

Introduction

Voltage controlled crystal oscillator parts from IDT need a pullable crystal to function correctly. The required characteristics of such a crystal can be found in the application note MAN05, "Using IDT's Integrated VCXO Products".

The following is a list a crystals, sorted by operating frequency, that are tested and approved by IDT for use with our VCXO parts:

- SMD Crystals
- UM1 Crystals
- HC49U Crystals

Crystal Manufacturer Contact Information

Abracon

(949) 448-7070
F: (949) 448-8484
www.abracon.com

Crystek

941-561-3311
F: 941-561-1025
www.crystek.com

Fox Electronics

(888) 438-2369
Outside US: +1(239)693-0099
F: +1(239)693-1554
<http://www.foxonline.com>

Harmony

(886 2) 2563-4232
F: (886 2) 2521-5895
<http://www.hele.com.tw/eindex01.asp>

Hosonic

America 323-266-8329
www.hosonic.com/en/

KDS

(1) 714-641-2600
F: (1) 714-641-2606
http://www.kds.info/index_en.htm

Kitelco Co, Ltd.

82 31 352 2870
F: 82 31 352 2440
<http://www.kitelco.com>

M-tron

(605) 665 9321
F: (605) 665 1709
www.mtron.com

Precision Devices, Inc (PDI)

(608)831-4445
F: (608) 831-3343
www.pdixtal.com

Siward

(886 4) 2534-7909
F: (886 4) 2533-7396
www.siward.com

Surface Mount Crystals

Frequency (MHz)	Load Capacitance C _L (pF)	Temperature Range (°C)	Manufacturer's Part Number and Package Size
11.184	14	0-70	PDI 91037B HC 49 SMD PDI 91043R 5 x 3.2mm KDS1C711184CE1A HC 49 SMD
11.456	14	0-70	PDI 91038B HC 49 SMD PDI 91044R 5 x 3.2mm KDS 1C711456CE1A HC 49 SMD
12.288	14	0-70	PDI 91029B HC 49 SMD KDS 1C712288CE1C 5 x 3.2mm HOSONIC E5FA12.2880F14B22AI 5 x 3.2mm
12.96	14	0-70	PDI 91039B HC 49 SMD PDI 91045R 5 x 3.2mm KDS 1C712960CE1A HC 49 SMD
13.5	14	0-70	PDI 91030B HC 49 SMD KDS 1C713500CE1A HC 49 SMD
16.384	14	0-70	PDI 91020B HC 49 SMD PDI 91028R 5 x 3.2mm KDS 1C716384CE1A HC 49 SMD HOSONIC E5FA16.3840F14B22AI 5 x 3.2mm
17.664	14	0-70	PDI 91041B HC 49 SMD PDI 91046R 5 x 3.2mm KDS 1C717664CE1A HC 49 SMD HOSONIC E5FA17.6640F14B22AI 5 x 3.2mm
19.44	14	0-70	PDI 91041B HC 49 SMD PDI 91047R 5 x 3.2mm KDS 1C719440CE1A HC 49 SMD HOSONIC E5FA19.4400F14B22AI 5 x 3.2mm
24.576	14	0-70	PDI 91042B HC 49 SMD PDI 91048R 5 x 3.2mm KDS 1C724576CE1G HC 49 SMD HOSONIC E5FA24.5760F14B22AI 5 x 3.2mm
25	10	0-70	FOX 278LF-25-336 HC 49 SMD PDI 15501R 5 x 3.2mm PDI 91033B HC 49 SMD

Frequency (MHz)	Load Capacitance C _L (pF)	Temperature Range (°C)	Manufacturer's Part Number and Package Size
25	14	0-70	PDI 90970B HC 49 SMD KDS 1C725000CE1G HC 49 SMD HOSONIC E5FA25.0000F14B22AI 5 x 3.2mm
27	10	0-70	NDK 5032XGA 5 x 3.2mm PDI 90928R 5 x 3.2mm PDI 91034B HC 49 SMD KDS DSX530GA 5 x 3.2mm HOSONIC E5FA27.0000F10B22AI 5 x 3.2mm
27	14	0-70	PDI 91027B HC 49 SMD HOSONIC E5FA27.0000F14B22AI 5 x 3.2mm

UM1 Crystals

Frequency (MHz)	Load Capacitance CL (pF)	Temperature Range (°C)	Manufacturer's Part Number
11.184	14	0-70	Crystek 016792
11.456	14	0-70	Crystek 016791
12.288	14	0-70	Crystek 016790
12.352	14	0-70	Crystek 016789
12.96	14	0-70	Crystek 016788
13.248	14	0-70	Crystek 016787
13.5	14	0-70	Crystek 016786
16.384	14	0-70	Crystek 016778
17.664	14	0-70	Crystek 016785
19.44	14	0-70	Crystek 016781
24.576	14	0-70	Crystek 016783
25	14	0-70	Crystek 016784
27	14	0-70	Crystek 016782

HC49U Crystals

Frequency (MHz)	Load Capacitance CL (pF)	Temperature Range (°C)	Manufacturer's Part Number
8.192	16	0-70	Siward XTL001 025A-8.192-16
9.344	16	0-70	Siward XTL001 025A-9.344-1 6
9.344	14	0-70	Siward XTL001 025A-9.344-1 4
9.72	16	0-70	Siward XTL001 025A-9.72-1 6
9.72	16	0-70	Siward XTL001 025A-9.72-1 4
10.24	14	0-70	Siward XTL001 025A-1 0.24-14
10.24	14	-40 - +85	Siward XTL001 025A-1 0.24-14
11.184	14	0-70	Siward XTL001 025A-1 1.184-14
11.184	14	-40 - +85	Siward XTL001 025D-1 1.184-14
11.456	14	0-70	Siward XTL001 025A-1 1.456-14
11.456	14	-40 - +85	Siward XTL001 025D-1 1.456-14
12.288	14	0-70	Siward XTL001 025A-1 2.288-14
12.288	14	-40 - +85	M-Tron 5010-895 Siward XTL001 025D-1 2.288-14
12.288	15	-40 - +85	M-Tron 5010-895 Siward XTL001 025D-1 2.288-15
12.352	14	0-70	Siward XTL001 025A-1 2.352-14
12.352	14	-40 - +85	Siward XTL001 025D-1 2.352-14
12.96	14	0-70	Siward XTL001 025A-1 2.96-14

Frequency (MHz)	Load Capacitance CL (pF)	Temperature Range (°C)	Manufacturer's Part Number
12.96	14	-40 - +85	M-Tron 5010-896 Siward XTL001 025D-1 2.96-14
12.96	15	-40 - +85	M-Tron 5010-896 Siward XTL001 025D-1 2.96-15
13.248	14	0-70	Abracon AB-1 3.248MHz-1 4-2Y-Q1 1 Argo ARGO101304 Arum XTU 1 0AF68A01 32481400 Harmony 45-0400-11 9E ILSI ILSI-C-1010 Jen Jaan/NSK NXU13.248AD14FH Pletronics MP49472-1 3.248MHZ VITE VXA1-1124-13M248 KDS KH132486C
13.248	14	-40 - +85	Kitelco Co U13.248FH14L3
13.5	14	0-70	Arum XTU10AF68A0135001401 Jen Jaan/NSK NXU13.500AE14FO PDI HA1 3500XFSA1 4XS Siward XTL1 0050A-1 3.5-14-100
14.352	14	-40 - +85	Siward XTL001 025D-1 4.352
16.384	14	0-70	Crystek 016670 / 016830
16.384	14	-40 - +85	Crystek 016930 / 016934 Siward XTL001 025A-1 6.384
17.28	14	0-70	Siward XTL001 025A-1 7.28
17.664	14	0-70	Abracon AB-17.664MHz-14-2Y-Q11 ILSI ILSI-C-1020 Jen Jaan/NSK NXU17.664AD14FO Pletronics MP49507-1 7.664MHZ Siward XTL001 025A-1 7.664
17.664	14	-40 - +85	Ecliptek ECX-5494-17.664M Kitelco Co U17.664FH14 Siward XTL001 025D-1 7.664
18.528	14	-40 - +85	Ecliptek ECX-5600-1 8.528M

Frequency (MHz)	Load Capacitance CL (pF)	Temperature Range (°C)	Manufacturer's Part Number
19.44	14	0-70	Crystek 016819 / 016832 Siward XTL001 025A-1 9.44
19.44	14	-40 - +85	Crystek 016863 / 016864 Siward XTL001 025D-1 9.44
20	14	0-70	Ecliptek ECX-5587-20.000M
20.8333	14	0-70	Siward XTL001 025A-20.8333
20.8333	14	-40 - +85	Siward XTL001 025D-20.833-1
21.524476	14	0-70	Ecliptek ECX-5630-21 .524476M
21.812	14	0-70	Siward XTL0001 025A-21 .812-14
21	14	-40 - +85	Siward XTL0001 025D-21 .812-14
21.819	14	0-70	Ecliptek ECX-5657-21 .81 9M
22.368	14	0-70	Ecliptek ECX-561 0-22.368M
22.368	14	-40 - +85	Ecliptek ECX-561 1 -22.368M
24	14	0-70	Ecliptek ECX-5637-24.000M
24.576	14	0-70	Crystek 016820 / 01 6833
24.576	14	0-70	Siward XTL001 025A-24.576-1 4
24.576	14	-40 - +85	Crystek 016931 / 016935 Siward XTL001025D-24.576-14
24.704	14	0-70	Siward XTL001 025A-24.704-1 4
24.704	14	-40 - +85	Siward XTL001 025D-24.704-1 4

Frequency (MHz)	Load Capacitance CL (pF)	Temperature Range (°C)	Manufacturer's Part Number
25	14	0-70	Crystek 016821 / 016834 Siward XTL001 025A-25.000-1 4
25	14	-40 - +85	Crystek 016932 / 016936 Siward XTL001 025D-25.000-14
25.6	14	0-70	Siward XTL001 025A-25.600-1 4
25.6	14	-40 - +85	Siward XTL001 025D-25.600-1 4
26.496	14	0-70	Siward XTL001 025A-26.496-14
27	12	0-70	Crystek 016822 / 016935 PDI HA27000XFSA1 2XA
27	14	0-70	Crystek 016933 / 016937 PDI HA27000XFSA1 4XX Siward XTL001 025A-27.000-1 4

IMPORTANT NOTICE AND DISCLAIMER

RENESAS ELECTRONICS CORPORATION AND ITS SUBSIDIARIES (“RENESAS”) PROVIDES TECHNICAL SPECIFICATIONS AND RELIABILITY DATA (INCLUDING DATASHEETS), DESIGN RESOURCES (INCLUDING REFERENCE DESIGNS), APPLICATION OR OTHER DESIGN ADVICE, WEB TOOLS, SAFETY INFORMATION, AND OTHER RESOURCES “AS IS” AND WITH ALL FAULTS, AND DISCLAIMS ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR NON-INFRINGEMENT OF THIRD-PARTY INTELLECTUAL PROPERTY RIGHTS.

These resources are intended for developers who are designing with Renesas products. You are solely responsible for (1) selecting the appropriate products for your application, (2) designing, validating, and testing your application, and (3) ensuring your application meets applicable standards, and any other safety, security, or other requirements. These resources are subject to change without notice. Renesas grants you permission to use these resources only to develop an application that uses Renesas products. Other reproduction or use of these resources is strictly prohibited. No license is granted to any other Renesas intellectual property or to any third-party intellectual property. Renesas disclaims responsibility for, and you will fully indemnify Renesas and its representatives against, any claims, damages, costs, losses, or liabilities arising from your use of these resources. Renesas' products are provided only subject to Renesas' Terms and Conditions of Sale or other applicable terms agreed to in writing. No use of any Renesas resources expands or otherwise alters any applicable warranties or warranty disclaimers for these products.

(Disclaimer Rev.1.01 Jan 2024)

Corporate Headquarters

TOYOSU FORESIA, 3-2-24 Toyosu,
Koto-ku, Tokyo 135-0061, Japan
www.renesas.com

Trademarks

Renesas and the Renesas logo are trademarks of Renesas Electronics Corporation. All trademarks and registered trademarks are the property of their respective owners.

Contact Information

For further information on a product, technology, the most up-to-date version of a document, or your nearest sales office, please visit www.renesas.com/contact-us/.