Traceability, What It Is And How To Get It

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Agenda

• Traceability, defined
• Other terms
• The Pipeline
• Documentation
• How far back?
• Verification
• Summary
Traceability Defined

• Per Merriam-Webster “Trace” is “to discover by going backward over the evidence step by step”.

• Traceability is the ability to understand the origins of an item to the point desired using available documentation.
Traceability Defined

• For microcircuits this means being able to determine the manufacturer of a device, including:
  – Place of manufacturer
  – Quality system (Class)
  – Technical requirements and characteristics
  – Date of manufacture
Other Terms

• Manufacturer – The organization that assembled the part (could be the die fabricator – but may not be)

• Authorized Vendor – An organization with a formal agreement with the manufacturer to distribute their products
  – After-market
Other Terms

• Independent Supplier or Broker – An organization with no formal agreements or relationship with the manufacturer but is able to supply product or mediate the sale of product directly from the manufacturer or some other source.
  – After-market
The Pipeline

- Manufacturer
- Authorized Vendor
- Broker
- User
Documentation

• Documentation should identify:
  – Manufacturer
  – Date of Manufacture
  – Part Number
  – Lot Number
  – Serial number if applicable
  – Place of manufacture
  – Drawing number if applicable
Documentation

• Documentation should be signed by a company representative from the manufacturer and other organizations involved.

• Documentation should trace the path the part followed from manufacturer to the organization supplying the part.
How Far Back?

- Traceability should be available back to the manufacturer, but what manufacturer?
- If the manufacturer on the package and the documentation did not fabricate the die further documentation may be needed.
- Traceability documentation should trace the origin of the die, not just the packaged part.
Verification

• Part should be marked with part number, date code, manufacturer ID as a minimum
• These should be checked with documentation received to verify accuracy
• Ensure signatures are valid
• Ensure part is traceable from the current supplier all the way back to the manufacturer
Verification

• Any discrepancies in the documentation should be questioned immediately
• Any concerns about the path the part took from the manufacturer to the current supplier should be investigated
• The manufacturer should be contacted if warranted
• A third party should be contacted as appropriate (QML-DLA)
Summary

- Traceability is a tool which, when used properly, allows you to verify that the part you have received is the part you need.
- Traceability must be monitored and evaluated with every part received.