



共赢之源 · 维拓百年

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**Quartz Crystal
Tuning Fork Crystal
Quartz Crystal Filter
Crystal Oscillator
VCTCXO,TCXO
VCXO
OCXO
Ceramic Resonator & Filter
Saw Device**





WTL INTERNATIONAL LIMITED
Shenzhen WTL Electronic Technology Co.,Ltd

As a specialist for frequency control products, our products may be not so spectacular, but have a tight relationship with our life. WTL connects the people and ideas of the world together, returns the world by our dynamic and innovative spirit in the win-win to long rhythm.

WTL, welcome you.

维拓国际有限公司
深圳市维拓精电科技有限公司





作为频率控制产品的专家，我们的产品并不那么引人注目，但它与我们的生活息息相关。维拓将来自世界各地的人和思维融合在一起，秉承着“共赢之源，维拓百年”经营理念，以我们的激进向上，科技创新来回报您，与整个世界。

维拓，真诚欢迎您！












Quartz Crystal



WTL Series	Photo	Dimension	Frequency Range	Feature
TX8		1.6*1.2*0.3mm	26.000 MHz to 66.000 MHz	1. Miniature 1.6x1.2mm ceramic package 2. Applications: Smart Phone, Portable/hand-held PCs, PCMCIA Cards, Notebook PC, Bluetooth, Wireless LAN, SIP, RF-SIM, Pin Drive, SD Module
TX1		2.0*1.6*0.5mm	20.000MHz-54MHz	1. High precision and high frequency stability 2. Applications in PDA, DSC, DVC, PC, etc.
TX2		2.0*2.5*0.55mm	12.000MHz-44.000MHz	1. High precision and high frequency stability 2. Applications in PDA, DSC, DVC and PC. 4. RoHS compliant and Pb free.
TX3		3.2*2.5*0.7mm	10.000MHz-48.000MHz	1. High precision characteristic covering up to high frequency range 2. Designed for automatic mounting and reflow soldering
TX4		4.0*2.5*0.8mm	12.000MHz-50.000MHz	1. High precision characteristic covering up to high frequency range 2. Designed for automatic mounting and reflow soldering
TX5		5.0*3.2*1.0mm	8.000MHz-48.000MHz	1. High precision characteristic covering up to high frequency range 2. Automatic mounting
TX6		6.0*3.5*1.1mm	6.000MHz-80.000MHz	1. Leadless type 2. Automatic mounting
TX7		7.0*5.0*1.1mm	6.000MHz-110.000MHz	1. Leadless type 2. Automatic mounting
TG5		5.0*3.2*1.2mm	8.000MHz-48.000MHz	1. Leadless type 2. Automatic mounting
TG6		6.0*3.5*1.2mm	8.000MHz-80.000MHz	1. Leadless type. 2. Automatic mounting. 3. Rugged AT-cut crystal construction
TG7		7.0*5.0*1.4mm	6.000MHz-80.000MHz	1. Ultra small SMD type crystal unit 2. High reliable environmental performance 3. Automatic mounting
TG8		8.0*4.5*1.5mm	8.000MHz-80.000MHz	1. Automatic mounting. 2. Rugged AT-cut crystal construction 3. Suitable for solder reflow.
WX5		HC-49/U 11.05*4.65*13.46mm	1.8432MHz-150.000MHz	1. A resistance weld completely sealed type 2. The tight frequency stability
WT5		HC-50/U 11.05*4.65*13.5mm	1.8000-48.000MHz	1. Copper Cover and Fe jacket 2. Thick and short legs 3. High Stability 4. Application: aerospace
WT9		HC-49T 11.5*4.7*13.5mm	1.000-80.000MHz	Application: power amplifier
WX6		HC-49/S 11.05*4.7*13.5mm	3.000MHz-100.000MHz	1. A resistance weld completely sealed type 2. Good stability and high reliability
WZ6		HC-49/S Smaller Size 7.0*4.0*2.0mm	10.000-50.000MHz	1. Smaller size than normal 49s 2. Wide frequency

WX7		HC-49/SMD 13.0*4.73*4.0mm	3.000MHz-100.000MHz	1.Height 4.0mm, or 3.0mm, compact unit for surface mount 2. Able to by means of a metal case and completely sealed high solution characteristics
WZ7		HC-49/SMD Smaller Size 7.0*4.0*2.0mm	10.000~50.000MHz	1. Smaller size than normal 49SMD 2. Wide frequency
WM1		UM-1:7.8*3.2*7.8mm UM-5:7.8*3.2*6.0mm	4.000MHz-200.000MHz	1. Excellent aging characteristics 2. Uniform frequency tuning range and modulation sensitivity
WM2		UM-1:7.9*3.2*7.7mm, UM-5:7.9*3.2*5.9	6.000~50.000MHz	1. SMD-metal jacket 2. Application:signal amplifier;collector;communication




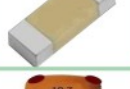


Tuning Fork Crystal

WTL Series	Photo	Dimension	Frequency Range	Feature
TS9		2.0*1.2mm	32.768khz	Small size
WX1		3.2*1.5*0.9mm	32.768KHz	1. Wide Frequency range 2. Small size 3. Tape & Reel 4. Reflow available"
WX4		6.9*1.4*1.3mm	32.768KHz	1. Wide Frequency range 2. Small size 3. Tape & Reel 4. Reflow available
WX3		3.8*8.0*2.5mm	30.000KHz-350.000KHz	1. Wide Frequency range 2. Small size 3. Tape & Reel 4. Reflow available
WX2		2*6mm, 3*8mm	30.000KHz-350.000KHz	1. Wide Frequency range 2. High shock tolerance 3. Small size 4. Reliable frequency stability
WA2		2*6mm, 3*8mm	4.000~60.000MHz	1. Cylinder Type MHz Dip Crystal
WX8		2*6mm / SMD	30.000KHz-200.000KHz	1. Frequency range:30-200KHz 2. Suited for automatic mounting and reflow soldering 3. For a clock source in digital equipments
WA3		3*8mm / SMD	4.000~60.000MHz	1. Cylinder Type MHz SMD Crystal
W12		12.4*4.8mm	3.579-27.0MHz	Frequency Range:3.579-27MHz Suited for portable devices with low current consumption For a clock source in digital equipment

Quartz Crystal Filter

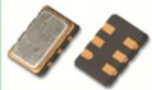


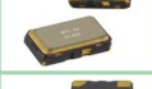


WTL Series	Photo	Dimension	Frequency Range	Feature
WF1		MCF 11.05*4.65*13.5mm	10.7MHz	1. Low insertion loss 2. High selectivity 3. APPLICATIONS UHF & VHF radio, Wireless LAN, Wireless telemetry, Pagers
WF7		7.0*5.0*1.3mmSMD	21.400,21.700,45.000MHz	1. Thin and light weight;excellent shock and vibration resistance 2. Suitable for automatic pick and place;Solder reflow capable 3. Specifically designed for mobile, wireless communications pagers, cellular and cordless phones

Ceramic Resonator & Filter

WTL Series	Photo	Dimension	Frequency Range	Feature
ZTA		10.0*5.0*7.5mm	1.800MHz-50.000MHz	This specification relates to piezoelectric ceramic resonator to be used in a clock generating circuit for microprocessors.
ZTT		10.0*5.0*10.0mm	1.800MHz-50.000MHz	This specification relates to piezoelectric ceramic resonator to be used in a clock generating circuit for microprocessors.
ZTB		8.0*3.6*9.3mm	190.000KHz-1250.000KHz	This specification relates to piezoelectric ceramic resonator to be used in a clock generating circuit for microprocessors.
ZTD		6.0*2.2*1.0mm	7.6MHz-48MHz	Good Stability
ZTC		7.0*4.0*7.0mm	10.7MHz	Mostly For Radio
LTC		7.5*6.0*4.0mm	455KHz	Car Audio Application

Crystal Oscillators

WTL Series	Photo	Dimension	Frequency Range	Feature
TC1		2.0*1.6*0.9mm	1.625MHz-50.000MHz	1. Small Size 2. Low Jitter 3. Low Standby Current
TC2		2.5*2.0*0.9mm	32.768KHz-50.000MHz	1. Small Size 2. Low Jitter 3. Low Standby Current
TC3		3.2*2.5*1.05mm	32.768KHz-125.000MHz	1. Low Jitter 2. Low Standby Current
TC5		5.0*3.2*1.2mm	13.700KHz-125.000MHz	1. Low Jitter 2. Low Standby Current
TC7		7.0*5.0*1.4mm	13.700KHz-166.000MHz	1. Low Jitter 2. Low Standby Current
TH7		7.0*5.0*1.4mm	1.000MHz-200.000MHz	Up to 200MHz
TB2		2.5*2.0*0.9mm	1.000MHz-200.000MHz	1. Small Size 2. Fast Delivery 3. Custom Freq. from 1 to 200MHz 4. Low Standby Current
TB3		3.2*2.5*1.05mm	1.000MHz-200.000MHz	1. Fast Delivery 2. Custom Freq. from 1 to 200MHz 3. Low Standby Current
TP5		5.0*3.2*1.2mm	80.000MHz-320.000MHz	1. Very Low Jitter 2. Differential Logic 3. Up To 320MHz

TP7		7.0*5.0*1.5mm	19.440MHz-320.000MHz 90.000MHz-125.000MHz	1. Very Low Jitter 2. Differential Logic 3. Up To 320MHz
TL7		7.0*5.0*1.6mm	100.000MHz-800.000MHz	1. Low Jitter 2. Differential Logic 3. Up To 800MHz
TU7		7.0*5.0*1.5mm	70.000MHz-170.000MHz	1. RMS Phase Jitter (<0.1ps, from 12KHz to 20MHz) 2. Differential Logic
LO5		5.0*3.2*1.05mm	1.554MHz-125.000MHz	1. Compact and thin ceramic package with metalized surface mounting and automatically loaded 2. Reflow solder is possible 3. Ideally suited designed for use in PCs, NB, PCMCIA Cards, Palmtop Computer, Portable Applications
LO7		7.0*5.0*1.05mm	1.544MHz-150.000MHz	1. Compact and thin ceramic package with metalized surface mounting and automatically loaded 2. Reflow solder is possible 3. Lower noise and current with reduced power consumption
LO1		Full/Half size 20.4*13.1/12.9*12.9mm	0.25MHz-180.000MHz	1. All metal welded package 2. Built-in C-MOS IC with tri-state function 3. CMOS/TTL-compatible in general application

VCTCXO / TCXO

WTL Series	Photo	Dimension	Frequency Range	Feature
VC2		2.5*2.0*0.75mm	13.000MHz-52.000MHz	1. Smaller Size 2. Low Power Consumption 3. VCTCXO Available
VC3		3.2*2.5*0.9mm	10.000MHz-52.000MHz	1. Low Power Consumption 2. VCTCXO Available
VC5		5.0*3.2*1.15mm	10.000MHz-40.000MHz	1. Low Power Consumption 2. VCTCXO Available
VH5		5.0*3.2*1.55mm	5.000MHz-52.000MHz	High precision For -20°C~+70°C, +/-0.1ppm; -40°C~+85°C, +/-0.2ppm
VH7		7.0*5.0*1.85mm	5.000MHz-52.000MHz	High precision For -20°C~+70°C, +/-0.1ppm; -40°C~+85°C, +/-0.2ppm
VA7		7.0*5.0*1.85mm	5.000MHz-52.000MHz	Overall +/-4.6ppm Including 20Years Aging(@-40°C~+85°C)
VT7		7.0*5.0*1.85mm	5.000MHz-52.000MHz	1. Low Power Consumption 2. VCTCXO Available
VP1		14.3*8.7*4.9mm	5.000MHz-40.000MHz	1. FR-4 PCB Based 2. Low Current Option 3. VCTCXO Available
VF2		20.4*12.8*7.8mm	10.000MHz-40.000MHz	1. Low-Power Alternative to OCXOs 2. Ultra High Precision For -20°C~+70°C, +/-30ppb; -40°C~+85°C, +/-50ppb
WT1		TCXO 18.5*12.0*(8~10)mm	1.000MHz-1500MHz	Mobile communication, Avionics, Test Equipment, Electronic instruments



VCXO

WTL Series	Photo	Dimension	Frequency Range	Feature
LV7		7.0*5.0*1.6*mm	1.000MHz-125.000MHz	1. Ultra small SMD type 2. High precision characteristics covering up to high frequency range 3. Automatic mounting
LV1		Full/Half size 20.3*12.6*5.0mm 12.6*12.6*5.0mm	1.000MHz-80.000MHz	1. Small size as small as 20.26*12.65mm and 12.6*12.65mm 2. Hybrid IC Circuit Construction 3. CMOS compatible output 4. All metal, hermetically sealed welded package
CV5		5.0*3.2*1.32mm	1.500MHz-80.000MHz	1. Smaller Size 2. Tight Symmetry 3. Low Jitter
CV7		7.0*5.0*1.6mm	1.500MHz-200.000MHz	1. Tight Symmetry 2. Low Jitter
CH7		7.0*5.0*1.6mm	60.000MHz-200.000MHz	Tight Symmetry
PV5		5.0*3.2*1.2mm	60.000MHz-175.000MHz	1. Smaller Size 2. Tight Symmetry 3. Differential Logic 4. Very Low Jitter
PV7		7.0*5.0*1.6mm	1.500MHz-200.000MHz	1. Tight Symmetry 2. Wide Pulling Range 3. Differential Logic 4. Very Low Jitter
PH7		7.0*5.0*1.6mm	100.000MHz-800.000MHz	1. Tight Symmetry 2. Wide Pulling Range 3. Differential Logic 4. Up To 800MHz 5. Low Jitter
PA7		7.0*5.0*1.6mm	200.000MHz-800.000MHz	1. RMS Phase Jitter (<0.1ps@614.4MHz from 12KHz to 20MHz) 2. Differential Logic
PL4		14.2*9.3*5.5mm	1.500MHz-700.000MHz	1. FR-4 PCB Based 2. Differential Logic 3. Up To 700MHz

OCXO

WTL Series	Photo	Dimension	Frequency Range	Feature
OCD		14.3*9.3*6.0mm	5.000MHz-40.000MHz	1. AT-Cut Crystal 2. Low Power Consumption 3. Overall +/-4.6ppm Including 20Years Aging 4. Fast Warm-Up
OCH		20.3*12.7*11.0mm	5.000MHz-40.000MHz	1. AT or SC Cut Crystal 2. Standard DIP 14Pin 3. Excellent Stability 4. SMD Optional (Fast Delivery 1 week, Quantity <=20pcs)
OLH		25.4*25.4*12.7mm	5.000MHz-100.000MHz	1. SC-Cut Crystal 2. High Stability 3. Low Phase Noise 4. Fast Warm-UP (Fast Delivery 1 week, Quantity <=20pcs)
OSD		25.4*22.1*11.0mm	5.000MHz-40.000MHz	1. AT or SC Cut Crystal 2. High Stability 3. Low Phase Noise 4. Fast Warm-UP
OSH		36.3*27.2*12.7mm	5.000MHz-100.000MHz	1. SC-Cut Crystal 2. High Stability 3. Stratum 3E compliant 4. Up To-110dBc @1HZ (Fast Delivery 1 week, Quantity <=20pcs)
OCW		20.6*20.6*11.0mm	5.000MHz-40.000MHz	1. AT or SC Cut Crystal 2. Stratum 3E compliant 3. High Stability 4. Up To-110dBc @1HZ

Saw Device

WTL Series	Photo	Dimension	Frequency Range	Feature
WSF		TO-39,F11,D11,S6,S20		Application wireless remote control & alarm , comuser electronics communications
WSR		TO-39,F11,D11,S6,S20		Application wireless remote control & alarm , comuser electronics communications