Содержание

Freq

http://mxtal.ru/ru/	ООО «Мэджик Кристалл»		Омск	
https://bmgplus.ru/	НПФ «БМГ ПЛЮС»		Москва	
https://morion.com.ru/	Морион		СПб	
https://www5.epsondevice.com/en/	EPSON			XTAL, RTC, TXCO, OXCO
https://www.electronshik.ru/item/YXC	YXC			
https://www.sztkd.com/index.html	TKD			XTAL, RTC, TXCO, OXCO
https://www.chinafronter.com/	chinafronter			XTAL, TXCO, OXCO, etc
https://www.microcrystal.com/	Micro Crystal			XTAL, RTC, TXCO, OXCO
https://www.xtalong.com/	xtalong			XTAL, XCO, TXCO
http://www.conwin.com/	Connor Winfield			OCXO, ...
http://www.abracon.com/	Abracon			OCXO, ...
	Vectron			OCXO, ...
	NDK			OCXO, ...
https://www.dptel.com/	DAPU			OCXO, ...
https://www.q-crystal.com	SJK			XCO, ...
http://www.hci.com.hk/en/	HCI			XCO, ...
https://www.jackson-labs.com/	jackson-labs			GPSDO, timing modules
https://www.crystek.com/	Crystek			VCO, CXO, XTAL, ...

SIN	Sinus	Синусоидальный
CSIN	Clipped Sinus	Ограниченный Синус
CMOS		
LVCMOS		
LVDS		
HCSL		
PECL		
LVPECL		

XTAL

32 KHz	-40...+85	3.2×1.5	YXC	https://www.electronshik.ru/item/YXC/X321532768KGD2SI	~ 10p	ABS07-32.768KHZ-T
25 MHz	-40...+85	3.2×2.5	YXC	https://www.electronshik.ru/item/YXC/X322525MOB4SI	~5p	

XCO

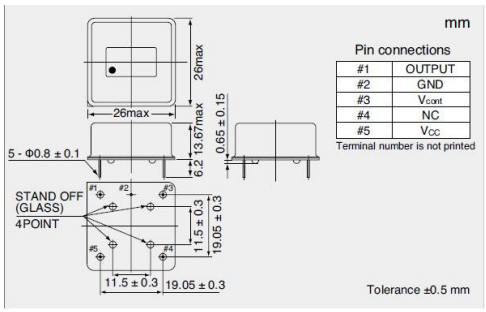
OCXO\VCOCXO

http://www.conwin.com/datasheets/cx/cx309.pdf	Connor-Winfield
https://www.dptel.com/Products/ProductLevel3/126	DAPU

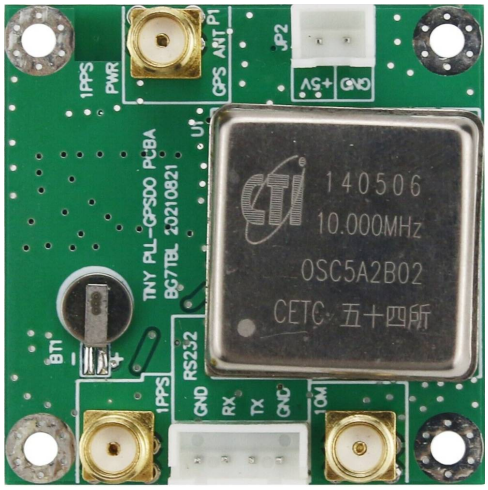
https://www.yic.com.tw/en/products-en/ocxo/	YIC

Abracon	AOC1409	?OCXO			14.9×9.7×7					O11H/F (DAPU)
Abracon	AOC2012	?OCXO			20×12.7×11					
Abracon	AOC2522	?OCXO			25.4x22x12					O22S (DAPU)
Abracon	AOCJY	?OCXO			25.5×22.1×12.5					
Abracon	AOCJYR	?OCXO			9.7×7.5×4.3					O97A (DAPU)
Abracon	AOCJY2	?OCXO			21x21x11					OX21215 (YIC)
Abracon	AOCJY3	?OCXO			25.4×25.4×13					O22B (DAPU) OX25255 (YIC)
Connor-Winfield	OH100	?OCXO								
Connor-Winfield	OH200	?OCXO								
Connor-Winfield	OH300	?OCXO								O225 (DAPU)
Connor-Winfield	OH320	?OCXO								O225 (DAPU)
Connor-Winfield	DOC	?OCXO								
TKD	TOC-2525	?OCXO			25x25x14.8			10M...100M		
TKD	TOC-1409	?OCXO			14x9x6.5			10M...40M		
TKD	TOC-0907	?OCXO			9x7x4.1			10M...40M		
DAPU	O55A	?OCXO			50.8×50.8×19			10M	±0.01ppb	
DAPU	O23B	?OCXO			36x27x12.7			10M	±0.1ppb	
DAPU	O22B	?OCXO			25.4×25.4×12.7			10M\100M	±0.5/10ppb	
DAPU	O22S	?OCXO			25x22x12			10M	±0.5ppb	
DAPU	O11H/F	?OCXO			14.4×9.5×6.5			10M...48M	±0.5/5ppb	
DAPU	O97A	?OCXO			9.7×7.5×3.8			10M...48M	±3/10ppb	
DAPU	O75A	?OCXO			7.5×5.5×3.3			10M...48M	±10/20ppb	
YIC	OX14106	OCXO	CMOS	-40...85	14.4×9.5×8	6	SMD	5M...40M	±5/50ppb	
YIC	OX10084	OCXO	CMOS/CSIN	-40...85	9.7×7.5×3.9	4	SMD	5M...40M	±10/50ppb	
YIC	VOX14106	VCOCXO	CMOS	-40...85	14.4×9.5×8	6	SMD	5M...40M	±5/50ppb	
YIC	VOX10084	VCOCXO	CMOS/CSIN	-40...85	9.7×7.5×3.9	4	SMD	5M...40M	±10/50ppb	
YIC	OX20134	OCXO	CMOS/SIN	-40...85	20.3×12.7×11	4	DIP	5M...40M	±0.05/0.5ppb	
YIC	OX21215	OCXO	CMOS/SIN	-40...85	20.6×20.6×11	5	DIP	5M...40M	±0.05/0.5ppb	
YIC	OX25255	OCXO	CMOS/SIN	-40...85	25.4×25.4×12.7	5	DIP	5M...40M	±0.05/0.5ppb	
YIC	OX36275	OCXO	CMOS/SIN	-40...85	36.3×27.2×12.7	5	DIP	5M...40M	±0.05/0.5ppb	
YIC	OX51515	OCXO	CMOS/SIN	-40...85	50.8×50.8×15	5	DIP	5M...10M	±0.05/0.5ppb	
YIC	VOX20134	VCOCXO	CMOS/SIN	-40...85	20.3×12.7×11	4	DIP	5M...40M	±0.05/0.5ppb	
YIC	VOX21215	VCOCXO	CMOS/SIN	-40...85	20.6×20.6×11	5	DIP	5M...40M	±0.05/0.5ppb	
YIC	VOX25255	VCOCXO	CMOS/SIN	-40...85	25.4×25.4×12.7	5	DIP	5M...40M	±0.05/0.5ppb	
YIC	VOX36275	VCOCXO	CMOS/SIN	-40...85	36.3×27.2×12.7	5	DIP	5M...40M	±0.05/0.5ppb	
YIC	VOX51515	VCOCXO	CMOS/SIN	-40...85	50.8×50.8×15	5	DIP	5M...10M	±0.05/0.5ppb	

NDK ENE3311A



CTS OSC5A2B02



EBAY: **PCBA GPSDO Board GPS Disciplined Oscillator 10M Frequency Reference GNSS 1PPS**

XCO diff

https://www.q-crystal.com/home/index/product/eng/Oscillator-%28Differential%29/f_eng/CrystalOscillator.html	SJK		XCO DIFF, ...
https://www.sztkd.com/index.html	TKD		XTAL, RTC, TXCO, OXCO
http://www.abracon.com/	Abracon		XCO DIFF, ...

p\n	datasheet	Mfg	Output	freq	jitter
	link	TKD	LVDS\HCSL\LVPECL	1-125 MHz	0.1ps
AX3DAF1-122.8800		Abracon	LVDS	122.88 MHz	0.14ps
SJK-3D-122.880-3.3-30-C		SJK	LVDS	122.88 MHz	1ps

RTC

RTC

CLK BUF\MUX

link	ext	description	manufacturer	version	date	lang
PI6C485352.pdf	pdf	**PI6C485352** 2.5/3.3V, 500MHz 12 2-to-1 diff LVPECL clock MUX	PERICOM	Rev. A	2013.01	EN

CLK GEN

Diodes						
link	**ext**	**description**	**manufacturer**	**version**	**date**	**lang**
Diodes_Inc.-PI6CG184Q2ZHQEX-datasheet.pdf	pdf	**PI6CG184Q** 4-Output PCIe Gen 4 Clock Generator for Automotive Applications Diodes	Diodes	rev 2-2	2020.02	EN
Diodes_Inc.-PI6CG18401ZHIEX-datasheet.pdf	pdf	**PI6CG18401** Very Low Power 4-Output PCIe Clock Generator With On-chip Termination	Diodes	rev 2-2	2020.06	EN
PI6CG18401.pdf	pdf	**PI6CG18401** Very Low Power 4-Output PCIe Clock Generator With On-chip Termination Diodes	Diodes	rev 3-2	2022.01	EN

Clock Module

https://www.dptel.com/Products/ProductLevel3/2	DAPU

built in	P\N	sync acc	Hold	Freq Tol	Phase Noise	Temp	Dim
TCXO	CM11T	±50ns	±5us/1H ±2°C	±50ppb	-138	-40...105	10x10x2.2
OCXO	CM55	±30ns	±1.5us/24H ±15°C	±0.1ppb	-155	-40...85	51x51x13
OCXO	CM22	±50ns	±1.5us/8H ±10°C	±0.3ppb	-155	-40...85	20.2×20.2×9
OCXO	CM11H	±50ns	±80us/24H ±40°C	±0.5ppb	-160	-40...85	14.4×9.5×7
OCXO+GNSS	CM66	±30ns	±1.5us/24H ±15°C	±0.1ppb	-155	-40...85	60x60x13
OCXO+1588	CM35P	±50ns	±1.5us/8H ±5°C				

Jitter Attenuator

Si5344D	Silabs	Jitter Attenuator

Timing Server

https://www.dptel.com/Products/ProductLevel3/5	DAPU

GPSDO

https://www.jackson-labs.com/index.php/products/firefly_1a	jackson labs	GPSDO	firefly-1a

IEEE1588v3 Chip

https://www.dptel.com/Products/ProductLevel3/3	DAPU	
82P33831	IDT	SyncE & 1588V2 Ethernet Packet Clock Network Synchronizer
AU5508	Aurasemi	1588 Network Sync

Network Interface Clock Nominals

Table 2.1. Reference Clock Frequencies and Jitter Specifications

Protocol/ System	Clock frequency (MHz)	Jitter specification (fs)
10GbE/40GbE	161.1328125	350
	322.265625	350
	257.8125	350
SerDes reference clocks	125	350
	150	350
	156.25	350
	312.5	350
PCIe	100	500
System reference clocks	100	5000
	125	5000
	133.33	5000
	266.67	5000

Line and Reference Clock Rate

OTN	Line Rates (Gbps)	Typical Reference Clock Rates (MHz)	
OTU2	10.709	669.31	167.33
OTU2e	11.095	693.44	173.36
OTU1e	11.049	690.56	172.64
OTU2f	11.317	707.31	176.83
OTU1f	11.27	704.38	176.09
OTU3	43.018	2688.63	672.16
OTU4	111.809		1747.02
OTU4v	127.156		1986.82

SONET/SDH			
STS-192/STM-64	9.95328	622.08	155.52
STS-768/STM-256	39.81312	2488.32	622.08

Ethernet			
10GE LAN	10.3125		156.25
10GE WAN	9.95328	622.08	155.52
XAUI (4 x 3.125G)	3.125		156.25
40GE (4 x 10G)	10.3125		156.25
100GE (4 x 25G)	25.78125	805.66	156.25

Fibre Channel (FC)			
10GFC	10.52		164.38
16GFC	14.025		212.5
32GFC	28.5		425

156.25 = 625/4