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> AVLIS-CO QTH-090-03-L-D-A Connector Header Instruction Manual

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Model: QTH-090-03-L-D-A

1. INTRODUCTION

This manual provides essential instructions for the proper handling, installation, and maintenance of the AVLIS-CO QTH-090-03-L-D-A Connector Header. This component is a 180-position, surface mount connector featuring outer shroud contacts with gold plating, designed for reliable electrical connections in various electronic applications. Adherence to these guidelines will ensure optimal performance and longevity of the connector.



This image displays the AVLIS-CO QTH-090-03-L-D-A connector header. It is a long, rectangular component with a dark gray housing. Along its length, two rows of fine gold-plated contacts are visible, designed for surface mounting onto a printed circuit board. The connector features an outer shroud for protection and guidance during mating.

2. SETUP AND INSTALLATION

The QTH-090-03-L-D-A is a surface mount component requiring precise installation. Follow these steps for proper setup:

1. **Preparation:** Ensure the Printed Circuit Board (PCB) is clean, dry, and free from contaminants. Verify that the solder pads for the connector are correctly aligned and prepared according to design specifications.
2. **Handling:** Handle the connector by its body to avoid touching the gold-plated contacts. Electrostatic Discharge (ESD) precautions must be observed at all times to prevent damage to the component.
3. **Placement:** Carefully align the connector with the designated solder pads on the PCB. The outer shroud design assists in correct orientation. Use appropriate pick-and-place equipment for automated assembly or fine-pitch tweezers for manual placement.
4. **Soldering:** Utilize a reflow soldering process suitable for surface mount components. Adhere to the recommended solder paste stencil design and reflow profile for optimal solder joint formation. Ensure sufficient heat transfer to all 180 contacts for a robust connection. Avoid excessive heat that could damage the connector housing or contacts.
5. **Inspection:** After soldering, perform a visual inspection to confirm proper alignment, solder joint integrity, and absence of solder bridges or voids. X-ray inspection may be used for hidden solder joints.

3. OPERATING INSTRUCTIONS

As a passive connector header, the QTH-090-03-L-D-A does not require active operation. Its function is to provide a reliable electrical interface when mated with a compatible connector. Proper mating procedures are crucial for its performance:

- **Mating:** Ensure the mating connector is correctly aligned with the QTH-090-03-L-D-A header. Apply gentle, even pressure to fully seat the connectors. Avoid angled insertion or excessive force, which can bend or damage the gold contacts.
- **Unmating:** When disconnecting, pull the mating connector straight away from the header. Do not twist or pry, as this can cause damage to the contacts or housing.
- **Environmental Conditions:** Operate the connector within its specified environmental limits (temperature, humidity) to prevent degradation of materials and contact performance.

4. MAINTENANCE

The QTH-090-03-L-D-A connector header is designed for long-term reliability with minimal maintenance. However, periodic inspection and proper handling are recommended:

- **Cleaning:** If contacts become contaminated, use a lint-free swab lightly dampened with isopropyl alcohol (IPA) to gently clean the gold-plated surfaces. Ensure the connector is completely dry before re-mating. Avoid abrasive cleaners or solvents.
- **Inspection:** Periodically inspect the connector for any signs of physical damage, such as bent or corroded contacts, cracks in the housing, or compromised solder joints.
- **Storage:** Store unused connectors in their original packaging in a dry, temperature-controlled environment to prevent oxidation or physical damage to the contacts.

5. TROUBLESHOOTING

Should issues arise, consider the following troubleshooting steps:

- **Intermittent Connection:**
 - Ensure the mating connector is fully seated and properly aligned.
 - Inspect for bent or damaged contacts on both the header and the mating connector.
 - Check solder joints for cold solder, insufficient solder, or cracks. Re-solder if necessary.
- **No Connection:**
 - Verify correct orientation and full insertion of the mating connector.

- Inspect for foreign objects or debris obstructing the contacts.
 - Test continuity across individual pins if possible to identify open circuits.
- **Physical Damage (Bent Pins, Cracked Housing):**
 - If contacts are bent, attempt to carefully straighten them using fine-tipped tools, exercising extreme caution to avoid breakage.
 - For significant damage to contacts or housing, the connector should be replaced.

6. SPECIFICATIONS

Attribute	Specification
Model Number	QTH-090-03-L-D-A
Brand	AVLIS-CO
Number of Positions	180
Contact Type	Outer Shroud Contacts
Mounting Type	Surface Mount
Contact Plating	Gold
UPC	027511389226
ASIN	B0FNKXYMHP
Manufacturer	AVLIS-CO
Date First Available	August 23, 2025

7. WARRANTY AND SUPPORT

For specific warranty information regarding the AVLIS-CO QTH-090-03-L-D-A Connector Header, please refer to the documentation provided at the point of purchase or contact AVLIS-CO directly. Warranty terms typically cover manufacturing defects under normal use conditions.

For technical support or further assistance, please reach out to your supplier or the manufacturer. Ensure you have the model number (QTH-090-03-L-D-A) and any relevant purchase details available when seeking support.