



Shenzhen Crystal Technology Industrial Co., Ltd

Leading Manufacturer of
Frequency Components

2021 Overview





Organization Structure



Shenzhen Main Office

Yantai Factory



SMD Factory



Suzhou Office



Hong Kong Office

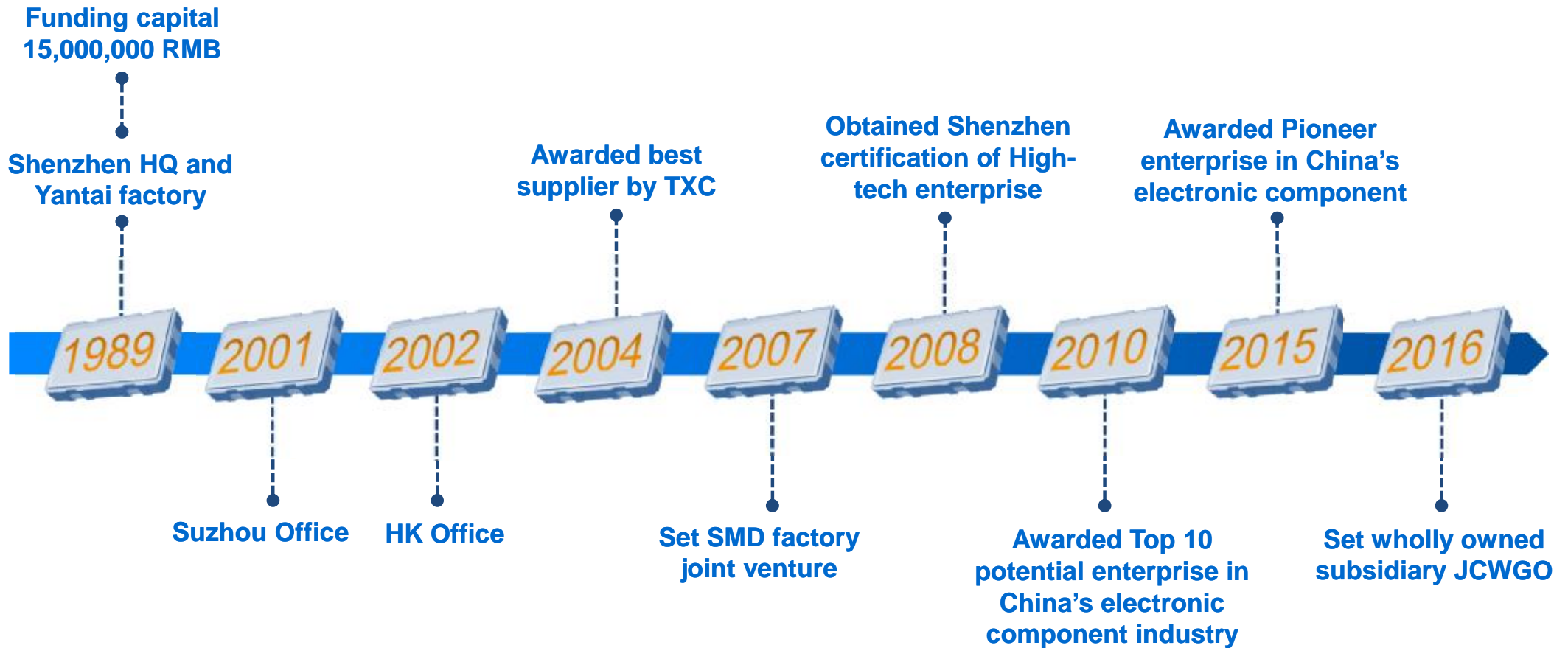


Satisfaction Quality Just-in-time Service Key-cost Offering





Milestones



Satisfaction Quality

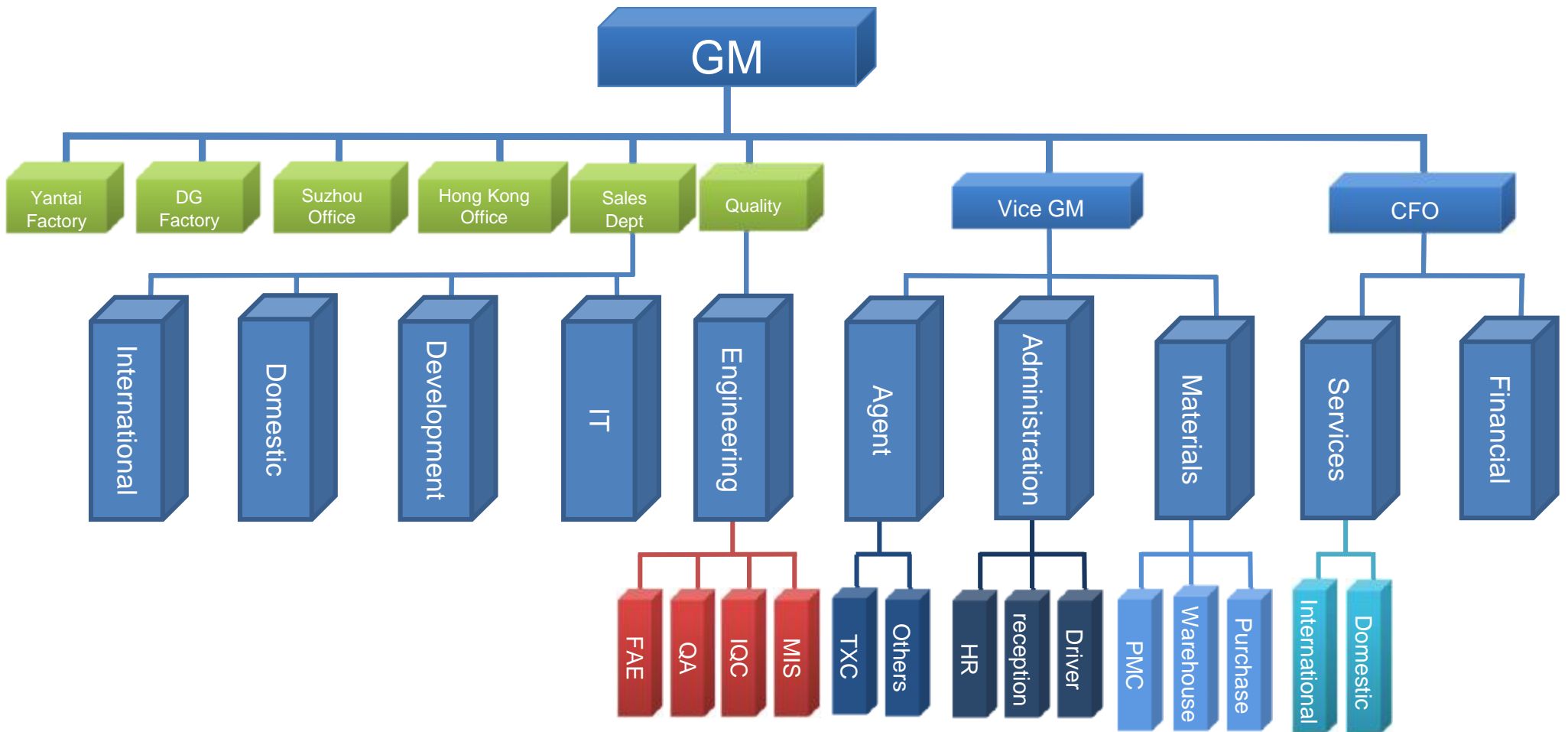
Just-in-time Service

Key-cost Offering





Organization Structure



Satisfaction Quality

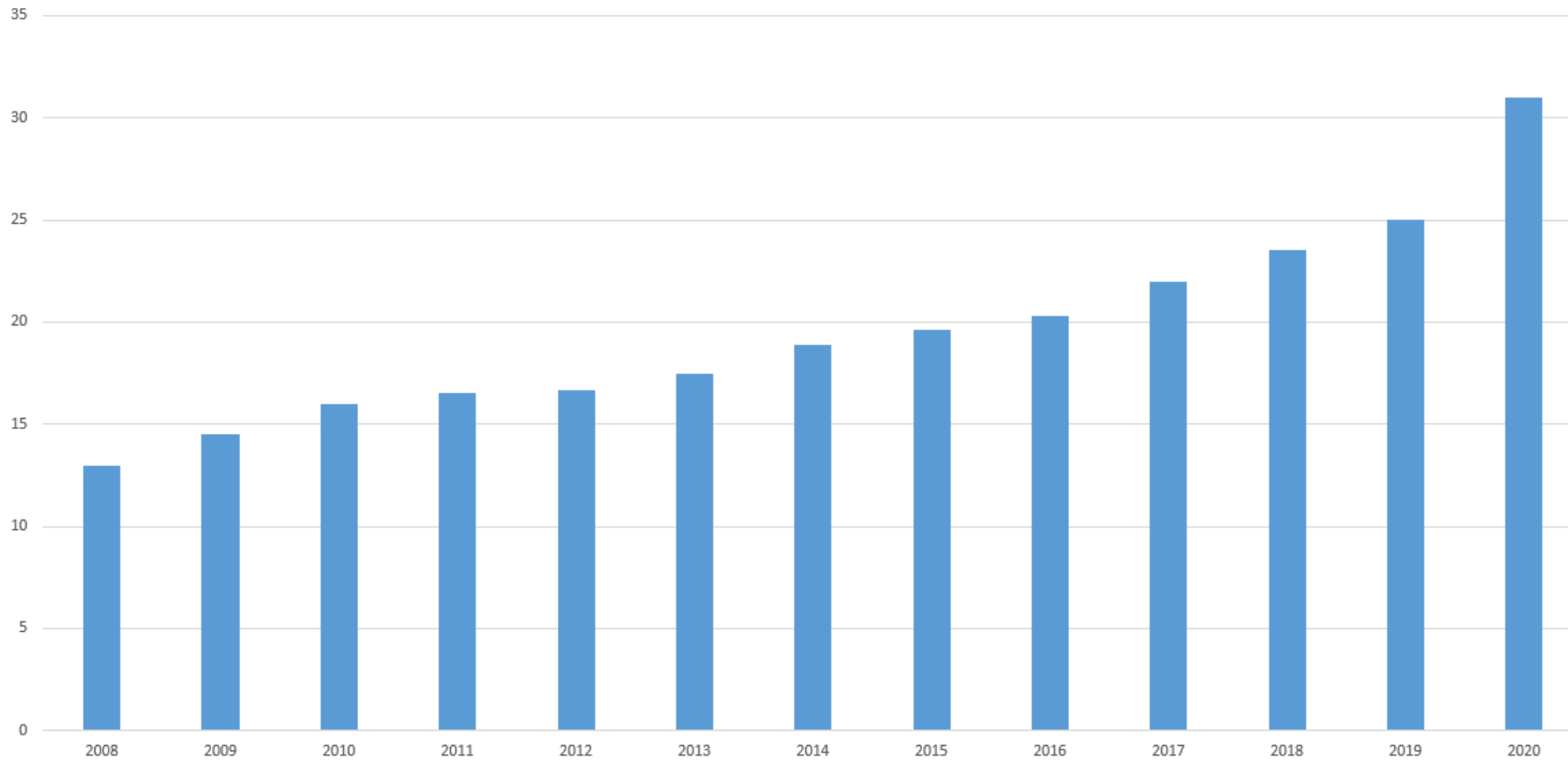
Just-in-time Service

Key-cost Offering



Turnover

USD (M\$)



Satisfaction Quality

Just-in-time Service

Key-cost Offering





SMD Factory



Satisfaction Quality *Just-in-time Service* *Key-cost Offering*





Workshop



10K Cleaning room



Plating and Welding



SMD Automation



Aging



Testing



Auto-taping

Satisfaction Quality Just-in-time Service Key-cost Offering



Equipment



Welding



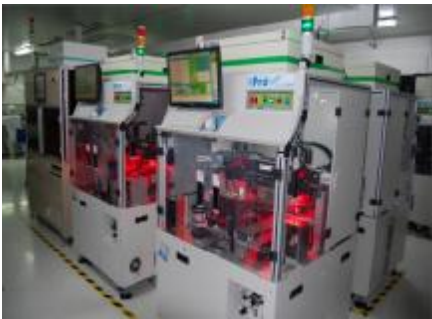
Mounting



Sealing



Frequency Adjusting



Auto-fixing



Leak Test



Final Test

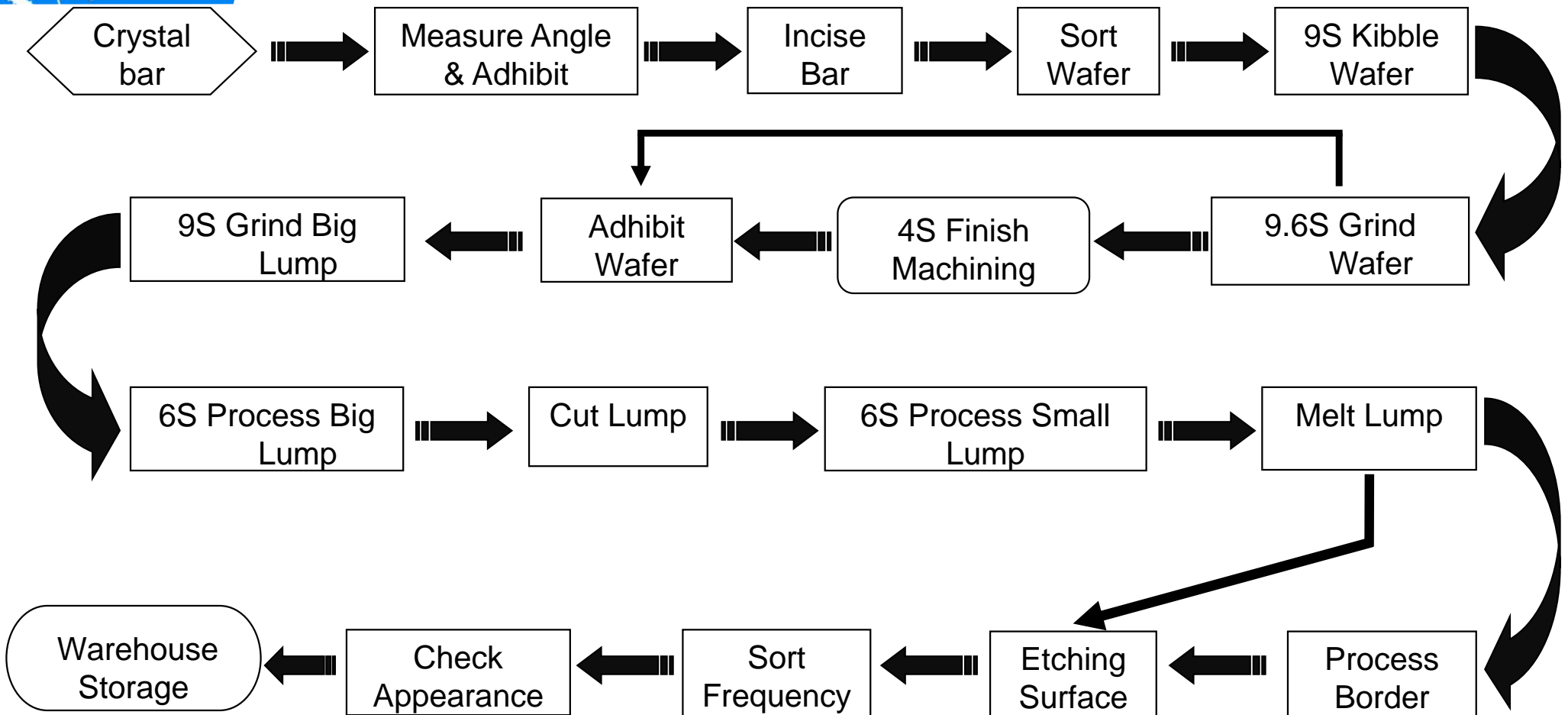


SMD Tape

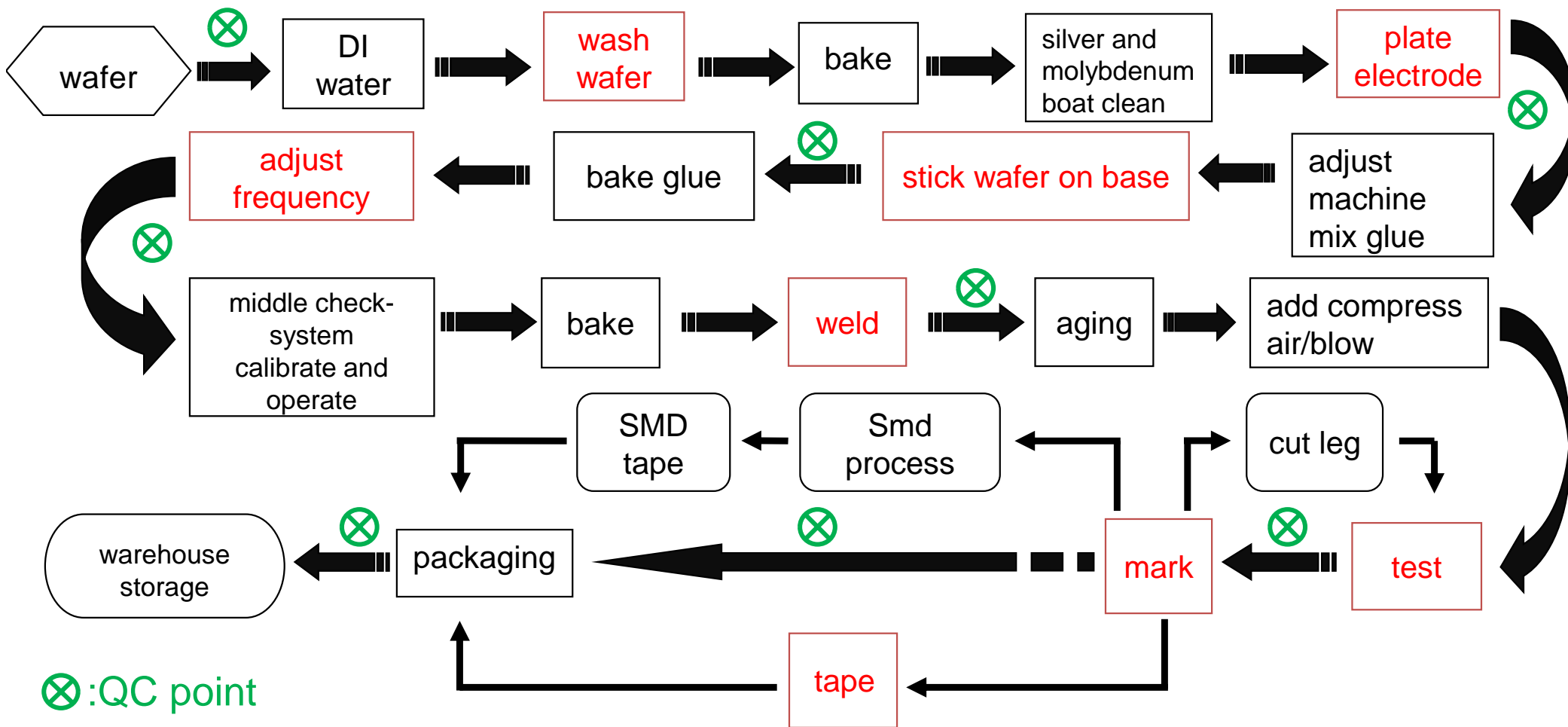




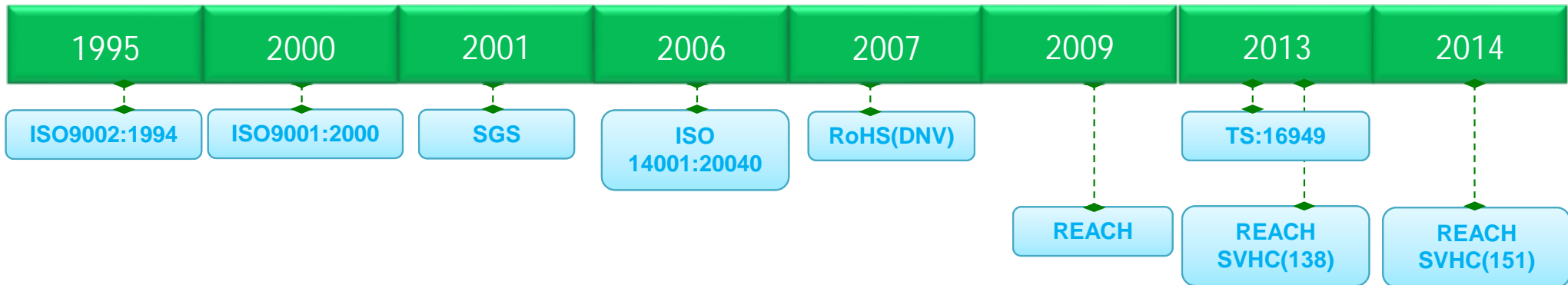
Blank Flow Chart



X'TAL Process

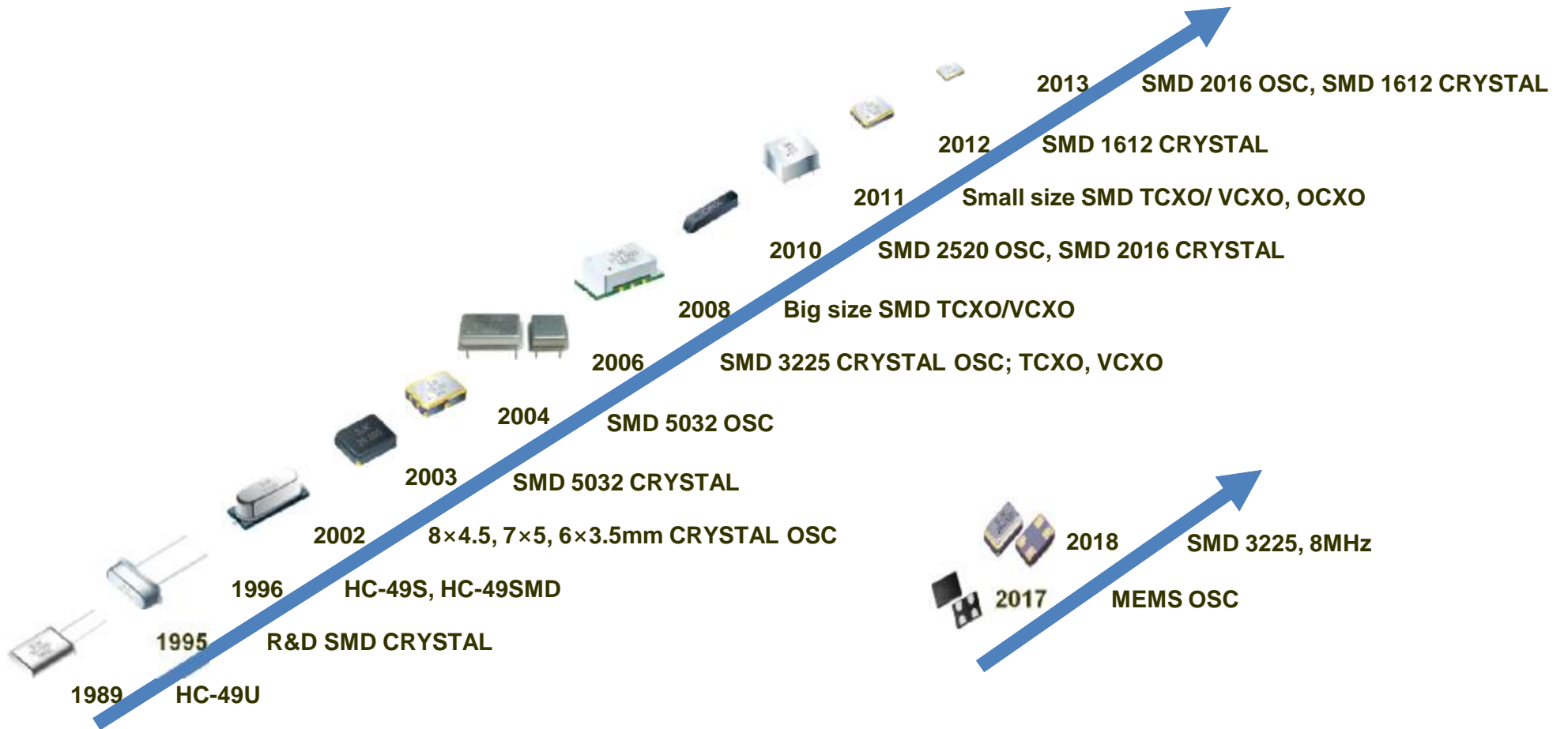


Certificates





Product Development



Satisfaction Quality






Just-in-time Service

Key-cost Offering



Clock Crystals (32.768kHz)






kHz Crystals (Molded/Seam seal)

kHz Crystal	Product Series	Frequency Range	Features	Oscillation
	6LC (8.0×3.8×2.5mm)	32.768kHz (30~350kHz)	±10ppm / ±20ppm at 25°C	Tuning Fork
	7M (7.0×1.5×1.4mm)			
	6LB (2×6mm)			
	6K (2×6 / 3×8 mm)			
	7L (3.2×1.5×0.75mm)			
	7R (2.0×1.2×0.6mm)			
	7K (1.6×1.0×0.5mm)			






Quartz Crystals

DIP Crystal	Product Series	Frequency Range	Features	Oscillation
	6K6 /6K8 (3×8 /3×9)	3.579 ~ 50MHz	2 Leads	Fundamental
	6A (HC-49U)	1.843 ~ 150MHz	2 Leads	Fundamental 3 rd Overtone
	6B (HC-49S)	3~ 100MHz	2 Leads	
	6C (HC-49S SMD)	3~ 100MHz	2 Flatted Leads	
	6D (UM-1/UM-5)	3~ 100MHz	2 Leads	Fundamental 3 rd / 5 th / 7 th


MHz Crystals (Glass Seal)

Glass Seam Crystal	Product Series	Frequency Range	Features	Oscillation
	6H (8.0×4.5×1.5mm)	8 ~ 80MHz	±10ppm~±50ppm -20~70°C 2 Pads	Fundamental
	6I (5.0×3.2×1.2mm)	8 ~ 54MHz	±10ppm~±30ppm -20~70°C 2 Pads	
	7V (3.2×2.5×0.8mm)	10 ~ 54MHz	±10ppm~±30ppm -20~70°C 4 Pads	
	7I (2.5×2.0×0.75mm)	12 ~ 64MHz		




Satisfaction Quality Just-in-time Service Key-cost Offering




SMD Quartz Crystal

Seam Seal Crystal (MHz)	Product Series	Frequency Range	Features	Oscillation
	6F (7.0×5.0×1.0mm)	6 ~ 110MHz	±10ppm~±50ppm -20~70°C / -40~85°C	Fundamental 3 rd Overtone
	6G (6.0×3.5×1.0mm)	8 ~ 80MHz	±10ppm~±30ppm -20~70°C / -40~85°C	
	7I (5.0×3.2×0.9mm)	8 ~ 125MHz	±10ppm~±30ppm -20~70°C / -40~85°C	
	6U (4.0×2.5×0.7mm)	12 ~ 48MHz	±10ppm~±30ppm -20~70°C / -40~85°C	Fundamental
	7U (3.2×2.5×0.7mm)	10~ 64MHz		
	7E (2.5×2.0×0.55mm)	12 ~ 54MHz	±10ppm~±30ppm -20~70°C / -40~85°C	
	7F (2.0×1.6×0.5mm)	16 ~ 54MHz	±10ppm~±30ppm -20~70°C / -40~85°C	
	7Y (1.6×1.2×0.35mm)	24 ~ 54MHz		
	7S (1.2×1.0×0.3mm)	36 ~ 54MHz	±15ppm~±30ppm -20~70°C / -40~85°C	

Crystal Oscillators (CMOS)


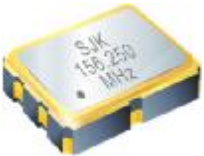
CXO	Product Series	Frequency Range	Features	Oscillation
	6F (14.0×9.0×5.4mm)	6 ~ 110MHz	±25ppm~±50ppm -20~70°C / -40~85°C 1.8V~5.0V < 0.35ps	Fundamental 3 rd Overtone
	6MF (20.4×13.1×5.3mm) 6MH (12.9×12.9×5.3mm)	0.25 ~ 180MHz		
	6N (7.0×5.0×1.3mm)	1 ~ 170MHz		
	7N (5.0×3.2×1.2mm)	1 ~ 150MHz		
	3N (3.2×2.5×1.0mm)	1 ~ 125MHz		
	2N (2.5×2.0×0.8mm)	4 ~ 75MHz		
	1N (2.0×1.6×0.75mm)	4 ~ 54MHz		Fundamental

High Stability Oscillators

HSO	Product Series	Frequency Range	Features	Output Type
	9H (7.0×5.0×0.9mm)	1 ~ 150MHz	±20ppm~±50ppm -20~70°C / -40~85°C 1.8V~5.0V < 0.35ps	CMOS
	9G (5.0×3.2×0.75mm)	1 ~ 150MHz		






Crystal Oscillator (Diff Output)

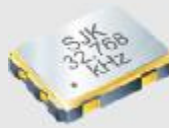
Oscillator	Products Series	Frequency Range	Output Type	Features	Oscillation
	9E (14.0 x 9.0 x 5.4 mm)	25~700MHz	LVPECL LVDS	±25ppm / ±50ppm -40 ~ 85°C 2.5 ~ 3.3V	Fundamental 3 rd Overtone PLL
	6P (7.0 x 5.0 x 1.3 mm)	25~200MHz	LVPECL		3 rd Overtone
	6P (7.0 x 5.0 x 1.3 mm)	25~700MHz			PLL
	6D (7.0 x 5.0 x 1.3 mm)	25~200MHz	LVDS		Fundamental
	6D (7.0 x 5.0 x 1.3 mm)	25~700MHz			PLL
	6H (7.0 x 5.0 x 1.3 mm)	25~200MHz	HCSL		3 rd Overtone
	7P (5.0 x 3.2 x 1.2 mm)	25~200MHz	LVPECL		Fundamental 3 rd Overtone
	7D (5.0 x 3.2 x 1.2 mm)	25~200MHz	LVDS		Fundamental 3 rd Overtone
	7H (5.0 x 3.2 x 1.2 mm)	25~200MHz	HCSL		3 rd Overtone
	3D (3.2 x 2.5 x 0.95 mm)	25~200MHz	LVDS		Fundamental 3 rd Overtone
	3P (3.2 x 2.5 x 0.95 mm)	25~200MHz	LVPECL		Fundamental 3 rd Overtone
	3H (3.2 x 2.5 x 0.95 mm)	25~200MHz	HCSL		3 rd Overtone

Satisfaction Quality Just-in-time Service Key-cost Offering



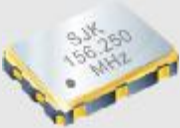

TCXO & RTC Oscillators



TCXO	Product Series	Frequency Range	Features	Oscillation
	6T (20.8×13.2×(8~10)mm)	10~ 40MHz	±0.5ppm / ±5.0ppm	Fundamental
	7T (3.2×2.5×1.3mm)	13 ~ 52MHz	±0.5ppm / ±2.0ppm -30 ~ 85°C 1.8 ~ 3.3V	Fundamental
	7W (2.5×2.0×0.8mm)			
	7X (2.0×1.6×0.75mm)	26 ~ 52MHz		
	8X (1.6×1.2×0.6mm)			
	9H (7.0×5.0×2.0mm)	10~ 52MHz	±0.1ppm ~ ±0.28ppm -40 ~ 85°C 2.7 ~ 5.5V	Fundamental
	9J (7.0×5.0×2.0mm)			
	9G (5.0×3.2×1.5mm)			

32.768kHz Crystal Oscillators


RTC OSC	Product Series	Frequency Range	Feature	Oscillation
	9A (7.0×5.0×1.3mm)	32.768 kHz	±20ppm ~ ±50ppm -40 ~ 85°C 1.8 ~ 3.3V	Fundamental
	9B (5.0×3.2×1.2mm)			
	9C (3.2×2.5×1.0mm)			
	9D (2.5×2.0×0.9mm)			

VCXO (Diff Output)









VCXO	Product Series	Frequency Range	Output Type	Features	Oscillator
	6RF (20.4×13.1×5.3mm) 6RH (12.9×12.9×5.3mm)	1 ~ 80MHz	CMOS	±25ppm / ±50ppm -20 ~ 70°C 3.3~ 5.0V	Fundamental
	9F (14.0×9.0×5.4mm)	50~700MHz	CMOS LVDS LVPECL		
	6S (7.0×5.0×1.6mm)	1 ~ 200MHz	CMOS	APR ±50ppm -40 ~ 85°C 3.3V	Fundamental
	8M (7.0×5.0×1.3mm)	200~700MHz	LVPECL		Multiplier
	8S (5.0×3.2×1.2mm)	50~200MHz	CMOS		Fundamental
	8A (3.2×2.5×0.95mm)	50~200MHz	CMOS		Fundamental
	8L (7.0×5.0×1.3mm)	50~200MHz	LVPECL LVDS		Fundamental
	8P (7.0×5.0×1.3mm)	60~700MHz			PLL
	8D (5.0×3.2×1.2mm)	50~200MHz			Fundamental
	8B (3.2×2.5×0.95mm)	50~200MHz			Fundamental

OCXO	Product Series	Frequency Range	Features	Oscillation
	9K (36.3×27.2×12.7mm)	5~100MHz	±5ppb	SC-CUT AT-CUT
	9L (25.4×25.4×12.7mm)	5~100MHz	±10ppb	
	9M (20.6×20.6×11.0mm)	5~40MHz	±100ppb	
	9N (20.3×12.7×11.0mm)	5~40MHz	±100ppb	
	9P (14.3×9.3×6.0mm) (25.4×22.1×11.0mm)	5~40MHz	±100ppb	











Programmable Crystal Oscillators

PXO	Product Series	Frequency Range	Feature	Oscillation
	6X (3.2×2.5×1.0mm)	1~200MHz	±5ppb	Fundamental
	6Y (2.5×2.0×0.9mm)	1~200MHz	±10ppb	







Ceramic Resonators

Ceramic	Product Series	Frequency Range	Features	Package
	ZTA Series	1.8~50MHz	Ceramic Resonator 2 Pads -20~+80°C ±0.3%	DIP /SMD
	ZTT Series	1.8~50MHz	Ceramic Resonator 3 Pads -20~+80°C ±0.3%	DIP /SMD
	ZTB Series	190~1250kHz	Ceramic Resonator 2 Pads ±0.3%	DIP
	LT10.7 Series	10.7MHz	Ceramic Filter 3 Pads	DIP
	LT4.5 Series	4.5MHz	Ceramic Filter 3 Pads	DIP
	LT450 Series	450kHz	Ceramic Filter 3 Pads /5 Pads	DIP
	LT455 Series	455kHz	Ceramic Filter 3 Pads /5 Pads	DIP
	XT Series	3.58~6.5MHz	Ceramic Trap 3 Pads /2Pads	DIP

SAW Device

SAW Device	Product Series	Frequency Range	Features	Package
	TO-39 (9×9×3.5mm)	30~2400MHz (Resonator) 50~1600MHz (Filter)	3 Pads -30~+85°C	DIP
	F-11 (11×4.5×4.0mm)	30~2400MHz (Resonator) 50~1600MHz (Filter)	3 Pads -30~+85°C	DIP
	QCC2A (7.5×3.5×2.0mm)	30~2400MHz (Resonator) 50~1600MHz (Filter)	2 Pads -30~+85°C	SMD
	SMP-03 (7.0×5.0×1.5mm)	30~2400MHz (Resonator) 50~1600MHz (Filter)	10 Pads -30~+85°C	SMD
	QCC4A (5.0×3.5×1.4mm)	30~2400MHz (Resonator) 50~1600MHz (Filter)	4 Pads -30~+85°C	SMD
	QCC8C (5.0×5.0×1.35mm)	30~2400MHz (Resonator) 50~1600MHz (Filter)	8 Pads -30~+85°C	SMD
	QCC8B (3.8×3.8×1.5mm)	30~2400MHz (Resonator) 50~1600MHz (Filter)	8 Pads -30~+85°C	SMD
	QCC8D (3.0×3.0×1.1mm)	30~2400MHz (Resonator) 50~1600MHz (Filter)	8 Pads -30~+85°C	SMD
	DCC6 (3.8×3.8×1.2mm)	30~2400MHz (Resonator) 50~1600MHz (Filter)	6 Pads -30~+85°C	SMD
	DCC6C (3×3×1.3mm)	30~2400MHz (Resonator) 50~1600MHz (Filter)	6 Pads -30~+85°C	SMD

Monolithic Crystal Filters

Crystal Filter	Product Series	Frequency Range	Features	Package
	7D (HC-49U/49T)	10.7~45MHz	Fundamental 3 rd Overtone -20~+70°C 2 / 4 Pole	DIP
	7D (UM-1/UM-5)	10.7~45MHz		DIP
	FK75 (7.0×5.0×1.3 mm)	20~160MHz	Fundamental 3 rd Overtone -20~+70°C 2 / 4 Pole	SMD
	FK44 (3.8×3.8×0.9 mm)	45~160MHz		SMD
	FK33 (3.0×3.0×0.9 mm)	45~160MHz		SMD
	FK22 (2.5×2.0×0.9 mm)	100~130MHz	Fundamental -20~+70°C 2 / 4 Pole	SMD



32.768 kHz XO



32.768 kHz TXCO



1 Hz to 1 MHz XO/TCXO



Micro power Oscillator



Low Power Oscillator



Ultra Performance Oscillator



Differential Oscillator



High Temperature Oscillator



Automotive



Clock Generator



VCXO



DCXO



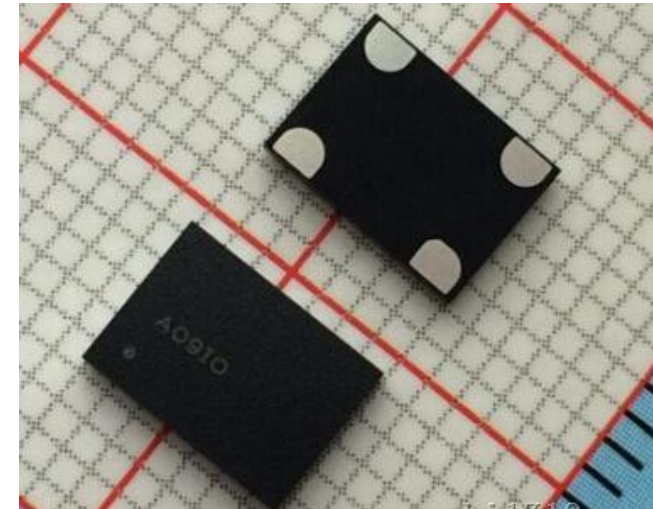
VCTCXO



Spread Spectrum



Field Programmable Oscillator





Applications



Wearable

Bluetooth, clock ref, TWS



Medical

Oximeter, respirator



Consumer electronics

Remote, freezer, oven



Automotive

ADAS, RKE, CAN bus



Smart city

ETC, POS, RFID



Shenzhen Crystal Technology Industrial Co., Ltd



Security

Fire alarm, IP webcam



Smart Home

Thermostat, AC, smoke det.



Computer

Ethernet, USB, UART, WIFI



Satellite

RTC, GPS clock ref



Communication

4/5G, Fiber optics

Satisfaction Quality

Just-in-time Service

Key-cost Offering



Main Customers

Haier 海尔

SIEMENS

Honeywell

FLEXTRONICS

Tenda

美的 **Midea**

HSAE 航盛

BYD
比亚迪股份有限公司

Skyworth 创维

VIEW LIMITED

KENWOOD
Listen to the Future

Longhorn

EATON
Powering Business Worldwide

APC
by Schneider Electric

Voltronic Power
Advancing Power

SANMINA-SCI

Lutuo

Panasonic

yuwell 鱼跃

JABIL

JINGGE
ELECTRONIC 精微电子

SIGLENT

RIGOL
Possibilities and More

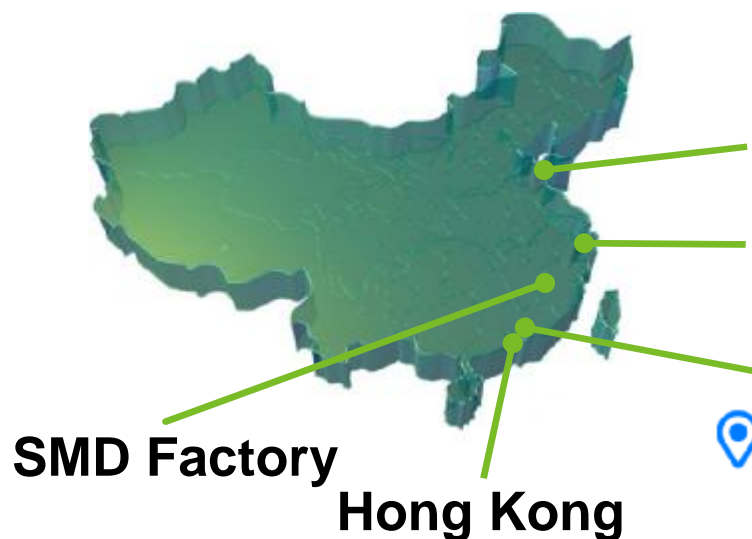
华北工控
NORCO

Satisfaction Quality

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