



Report Date: July 20, 2004
Subject: Process Change Notification on KDS HC-49/U, AT-49, SMD-49 and AT-38
Crystals

Dear Valued Customers,

This letter is to inform you that KDS has finally decided to expedite the AT-49, SMD-49, and AT-38 to be lead-free, and let you know it will be started soon. As you are noticed, KDS is actively addressing environmental issues with this kind of activity and following the RoHS directive to work with, so KDS would like you to accept this change.

Products Affected:

HC-49/U, AT-49, SMD-49, and AT-38 crystals

Referenced Standard:

The RoHS directive (DIRECTIVE 2002/95/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 27 January 2003 on the restriction of the use of certain hazardous substances in electrical and electronics equipment)

Purpose of Change:

To follow the directive with the HC-49/U, AT-49, SMD-49, and AT-38 crystals, KDS has decided the followings.

- HC-49/U, AT-49, and AT-38 crystals to become lead-free as KDS standard. This means that lead-free HC-49/U, AT-49, SMD-49, and AT-38 crystals become standard products and are shipped as samples and mass-production products from now on.
- With regard to the leaded mass-production products involved in this change so as to be lead-free, which have already been shipped to our customers, KDS would like to proceed and would like you to accept this change with this process change notification.
- You really need our leaded products for some reason, however, please contact KDS representative. KDS will continue to produce that product as special item.

Description of Change:

- HC-49/U, AT-49, and SMD-49 crystals: The leaded solder dipped to the outside terminals to be changed to a lead-free solder (Sn-0.7%Cu) to make these lead-free. Except for this change, everything else is not changed and is the same.
- AT-38 crystal: The leaded solder plating on the cylindrical cap to be changed to Ni plating to make it lead-free. Except for this change, everything else is not changed and is the same.

Schedule of Change:

KDS would like to start producing samples and new mass-production products on the same day. KDS would like to switch over all related products, which include the current leaded products being shipped to our customers to lead-free products by the end of March 2005.

Note: The lead-free products can be available with your current soldering process using leaded solder also, although it is designed to be used with lead-free soldering process. If you need reliability data showing the comparison of solderability on the leaded and lead-free products, please feel free to contact us because it is available at KDS QA Department.



DAISHINKU CORP.

Sincerely yours,

Katsuyuki Nakamura
Assistant Manager / Engineering Management Section
ka-nakamura@crystal.kdsj.co.jp

Yukihiro Okamoto
Manager / Engineering
y-okamoto@crystal.kdsj.co.jp

DAISHINKU CORP. CENTRAL LABORATORY
179-15 Mizuashi, Noguchi, Kakogawa, Hyogo 675-0019 Japan
+81 (794) 21-7200 TEL
+81 (794) 21-7240 FAX