IQD

FREQUENCY PRODUCTS SELECTION GUIDE

Watch Crystals (kHz)
Quartz Crystals (MHz)
Clock Oscillators (kHz)
Clock Oscillators (MHz)
VCXOs
TCXOs/VCTCXOs
OCXOs
Disciplined OCXOs
Rubidium Oscillators
Crystals & Oscillators compliant with AEC-Q200
Technical Support Services

EST. 1973

Quality, Compliance & Environmental Management

Certificate No: FS 566088, EMS 765746

Quality Policy

IQD is committed to providing competitive, high quality, cutting edge frequency products to support our existing and expanding customer base, backed by world class service and technical support.

Maintaining a fully integrated Quality and Environmental management system certified to ISO 9001:2015 and ISO 14001:2015 across our entire organisation ensures that we not only satisfy our customers' requirements, but routinely exceed expectations.

Highly skilled, dedicated personnel drive our strategy for continual improvement throughout the organisation, providing us with opportunities to expand our market share and invest in developing technologies, keeping IQD at the forefront of the increasingly competitive and rapidly evolving frequency products market.

Automotive

The global automotive industry demands stringent levels of product quality and service as well as continual improvement. To meet these expectations, suppliers to the industry must adhere to the requirements laid out in the quality management standard IATF 16949:2016.

IQD's automotive manufacturing sites are accredited to IATF 16949:2016 and as such can, if requested, supply automotive frequency control products with full PPAP documentation to the appropriate level, as stipulated by the customer. These products are qualified against the reliability testing requirements of AEC Q-200, which is the stress test qualification standard for passive components.

Compliance – RoHS

Restriction of Hazardous Substances (2015/863EU) (RoHS) & UK SI 2012 No. 3032.
IQD part numbers prefixed with 'LF' comply with both the EU directive on RoHS and the UK statutory instrument.
Please note that some products do contain restricted chemicals which are covered by exemption.

Compliance – REACH

Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) EC 1907/2006 & UK REACH.
IQD complies with both the EU directive on REACH and the UK REACH enacted into law on 1 January 2021.
Please note that some products do contain SVHCs >0.1%w/w notifiable down the supply chain.
Other Compliance Obligations include: **Conflict Minerals, China RoHS, TSCA and CA Prop 65.**

EcoVadis

IQD has achieved Gold Medal status with EcoVadis, placing us among the top 5% of companies worldwide for sustainable business practices. This recognition underscores our commitment to continuous improvement and highlights the strength of our sustainability practices to customers and partners.

The EcoVadis assessment measures performance across 21 sustainability criteria within four key areas: Environment, Labour & Human Rights, Ethics, and Sustainable Procurement.

For further information regarding our Quality, Compliance & Environmental policies and product status, please contact our QA department at quality@IQDfreqencyproducts.com

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Technical Support Services

IQD has been a recognised market leader in the frequency products market since 1973. The company has invested in its design and technical measurement capabilities at its head office in the UK, which also acts as the centre of excellence for frequency products within the **Würth Elektronik eiSos Group**. This service, combined with excellent product quality and reliability, makes IQD the best choice for your frequency product and timing requirements.

With active customers in over 80 countries, IQD offers one of the most comprehensive frequency product ranges available; from low cost commercial grade timing devices to those used in high reliability industrial and extended temperature applications including: Quartz Crystals, Clock Oscillators, Crystals & Oscillators compliant to AEC Q-200 standards, VCXOs, TCXOs, VCTCXOs, OCXOs, GPS Disciplined OCXOs and Rubidium Oscillators.

In addition, IQD offers customers a range of **engineering support services** including: application support, custom product design, sample development, electrical testing & screening, frequency/temperature testing, accelerated ageing, circuit characterisation and MTIE/TDEV testing. See our **website** or the back page of this guide for a full list of technical support services.

IQD's products are specified by leading manufacturers in the aerospace, communications, computing, consumer and industrial industries throughout the world. The full range of products is available direct through sales offices or via an extensive worldwide distribution network.

AEO Certified

IQD Frequency Products Ltd has been awarded Authorised Economic Operator (AEO) status by HMRC. AEO certification demonstrates that IQD's role within the international supply chain is secure and that the customs controls and procedures are efficient and compliant.

Quartz Crystals

Products stocked at Würth Elektronik are highlighted in blue

Surface Mount

Model	Package	Frequency Range	Frequency Tolerance (Tightest)	Frequency Stability (Tightest)	Operating Temperature Range (Widest)	Key Feature
IQXC-240	1.2 x 1.0 mm	32 to 80 MHz	±7 ppm	±10 ppm	–40 to 85 °C	Miniature package
IQXC-26	1.6 x 1.2 mm	24 to 80 MHz	±10 ppm	±10 ppm	–40 to 85 °C	Industry standard 4 Pad
IQXC-42	2.0 x 1.6 mm	16 to 50 MHz	±10 ppm	±10 ppm	–40 to 125 °C	Industry standard 4 Pad
IQXC-153	2 .0 x 1.6 mm	20 to 200 MHz	±10 ppm	±10 ppm	–40 to 85 °C	High fundamental frequency
CFPX-218	2.5 x 2.0 mm	12 to 50 MHz	±10 ppm	±10 ppm	–40 to 85 °C	Industry standard 4 Pad
IQXC-152	2.5 x 2.0 mm	16 to 200 MHz	±10 ppm	±10 ppm	–40 to 85 °C	High fundamental frequency
CFPX-180	3.2 x 2.5 mm	10 to 200 MHz	±10 ppm	±10 ppm	–40 to 125 °C	Industry standard 4 Pad
IQXC-49	5.0 x 3.2 mm	8 to 125 MHz	±10 ppm	±10 ppm	–40 to 85 °C	Industry standard 2 Pad
CFPX-104	5.0 x 3.2 mm	8 to 133 MHz	±10 ppm	±10 ppm	–40 to 85 °C	Industry standard 4 Pad
12SMX	7.0 x 5.0 mm	6 to 84 MHz	±20 ppm	±20 ppm	–40 to 85 °C	Industry standard 2 & 4 Pad
HC49/4HSMX	13.4 x 4.9 mm	3.2 to 100 MHz	±10 ppm	±15 ppm	–55 to 105 °C	Industry standard metal can SMD

Through Hole

Model	Package	Frequency Range	Frequency Tolerance (Tightest)	Frequency Stability (Tightest)	Operating Temperature Range (Widest)	Key Feature
HC49	11.05 x 4.65 mm	1.8432 to 270 MHz	±5 ppm	±5 ppm	–55 to 125 °C	Industry standard metal can
HC49/4H	11.05 x 4.7 mm	3.2 to 100 MHz	±10 ppm	±15 ppm	–55 to 105 °C	Industry standard metal can

32.768 kHz

Model	Package	Frequency	Frequency Tolerance (Tightest)	Frequency Stability (Tightest)	Operating Temperature Range (Widest)	Key Feature	SMD
IQXC-146	1.2 x 1.0 mm	32.768 kHz	±20 ppm	–0.036 / °C²	–40 to 85 °C	Low height 0.5 mm	✓
IQXC-90	1.6 x 1.0 mm	32.768 kHz	±20 ppm	–0.036 / °C²	–40 to 85 °C	Low height 0.5 mm	✓
IQXC-25	2.0 x 1.2 mm	32.768 kHz	±10 ppm	–0.03 / °C²	–40 to 85 °C	Low height 0.6 mm	✓
CFPX-56	Ø 2.0 x 6.0 mm	32.768 kHz	±20 ppm	–0.034 / °C²	–40 to 85 °C	Pre-Formed legs for SMD	✓
Cylinder Watch	Ø 2.0 x 6.0 mm, Ø 3.0 x 8.0 mm	32.768 kHz	±10 ppm	–0.035 / °C²	–10 to 60 °C	Industry standard	
CFPX-217	3.2 x 1.5 mm	32.768 kHz	±10 ppm	–0.034 / °C²	–40 to 85 °C	Industry standard	✓
85SMX	8.7 x 3.8 mm	32.768 kHz	±10 ppm	–0.035 / °C²	–40 to 85 °C	Industry standard	✓
IQXC-217	3.2 x 1.5 mm	32.768 kHz	±20 ppm	–0.036 / °C²	–40 to 85 °C	Industry standard	✓

Clock Oscillators

Industry Standard (SMD)

Model	Package	Supply Voltage	Output Compatibility	Frequency Range	Frequency Stability (Tightest)	Operating Temperature Range (Widest)
IQXO-640 / 641 / 642	1.6 x 1.2 mm	1.8, 2.5, 3.3 V	CMOS	3 to 80 MHz	±30 ppm	–40 to 85 °C
IQXO-951 2016	2.0 x 1.6 mm	1.62 to 3.63 V	CMOS	2 to 50 MHz	±25 ppm	–40 to 125 °C
IQXO-540 / 541 / 542	2.0 x 1.6 mm	1.8, 2.5, 3.3 V	CMOS	1 to 80 MHz	±25 ppm	–40 to 85 °C
IQXO-406	2.0 x 1.6 mm	2.5, 3.3 V	LVDS	50 to 250 MHz	±50 ppm	–40 to 85 °C
IQXO-439	2.0 x 1.6 mm	2.5, 3.3 V	LVPECL	50 to 250 MHz	±50 ppm	–40 to 85 °C
IQXO-931	2.5 x 2.0 mm	2.5, 3.3 V	CMOS, LVPECL, LVDS	8 to 1500 MHz	±10 ppm	–40 to 85 °C
IQXO-951 2520	2.5 x 2.0 mm	1.62 to 3.63 V	CMOS	2 to 50 MHz	±25 ppm	–40 to 125 °C
IQXO-791 / 793 / 794	2.5 x 2.0 mm	1.8, 2.5, 3.3 V	CMOS	1 to 66 MHz	±20 ppm	–40 to 85 °C
IQXO-951 3225	3.2 x 2.5 mm	1.62 to 3.63 V	CMOS	1 to 54 MHz	±20 ppm	–40 to 125 °C
CFPS-39 / 40 / 41	3.2 x 2.5 mm	1.8, 2.5, 3.3 V	CMOS	2 to 125 MHz	±25 ppm	–40 to 85 °C
IQXO-740 / 741	3.2 x 2.5 mm	2.5, 3.3 V	LVDS	80 to 160 MHz	±20 ppm	–40 to 85 °C
CFPS-36	5.0 x 3.2 mm	1.8 V	CMOS	0.5 to 156 MHz	±20 ppm	–40 to 85 °C
CFPS-37	5.0 x 3.2 mm	2.5 V	CMOS	1.8 to 125 MHz	±25 ppm	–40 to 85 °C
CFPS-9	5.0 x 3.2 mm	3.3 V	CMOS	0.5 to 160 MHz	±25 ppm	–40 to 85 °C
CFPS-31 / 32	7.0 x 5.0 mm	1.8 V, 2.5 V	CMOS	0.5 to 156.25 MHz	±25 ppm	-40 to 85 °C
IQXO-620 / 621 / 660 / 661	7.0 x 5.0 mm	2.5, 3.3 V	LVDS/LVPECL	15 to 160 MHz	±25 ppm	–40 to 85 °C
CFPS-73	7.0 x 5.0 mm	3.3 V	CMOS	0.5 to 157 MHz	±20 ppm	–40 to 85 °C
CFPS-72	7.0 x 5.0 mm	5.0 V	CMOS/TTL	0.5 to 100 MHz	±25 ppm	–40 to 85 °C

Low Voltage (SMD)

Model	Package	Supply Voltage	Output Compatibility	Frequency Range	Frequency Stability (Tightest)	Operating Temperature Range (Widest)
IQXO-691 2520	2.5 x 2.0 mm	0.9, 1.2, 1.5 V	CMOS	10 to 50 MHz	±20ppm	–40 to 85 °C
IQXO-691 3225	3.2 x 2.5 mm	0.9, 1.2, 1.5 V	CMOS	10 to 50 MHz	±20 ppm	–40 to 85 °C
IQXO-691 5032	5.0 x 3.2 mm	0.9, 1.2, 1.5 V	CMOS	10 to 50 MHz	±20 ppm	–40 to 85 °C
IQXO-691 7050	7.0 x 5.0 mm	0.9, 1.2, 1.5 V	CMOS	10 to 50 MHz	±20 ppm	–40 to 85 °C

Clock Oscillators

Low Phase Noise/Low Jitter (SMD)

Model	Package	Supply Voltage	Output Compatibility	Frequency Range	Frequency Stability (Tightest)	Operating Temperature Range (Widest)	Phase Jitter (12 kHz to 20 MHz)
CFPS-112 / 113 / 114 / 115	2.5 x 2.0 mm	1.8, 2.5, 3.0, 3.3 V	CMOS	26 to 44 MHz	±30 ppm	–40 to 85 °C	0.25 ps typ
IQXO-408	2.5 x 2.0 mm	1.8, 2.5, 3.3 V	CMOS	20 to 50 MHz	±25 ppm	–40 to 85 °C	0.047 ps typ
IQXO-455	3.2 x 2.5 mm	1.8, 2.5, 3.3 V	CMOS	20 to 50 MHz	±25 ppm	–40 to 85 °C	0.040 ps typ
IQXO-593	3.2 x 2.5 mm	2.5, 3.3 V	LVPECL	40 to 250 MHz	±25 ppm	–40 to 85 °C	0.165 ps typ
IQXO-618	3.2 x 2.5 mm	2.5, 3.3 V	LVDS	13.5 to 156.25 MHz	±25 ppm	–40 to 85 °C	1 ps typ
IQXO-623 / 624	3.2 x 2.5 mm	2.5, 3.3 V	LVPECL	13.5 to 156.25 MHz	±25 ppm	–40 to 125 °C	0.17 ps typ, 1 ps max
IQXO-935	5.0 x 3.2 mm	2.5, 3.3 V	CMOS, LVPECL, LVDS	1 to 200 MHz	±10 ppm	–10 to 70 °C	0.3 ps max
IQXO-940	5.0 x 3.2 mm	2.5, 3.3 V	CMOS, LVPECL, LVDS	8 to 1500 MHz	±10 ppm	–40 to 85 °C	0.5 ps max
IQXO-944	7.0 x 5.0 mm	2.5, 3.3 V	CMOS, LVPECL, LVDS	1 to 640 MHz	±10 ppm	–40 to 85 °C	0.03 ps min to 0.5 ps max
IQXO-942	7.0 x 5.0 mm	2.5, 3.3 V	CMOS, LVPECL, LVDS	8 to 1500 MHz	±10 ppm	–40 to 85 °C	0.5 ps max

32.768 kHz (SMD)

Model	Package	Supply Voltage	Output Compatibility	Frequency	Frequency Stability (Tightest)	Operating Temperature Range (Widest)
IQXO-984 / 985 / 986	1.6 x 1.2 mm	1.8, 2.5, 3.3 V	CMOS	32.768 kHz	±30 ppm	–40 to 85 °C
IQXO-402 / 403 / 404	2.0 x 1.6 mm	1.8, 2.5, 3.3 V	CMOS	32.768 kHz	±25 ppm	–40 to 125 °C
CFPS-107 / 108 / 109	2.5 x 2.0 mm	1.8, 2.5, 3.3 V	CMOS	32.768 kHz	±20 ppm	–40 to 85 °C
CFPS-102 / 103 / 104	3.2 x 2.5 mm	1.8, 2.5, 3.3 V	CMOS	32.768 kHz	±20 ppm	–40 to 85 °C

VCXOs

Voltage Controlled Oscillators (SMD)

Model	Package	Supply Voltage	Output Compatibility	Frequency Range	Pulling	Operating Temperature Range (Widest)	Key Feature
IQXV-83	2.5 x 2.0 mm	2.5, 3.3 V	CMOS, LVPECL, LVDS	8 to 1500 MHz	±35 ppm min APR	–40 to 85 °C	Low jitter (0.5 ps)
IQXV-85	5.0 x 3.2 mm	2.5, 3.3 V	CMOS, LVPECL, LVDS	8 to 1500 MHz	±50 ppm min APR	–40 to 85 °C	Low jitter (0.5 ps), Tight stability ±10 ppm
IQXV-84	5.0 x 3.2 mm	2.5, 3.3 V	CMOS, LVPECL, LVDS	8 to 1500 MHz	±50 ppm min APR	–40 to 85 °C	Low jitter (0.9 ps), Tight stability ±10 ppm
IQXV-86	5.0 x 3.2 mm	3.3 V	CMOS, LVPECL, LVDS	1 to 800 MHz	±50 ppm min APR	–40 to 85 °C	Ultra low jitter (0.05 to 0.3 ps), Tight stability ±10 ppm
IQXV-89	7.0 x 5.0 mm	2.5, 3.3 V	CMOS, LVPECL, LVDS	1 to 800 MHz	±50 ppm min APR	–40 to 85 °C	Ultra low jitter (0.05 to 0.3 ps)
IQXV-88	7.0 x 5.0 mm	2.5, 3.3 V	CMOS, LVPECL, LVDS	8 to 1500 MHz	±50 ppm min APR	–40 to 85 °C	Low jitter (0.5 ps)
IQXV-87	7.0 x 5.0 mm	2.5, 3.3 V	CMOS, LVPECL, LVDS	8 to 1500 MHz	±50 ppm min APR	–40 to 85 °C	Low jitter (0.9 ps)

Pulling

VCXO pulling can be specified in one of two ways:

Minimum Pulling: This defines the frequency change which will be seen when varying the control voltage input. The range is with reference to the nominal frequency, i.e. the frequency at the midpoint of the pulling range.

Absolute Pulling Range (APR): This definition takes into account the frequency tolerance and stability and gives the remaining pulling. This specifies the pulling from the nominal frequency which is guaranteed to be met across the full operating temperature range.

For example, if a VCXO will change by ±50 ppm over temperature and has a pulling range of >±200 ppm, therefore the minimum pulling is ±200 ppm, however the APR would be ±150 ppm.

TCXOs/VCTCXOs

Temperature Compensated Crystal Oscillators (SMD)

Model	Package	Supply Voltage	Output Compatibility	Frequency Range	Frequency Stability (Tightest)	Operating Temperature Range (Widest)	Key Feature	Voltage Control Option
IQXT-350	1.6 x 1.2 mm	1.8 V	Clipped Sine	26 & 52 MHz	±0.5 ppm	–40 to 85 °C	Miniature package	
IQXT-205-1	2.0 x 1.6 mm	1.8 V	Clipped Sine	16.38, 16.39, 19.2, 26, 33.6, 38.4 & 52MHz	±0.5 ppm	–30 to 85 °C	Industry standard	
IQXT-205-2	2.0 x 1.6 mm	1.8 V	Clipped Sine	16.38 to 52 MHz	±0.5 ppm	–30 to 85 °C	Industry standard with VC	✓
IQXT-205-3	2.0 X 1.6 mm	1.8, 3.3 V	Clipped Sine	33.6, 26 & 38.4 MHz	±0.5 ppm	–40 to 105 °C	High temperature	
IQXT-220	3.2 x 2.5 mm	3.3 V	Clipped Sine	10 to 40 MHz	±0.28 ppm	–40 to 85 °C	Tight stability	✓
CFPT-9302	5.0 x 3.2 mm	3.0 V	Clipped Sine	12 to 52 MHz	±0.2 ppm	–40 to 85 °C	MTIE/TDEV	✓
CFPT-9301	5.0 x 3.2 mm	3.3 V	CMOS	1.5 to 52 MHz	±0.2 ppm	–40 to 85 °C	MTIE/TDEV	✓
IQXT-210	5.0 x 3.2 mm	3.3 V	CMOS, Clipped Sine	10 to 50 MHz	±0.14 ppm	–40 to 105°C	Ultra tight stability	✓
IQXT-318	5.0 x 3.2 mm	3.0, 3.3 V	CMOS, Clipped Sine	19.2 to 40 MHz	–	–40 to 85 °C	-157 dBc/Hz	✓
IQXT-311	5.0 x 3.2 mm	3.3, 5.0 V	Clipped Sine, CMOS, Sine	1.25 to 52 MHz	–	–55 to 105 °C	-160 dBc/Hz @1 MHz	
CFPT-9006	7.0 x 5.0 mm	3.3 V	CMOS	1.25 to 40 MHz	±0.3 ppm	–40 to 85 °C	Tri-State <1.0 mA	✓
CFPT-9007	7.0 x 5.0 mm	3.3 V	Sine	10 to 40 MHz	±0.3 ppm	–40 to 85 °C	Tri-State <1.0 mA	✓
CFPT-9008	7.0 x 5.0 mm	3.3 V	Clipped Sine	10 to 40 MHz	±0.3 ppm	–40 to 85 °C	Tri-State <1.0 mA	✓
IQXT-200	7.0 x 5.0 mm	3.3 V	CMOS, Clipped Sine	10 to 50 MHz	±0.05 ppm	–40 to 105 °C	MTIE/TDEV	✓
IQXT-316	7.0 x 5.0 mm	3.0, 3.3 V	CMOS, Clipped Sine	19.2 to 40 MHz	–	–40 to 85 °C	-157 dBc/Hz	✓
CFPT-9001	7.0 x 5.0 mm	5.0 V	CMOS	1.25 to 40 MHz	±0.3 ppm	–40 to 85 °C	Tri-State <1.0 mA	✓
CFPT-9005	7.0 x 5.0 mm	5.0 V	Clipped Sine	10 to 40 MHz	±0.3 ppm	–40 to 85 °C	Tri-State <1.0 mA	✓
CFPT-9003	7.0 x 5.0 mm	5.0 V	Sine	10 to 40 MHz	±0.3 ppm	–40 to 85 °C	Tri-State <1.0 mA	✓

OCXOs & Disciplined OCXOs

Oven Controlled Crystal Oscillators

Model	Package	Supply Voltage	Output Compatibility	Frequency Range	Phase Noise @ 100 kHz	Frequency Stability (Tightest)	Operating Temp. Range (Widest)	Key Feature	SMD
IQOV-116-1	7.5 x 5.5 mm	3.3 V	CMOS	10 to 20 MHz	−155 dBc/Hz typ	±20 ppb	−40 to 95 °C	Tight Stability Small form	✓
IQOV-71	9.7 x 7.5 mm	3.3, 5.0 V	CMOS, Clipped Sine	5 to 50 MHz	−153 dBc/Hz typ	±10 ppb	−40 to 85 °C	Ultra miniature OCXO	✓
IQOV-162	14 x 9.0 mm	3.3 V	CMOS, Sine	10 to 100 MHz	−150 dBc/Hz typ	±10 ppb	−40 to 85 °C	Short-term stability 0.1 ppb	✓
IQOV-72	14 x 9.0 mm	3.3, 5.0 V	CMOS, Clipped Sine	5 to 50 MHz	−163 dBc/Hz typ	±10 ppb	−40 to 85 °C	Low power (0.4 W)	✓
IQOV-160	14-pin DIL	3.3 V	CMOS	5 to 100 MHz	−160 dBc/Hz typ	±5 ppb	−40 to 85 °C	Tight stability	
IQOV-74	14-pin DIL	2.7 to 5.5 V	CMOS, Clipped Sine	10 to 26 MHz	−155 dBc/Hz typ	±10 ppb	−40 to 85 °C	Low ageing	
IQOV-114	20.32 x 12.7 mm	3.3 V	CMOS	8.192 to 30.72 MHz	−155 dBc/Hz typ	±1 ppb	−40 to 85 °C	Tight stability	✓
IQOV-90	25.4 x 22 mm	3.3, 5.0, 12 V	CMOS, Sine	10 to 40 MHz	−155 dBc/Hz typ	±3 ppb	−40 to 75 °C	MTIE/TDEV	✓
IQOV-210F	25.4 x 25.4 mm	3.3, 5.0, 12 V	Sine	100 MHz	−180 dBc/Hz typ	±10 ppb	−40 to 85 °C	Ultra low phase noise	
IQOV-60	25.4 x 25.4 mm	3.3, 5.0 V	CMOS, Sine	4 to 20 MHz	−150 dBc/Hz typ	±3 ppb	−40 to 75 °C	Low ageing ±0.5 ppb/day	
IQOV-164	36 x 27 mm	3.3 V	CMOS, Sine	5 to 100 MHz	−155 dBc/Hz typ	±0.2 ppb	−40 to 85 °C	Ultra tight stability	
IQOV-200F	36 x 27 mm	12 V	Sine	80 to 130 MHz	−180 dBc/Hz typ	±50 ppb	−20 to 70 °C	Ultra low phase noise	

Disciplined Oven Controlled Crystal Oscillators

Model	Package	Supply Voltage	Holdover Stability (Tightest)	Key Feature
IQCM-140	20.2 x 20.2 mm	3.3 V	<20 µs / 24Hrs	1 PPS & 10 MHz Output, Short-term stability ±0.1 ppb min
IQCM-160	25 x 30 mm	3.3 V	<1.5 µs / 8Hrs	1 PPS & 10 MHz Output, Short-term stability ±0.01 ppb min
IQCM-200	51 x 51 mm	5.0 V	<1.5 µs / 24Hrs	1 PPS & 10 MHz Output, Short-term stability ±0.02 ppb min
IQCM-112	60 x 60 mm	5.0 V	<1.5 µs / 24Hrs	1 PPS & 10 MHz Output, Internal GNSS receiver
IQCM-100	65 x 65 mm	5.0 V	<1 µs / 24Hrs	1 PPS & 10 MHz Output, Short-term stability ±0.02 ppb min
IQCM-EVboard	Evaluation board for the IQCM-100, IQCM-112, IQCM-140, IQCM-160 and IQCM-200			

Rubidium Oscillators

Model	Package	Supply Voltage	Output Compatibility	Frequency	Short Term Stability @ 100s	Operating Temp. Range (Widest)	Key Feature
ICPT-1	45 x 36 mm	3.3 V	CMOS	10 MHz	±0.009 ppb	–45 to 70 °C	Small package, 1 PPS Input/Output
IQRB-4	50.8 x 50.8 mm	5.0 V	CMOS	10 MHz	±0.004 ppb	–10 to 60 °C	Frequency stability ±0.08 ppb
IQRB-1	50.8 x 50.8 mm	12 V	Sine	10 MHz	±0.008 ppb	–30 to 65 °C	Frequency stability ±0.05 ppb
IQRB-2	101 x 61 mm	12 V	Sine	10 MHz	±0.0075 ppb	–20 to 60 °C	-158 dBc/Hz @10 kHz
IQRB-3	101 x 61 mm	12 V	Sine	10 MHz	±0.002 ppb	–20 to 60 °C	-158 dBc/Hz @10 kHz, 1 PPS Input/Output

FREE Handbook

We have conducted extensive testing on various Rubidium models and comprehensive handbooks. Tests include, among others, short-term stability, power consumption, retrace and frequency over temperature measurements. Contact us for your free copy: **info@IQDfrequencyproducts.com**

Programming Manual (ICPT-1)

The ICPT-1 offers multiple programming options. The manual details information needed to digitally adjust the frequency, to use the one second time of day (TOD) counter, as well as the 1 PPS lock and holdover mode.

Notes

Technical Support Services

We have a dedicated engineering and application test facility in the UK exclusively for customer support, including:

- Crystal parameters including FR, FL, C0, C1, Trim, R1
- Oscillator parameters including F, current draw, output characteristics
- Frequency behaviours over temperature (stability)
- Phase noise and phase jitter
- Short-term stability
- Accelerated ageing
- Circuit characterisation
- MTIE/TDEV testing

Additional (Technical) Services

- Application Support
- Electrical Testing & Screening
- Crystal measurement within final board
- Autodesk Eagle/Fusion 360 Software Footprint Library
- CAD files for all products in .STEP, .IGES and 3D pdf
- Custom product design
- Sample development

CUSTOM CRYSTALS & OSCILLATORS

Can't find the right specification for your design? Ask us about custom frequency products

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