

European Union Directive 2002/95/EEC
RoHS Directive

Statement Issued 11 May 2006

Euroquartz Policy on RoHS Directive

As a manufacturer of quartz crystals and oscillators Euroquartz company policy is to ensure that the directives, procedures and requirements as set out in the RoHS Directive are complied with in both the substance of the directive as well as the spirit inferred therein. Euroquartz has evaluated and continues to evaluate all products to determine heavy metal content. It should be stated that the heavy metal content of any Euroquartz product is low, and at worst approximates to the limit defined in the RoHS directive, the lead (Pb) content being no more than 0.1% content by weight per homogeneous material. Analysis of heavy metal content for plated through-hole devices is published here in Table 1. Euroquartz continue to pursue strategies to ensure RoHS compliance and will continue to update this statement as the situation unfolds.

Table 1

Plated Through-hole Products

Analysis of Elemental Contents expressed as percentage weight per homogeneous material

Item No.	Chemical	Percentage
1	Cu	0.50 to 0.95
2	Sn	Balance
3	Sb	0.12 max.
4	Bi	0.10 max.
5	Zn	0.002 max.
6	Fe	0.02 max.
7	Al	0.002 max.
8	As	0.03 max.
9	Cd	0.002 max.
10	Pb	0.1 max.

General Overview

A major process of Euroquartz component production involves the manufacture of close-tolerance quartz crystal units. Crystal construction uses a silver-loaded epoxy; no heavy metals are used internally in sealed crystal packages. All Euroquartz-manufactured surface mount products are RoHS compliant. The majority of leaded parts are also compliant with a few exceptions. Dual-in-line packages used for oscillators, VCXOs, TCXOs and OCXOs, are mostly available in RoHS compliant form. For the small number of mainly old-design product produced in these packages, although the heavy metal content is below the RoHS requirement of 0.1% by weight per homogeneous material, we designate these packages as non-compliant.

Elevated Soldering Temperatures

A significant factor in providing quartz-crystal-based, lead-free product concerns elevated soldering temperatures. While certain Euroquartz-manufactured products may contain no heavy metals, customers using these products need to apply the components to their printed circuit boards using lead-free solder, which without the benefit of low solder melting temperatures previously provided by the use of lead (Pb) are therefore subjected to higher temperatures during assembly. Hence it is essential that the materials used in Euroquartz component manufacture will survive the elevated temperatures encountered during equipment assembly. For this reason the lead-free status of all product types mentioned below takes the ability of the part to survive high temperature assembly techniques and to perform within specification afterwards.

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Compliance Certification

RoHS compliance certification is available for most products upon request.

Status

Products manufactured and supplied by Euroquartz Ltd are divided into 4 basic product groups for the purpose of defining lead-free status. These groups are:

Group 1: In-house manufactured custom filters

Group 2: In-house manufactured crystals, oscillators, filters, VCXO, TCXO and OCXO

Group 3: Plated Through Hole (Leaded) Product (PTH) produced in our off-shore factories

Group 4: Surface-mount (SMD) product produced at our Far East factories

Group 1 - In-house manufactured custom filters

These products were hand assembled using conventional tin lead solder. Successful tests have been conducted on lead-free solders and these products are now produced using such materials. These parts are confirmed as compliant

Group 2 - In-house manufactured crystals, oscillators, filters, VCXOs, TCXOs and OCXOs

The majority of in-house manufactured crystals, oscillators, VCXOs, TCXOs and OCXOs are within the limits stated in the RoHS Directive in that the lead content is no more than 0.1% of the total product by weight per homogeneous material. Components or processes where lead was used was in the tinning on leads and we now use either untinned leads or lead-free solders in these processes. Crystal construction uses a silver-loaded epoxy process with no heavy metals used internally in the crystal packages. The substrates used in the manufacture of dual-in-line (DIL) oscillators, VCXOs, TCXOs and OCXOs are compliant.

Group 3 - Leaded Product (PTH) produced in our Offshore factories

Concerning crystal unit production, RoHS-complaint versions only are manufactured. Fully compliant 32.768kHz cylindrical crystals are now available and are identified by an 'R' in the part number until such time as existing stocks of the older types are depleted. It should be noted that there are sufficiently numerous types of surface-mount, compliant 32.768kHz crystals available some of which are supplied on an exemption under clause 7 in the annex of the directive. The manufacturers have to use a high lead content solder to attach the tuning fork to the lead frame, the amount used however is extremely small.

Group 4 - Surface-mount (SMD) product product produced in our UK and Far East factories

All of our range of surface-mount (SMD) products are compliant.

Part Numbering Policy and Identification

Where the lead-free status of any product is required to be separately indicated and identified Euroquartz will issue separate part numbers upon request to indicate that the products are lead-free and conform to the RoHS directive.

Parts ordered are identified as RoHS compliant on Euroquartz order acknowledgements. A logo denoting RoHS compliance is printed on the product packaging packaging label.

Euroquartz will maintain their existing part numbering system. Where possible confusion could arise in certain product varieties these will be indicated with the alpha character 'R' in the package part number to signify RoHS compliance.