L5RSS-B8	1575&1176MHz	2.5dB	1166~1228 1575~1605	62&30MHz	1.5mm*1.1mm
XTJ616-S6	1207.12MHz	3.2dB	1193.26~1219.54	30.18MHz	3mm*3mm
XTJ617-S6	1575.42MHz	2.7dB	1563.01~1585.90	43.28MHz	3mm*3mm
XTJ618-S6	1619MHz	4dB	1605.47~1631.40	70.2MHz	3mm*3mm
XTJ636-S6	2492MHz	3.8dB	2483~2500	31.38MHz	3mm*3mm
XTF1645E5-S6	1645MHz		1610~1680	75MHz	3mm*3mm
XTF1645E3-S6	1645MHz	3.8dB	1601.5~1688.5	140MHz	3mm*3mm
XTF1191E5-S6	1191.5MHz	3.5dB	1166~1217	50MHz	3mm*3mm
XTF1176T-S6	1176.45MHz	2.0dB	10MHz	56MHz(3dB)	3mm*3mm

P/N	Central Frequency	IL(TYPE)	USEFUL BANDWITH	BANDWIDTH	SIZE
XTF1602A2-S6	1602MHz	1.0dB	20MHz	64MHz（3dB）	3mm*3mm
XTF1602A3-S6	1602MHz	3.2dB	12MHz	21MHz（1dB）	3mm*3mm
XTF1602AN-S6	1602MHz	3.5dB	20MHz	30MHz（3dB）	3mm*3mm
XTF1602TW-S6	1602MHz	1.8dB	8MHz	27MHz（1dB）	3mm*3mm
XTF1615A7-S6	1615MHz	3.3dB	12MHz	33MHz（3dB）	3mm*3mm
XTF1615C-S6	1615MHz	3.8dB	20MHz	49MHz（3dB）	3mm*3mm
XTF2332LL2 S6	2332MHz	0.5dB	25MHz	92MHz(3dB)	3mm*3mm

BASE STATION

FDD LTE	Up Link_(MHz)	Downlink_(MHz)	Band width	Model (up)	Model (down)
Band 1	1920-1980	2110-2170	60	XTF1950E-S6	XTF2140F-S6
	1905-1980	2095-2170	75	XTF1950E2-S6	XTF2140E2-S6
	1905-1980	2095-2170	60	XTF1950E2-P6	XTF2140E2-S6
Band 3	1710-1785	1805-1880	75	XTF1747E-S6 XTF1747E2-S6	XTF1842-ES6 XTF1842E2-S6
Band 5	824-849	869-894	25	XTF836E-S6 XTF836E 1-S6	XTF881E-S6 XTF881E2-S6
Band 8	880-915	925-960	35	XTF897E-S6 XTF897E4-S6	XTF942ES6 XTF942E4-S6
CDMA	820-835	865-880	15	XTF827A-S6	*T872A-S6
	825-835	870-880	10	XTF830A3-S6	XTF875C3-S6
GSM	889-909	934-954	20	XTF899E-S6	XTF944E-S6
DCS	1710-1735	1805-1830	25	XTF1722E-S6	XTF1817E-S6
GSM	890-915	935-960	25	XTF902T4-S6 XTF902H-S6	XTF947E2-S6
GSM	890-915	935-960	25	XTF902H-P6	XTF947E2-P6
GSM	909-915	954-960	6	XTF912A3-S6	XTF957A3-S6
FDD	1755-1785	1850-1880	30	XTF1770E-S6	XTF1865E-S6
FDD	1765-1785	1860-1880	20	XTF1775TW-S6	XTF1870QG-S6
FDD	1920-1940	2110-2130	20	XTF1930QG-S6	XTF2120TW-S6

LTCC Filters

Filter Type	Package（mm）	Cutoff frequency（MHz）	Bandwidth（MHz）	Insertion Loss-Ma*（dB）
Low Pass	SMD2.0 * 1.2	350 ~ 4010	DC ~ 4010	2.2
Low Pass	SMD3.2 * 1.6	80 ~ 8400	DC ~ 8400	2
High Pass	SMD3.2 * 1.6	1080 ~ 2400	1080 ~ 7000	2
Band Pass	SMD9.0 * 4.0	66 ~ 74	8	5
Band Pass	SMD9.0 * 5.0	115 ~ 135	20	7
Band Pass	SMD9.0 * 3.4	110 ~ 678	228 Ma*.	4
Band Pass	SMD9.0 * 4.5	270 ~ 374	104	2.5
Band Pass	SMD4.8 * 4.2	312 ~ 4600	1000 Ma*.	4.5
Band Pass	SMD9.0 * 3.4	300 ~ 500	200	3.5
Band Pass	SMD4.5 * 3.2	310 ~ 3490	950 Ma*.	4.5
Band Pass	SMD4.5 * 3.2	320 ~ 1920	1200 Ma*.	4.5
Band Pass	SMD6.0 * 3.2	410 ~ 1660	660 Ma*.	2
Band Pass	SMD9.0 * 3.2	615 ~ 655	40	3.5
Band Pass	SMD4.8 * 4.2	745 ~ 2040	300 Ma*.	3
Band Pass	SMD6.4 * 4.5	830 ~ 1330	500	3.5
Band Pass	SMD4.8 * 4.2	1020 ~ 1320	300	2.5
Band Pass	SMD6.0 * 4.0	1180 ~1465	285	3.8
Band Pass	SMD5.0 * 3.2	1000 ~ 2000	1000	3.2
Band Pass	SMD9.0 * 4.5	2110 ~ 2510	400	3.5
Band Pass	SMD3.2 * 2.5	1800 ~ 6500	2200 Ma*.	3
Band Pass	SMD3.2 * 1.6	2450 ~ 7610	2100 Ma*.	5
Band Pass	SMD9.0 * 3.2	2700 ~ 3140	400 Ma*.	4
Band Pass	SMD4.5 * 3.4	2935 ~ 5200	300	4
Band Pass	SMD9.0 * 2.5	3150 ~ 3590	440	4

Ceramic Filter

Type	Package（mm）	Frequency Range	Insertion Loss - Ma* (dB)	Band Width (KHz)
Bandpass	DIP9.0 * 7.0	10.7 MHz	10	950 (20dB Ma*.)
Bandpass	SMD7.0 * 3.0	10.7 MHz	6	650 (20dB Ma*.)
Bandpass	DIP9.0 * 7.0	4.5 ~ 6.5MHz	6	630 (20dB Ma*.)
Bandpass	SMD6.9 *2.9	10.7MHz	6	230 (20dB Ma*.)
Bandpass	DIP6.5 * 6.5 DIP9.5 * 6.5 DIP11.0 * 7.0	450kHz, 455kHz	4 , 6	±2, ±3 (6dB Min.)
Bandpass	DIP8.0*7.0	450kHz, 455kHz	4 , 6	±2, ±3 (6dB Min.)
Trap Filters	DIP8.0*5.0	3.58 ~ 6.5MHz	35 (Trap Attenuation at nominal frequency) (dB) Ma*.	≥90(120) (30dB Attenuation Band Width (KHz)) Ma*.

Crystal Filter

Frequency Range	Package（mm）	Typ. Freq.	3 dB Passband (KHz)	Insertion Loss Max.(dB)
20MHz~60MHz	SMD7.0 * 5.0	21.4MHz/ 21.7MHz/ 45MHz	±3.75 (Min.)	3
7.8MHz~70MHz	DIP15 * 12 DIP11 * 8.5 DIP18.5 * 12 DIP13.4 * 8.5	10.7MHz/ 21.4MHz	7.5 (Max.)	6
10MHz~45MHz	DIP7.9 * 3.3	21.4MHz/ 10MHz/ 40MHz/ 45MHz	11 (Max.)	4
7.8MHz~60MHz	DIP11 * 4.7	10.7MHz/ 7.8MHz/ 21.7MHz/ 60MHz	7.5 (Max.)	2

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Xtalong specialize in high-precision oscillator solutions, providing advanced clock source components to global industries. Our portfolio includes **ultra-stable, ultra low phase noise oscillators including OCXO, TCXO and Simple Packaged Crystal Oscillators**, tailored for critical applications.

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