

Pb-Free/RoHS Compliance

Fox Electronics

5570 Enterprise Parkway

Ft Myers, FL

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FOX ELECTRONICS ENVIRONMENTAL POLICY

- At Fox, our goal is to continually consider the environment starting right at the earliest stages of product design, to support our customers. Fox has produced environmentally friendly products for over two decades with our complete line of lead-free ceramic crystals and oscillators. We continue to develop and enhance lead free designs for new and twilight products. More recently we are pushing our technology envelope to achieve low voltage products, thereby reducing energy consumption in our customer's end products. Internally at Fox, our focus is energy efficiency and conservation, from our purchased capital equipment, building operations, recycling to employee awareness communications. By focusing attention to the environment as part of our product design process we believe we will continue to aid our customers in achieving their environmental objectives.

Fox Lead-Free Definition

- Any device or assembly where the content of Pb is $<0.1\%wt$ in any homogenous material, i.e. solder. A homogenous material is any material which cannot be mechanically disjointed.

Fox Pb-Free/RoHS Facts

- Pb is the only RoHS material applicable to our product
- Elimination plans commenced in 2002
- Max Reflow Temp: 260°C, 10 seconds, 2 times
- MSL Level: 1
- HC49S,HC49SD,HC49U are RoHS 5 of 6, only contain lead in termination solder
- Materials Declarations, RoHS CoC available at www.foxonline.com

Pb-Free/RoHS By Product Type

- All Seam Seal Ceramic Package products are RoHS Compliant (Example: FD, F4100, F530L)
- All Resin Seal Ceramic Package products are RoHS Compliant (Example: FE, FQA, FX532A)
- Metal Can Crystals and Oscillators are available as RoHS Compliant units. Included are HC49S, HC49SD and HC49U, F1100ELF, etc...
- Plastic Molded Crystals are available Pb-Free externally. They are currently Exempt per Annex A of Directive 2002/95/EC due to the use of High Melting Temperature solder i.e. contains >85%Pb solder.
- Glass Seal crystals are also Exempt per Annex A

Pb-Free/RoHS Part Designation Change

- Products transitioning to Pb-Free/RoHS Compliant will add “LF” to the Product Family. Examples: HC49SD becomes HC49SDLF. Likewise, the Smart Part Number (SPN) code designation will also add LF (SPN code 278=HC49SD becomes 278LF=HC49SDLF)
- Standard parts also add LF. For example, FOXS/250-20 to FOXSLF/250-20.
- Products already Pb-Free/RoHS Compliant will have no changes to Product Family Designation. Example, F4100 remains F4100. SPN Code 116=F4100, remains 116.
- Part marking is not changing except for FSMLF, FSRLF, FSXLF. An ‘L’ is added to the end of the marking.

Pb-Free/RoHS Labeling

- Fox is using JEDEC JESD97 as a guide for the labeling of Pb-Free components
- Package labels will include the phrase “Pb-Free”
- Package labels will include the phrase “RoHS Compliant”
- Package labels will include the Pb-Free Category designation indicating the termination material. Example: F4100 will state Pb-Free Category = e4 where e4=Precious Metal (in this case Au).