



Rakon Crystal resonators

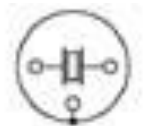
Rakon has been developing crystal resonators for Hi-Rel applications over the last 40 years. The high reliability resonators can work over a large temperature range and have high stability in harsh mechanical environments. They are sealed under vacuum or neutral gas (nitrogen) in cold or resistance welding and can be made of different crystal cuts: AT, SC, Y or IT according to the applications. Rakon is a major supplier of crystal resonators for space applications. Since 1979, Rakon has been certified by the European Space Agency to produce Qualified Space Crystals. Rakon can therefore provide customers with a source of released quartz crystal units, suitable for use in any ESA project.

Key features:

- ✔ Fully approved to the requirements of ESA/SCC generic specification 3501
- ✔ All processing & testing is performed in accordance with an ESA approved Process Identification Document (PID)
- ✔ Lot Acceptance Testing (LAT) is performed to the level specified by the customer
- ✔ Type variants can be raised to cover specific customer requirements
- ✔ Material : Swept synthetic **HQ crystal** premium

Range of qualification

- ESA/SCC 3501/001, 3501/008, 3501/011 3501/012 and 3501/018 specification:
 - ✔ Holder style : metal welded type T807 with 3 pins
 - ✔ Frequency range : **from 4 to 140MHz**
 - ✔ CFPX series: CFPX – 3750
- ESA/SCC 3501/002, 3501/009 and 3501/019 specification:
 - ✔ Holder style : metal welded type T1507 with 4 pins
 - ✔ Frequency range : **from 2.5 to 20MHz**
 - ✔ CFPX series: CFPX – 3758



φ10.7 x 8.8 mm



φ15.75 x 6.8 mm

All other frequencies and overtone can be produced according to Rakon ESA certified PID

Rakon space XO series RK135

With its space XO RK135 product family, Rakon will be the first European qualified source for space crystal oscillators.

These oscillators are used with FPGA clock devices and digital cards in many applications, in all satellites.

As soon as 2014, any European and non-European customer will be able to select any part of our new product family RK135 from the ESA Qualified Part List (QPL).

Product Description

This future ESA QPL Space XO is designed for space clock applications and is based on hybrid technology.

The reference is resistant to shock and vibration environment.

Key advantages of this frequency source are low power consumption (0.1W) and its availability in different packages (J-lead, Flat Pack, DIL).

The new Rakon enhanced J-lead package will be even more resistant to shock and vibrations than the current one.

This ESA QPL Space XO is manufactured in accordance with the coming ESA specification and can be delivered with a very short lead time.

Features

- ✔ ITAR-free
- ✔ Frequency Range: 4 to 100 MHz
- ✔ Low consumption: 20-30 mA
- ✔ Supply Voltage: +3.3V or +5V
- ✔ Overall Frequency Stability over 15 years: $\pm 100\text{ppm}$
- ✔ Output Wave Form: square CMOS compatible, then LVDS and LVPECL
- ✔ Manufacturing in accordance with the coming ESA specification



Applications

- ✔ Digital cards
- ✔ FPGA clock

