



Crystal Resonator Overview

A wide range of crystal resonators are available from high stability Surface Mount Devices (SMDs) to the high reliability class. Rakon is a major supplier of crystal resonators for Global Positioning, Telecommunications, Space and Defense applications.

CRYSTAL: High Reliability Space Crystal | g-Performance | T-Sensing | Standard SMD | Tuning Fork |

High Reliability Space Crystal Selection

► **ESCC Qualified Manufacturer:** Rakon France is an ESCC Qualified manufacturer (European Space Components Coordination).



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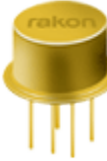

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► **PROFILE:** The high reliability crystal resonators have a large temperature range and high stability in harsh mechanical environments. They are sealed under vacuum or neutral gas (nitrogen) in cold or resistance welding according to the applications. The Space qualified crystals are manufactured according to Rakon's ESA qualified PID with 3 ESCC. All versions can be found on the European Space Components Information Exchange System (ESCIES): <https://escies.org/> by entering the exact spec number in the search box. Standard specifications are as follows:

- ◆ Type T807 ESCC specification number is 3501/018, and follow up numbers are 3501/001, 3501/008, 3501/011 and 3501/012.
- ◆ Type T1507 ESCC specification number is 3501/020, and follow up numbers are 3501/002 and 3501/009.
- ◆ Type T2111 is non ESCC, AT cut, CNES approved. The ESCC specification number is 3501/020, and follow up numbers are 3501/003.

MODEL	IMAGE	PACKAGE	FREQUENCY RANGE	STABILITY (FVST)	TERMINATION	CONNECTION
CFPX3750 -T807		φ10.7 x 8.8 mm	14 - 140 MHz	Custom	3 pin	

MODEL	IMAGE	PACKAGE	FREQUENCY RANGE	STABILITY (FVST)	TERMINATION	CONNECTION
CFPX3758 - T1507		φ15.75 x 6.8 mm	3 - 50 MHz	Custom	4 pin	
CFPX3000 - T2111		φ22 x 11.8 mm	2 - 50 MHz	Custom	5 pin	

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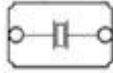
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Metal Holder Crystal Selection

► **APPLICATIONS:** Consumer, Industrial, Telecommunications.

MODEL	IMAGE	PACKAGE	FREQUENCY RANGE	STABILITY (FVST)	TERMINATION	CONNECTIONS
RHC-49US		13 x 4.9 x 4.2 mm	3.4875 - 75 MHz	±5 - 50 ppm (-40 to 85 °C)	2 flatted leads	

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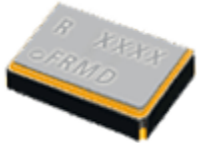

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g-Performance Crystal Selection

► **APPLICATIONS:** GPS applications, Agriculture, Surveying, Military and Avionics,

MODEL	IMAGE	PACKAGE	FREQUENCY RANGE	STABILITY (FVST)	G-SENSITIVITY	CONNECTIONS
RGX-5		5.0 x 3.2 mm	12 - 26 MHz	±4 - 40 ppm (-40 to 85 °C)	0.2 ppb/g, up to 50,000g acceleration event survival	

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MODEL	IMAGE	PACKAGE	FREQUENCY RANGE	STABILITY (FVST)	G-SENSITIVITY	CONNECTIONS
RGX-3		6.0 x 3.5 mm	10 - 30 MHz	±4 - 40 ppm (-40 to 85 °C)	0.2 ppb/g, up to 50,000g acceleration event survival	

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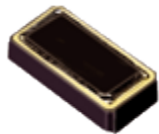


Tuning Fork Crystal Selection

► **APPLICATIONS:** Microprocessors, Mobile Communications, DVC/DSC, SSD/HDD and GPS applications.

MODEL	IMAGE	PACKAGE	FREQUENCY	PARABOLIC COEFFICIENT	TERMINATION	CONNECTIONS
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RTF2012

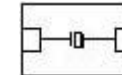


2.0 x 1.2 mm

32.768 kHz

-0.03 ppm/°C²

2 pad



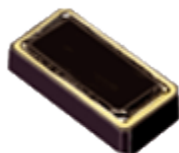
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MODEL	IMAGE	PACKAGE	FREQUENCY	PARABOLIC COEFFICIENT	TERMINATION	CONNECTIONS
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RTF3215

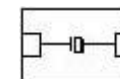


3.2 x 1.5 mm

32.768 kHz

-0.03 ppm/°C²

2 pad



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Temperature Sensing Crystal Selection

► **APPLICATIONS:** Smart Wireless Devices, Communications, Automotive, GPS and Wi-Fi applications.

MODEL	IMAGE	PACKAGE	FREQUENCY RANGE	STABILITY (FVST)	TERMINATION	CONNECTIONS
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RXT2016AT

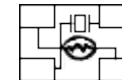


2.0 x 1.6 mm

19.2 - 52 MHz

±10 - 50 ppm
(-40 to 85 °C)


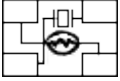
4 pad



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MODEL	IMAGE	PACKAGE	FREQUENCY RANGE	STABILITY (FVST)	TERMINATION	CONNECTIONS
RXT2520AT		2.5 x 2.0 mm	16.368 - 52 MHz	±10 - 50 ppm (-40 to 85 °C)	4 pad	

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Standard SMD Crystal Selection

► **APPLICATIONS:** Smart Wireless Devices, Communications, PCMCIA, Automotive, Positioning/PND, GPS and Wi-Fi applications.

MODEL	IMAGE	PACKAGE	FREQUENCY RANGE	STABILITY (FVST)	TERMINATION	CONNECTIONS
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RSX1612



1.6 x 1.2 mm

26 - 52.0 MHz

±10 - 50 ppm
(-40 to 85 °C)

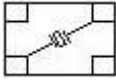

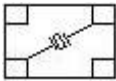
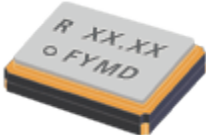
4 pad



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MODEL	IMAGE	PACKAGE	FREQUENCY RANGE	STABILITY (FVST)	TERMINATION	CONNECTIONS
RSX-11		2.0 x 1.6 mm	19.2 - 52 MHz	±10 - 50 ppm (-40 to 85 °C)	4 pad	
RSX10		2.5 x 2.0 mm	16.368 - 52 MHz	±10 - 50 ppm (-40 to 85 °C)	4 pad	
RSX-8		3.2 x 2.5 mm	16 - 52 MHz	±10 - 50 ppm (-55 to 105 °C)	4 pad	
RSX-5		5.0 x 3.2 mm	12 - 40 MHz	±5 - 50 ppm (-55 to 105 °C)	4 pad	