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Life Cycles of Sockets; Specification vs Reality and Setting Standards

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Life Cycle Test Methodology

- Equipment
 - Custom fixture design
 - 32 pins for life Cycles test
 - 32 pins for FDR test
 - Customize Force/Measurement unit
 - Flexible to control the current density
 - Contact medium
 - Top plate silver - Life Testing & FDR
 - Bottom plate Cu/Gold plating - Life Testing
 - Bottom plate silver - FDR

Cres Vs. Life Measurement



Force Vs. Cres Vs. Displacement Measurement



Spring Probe Life Testing

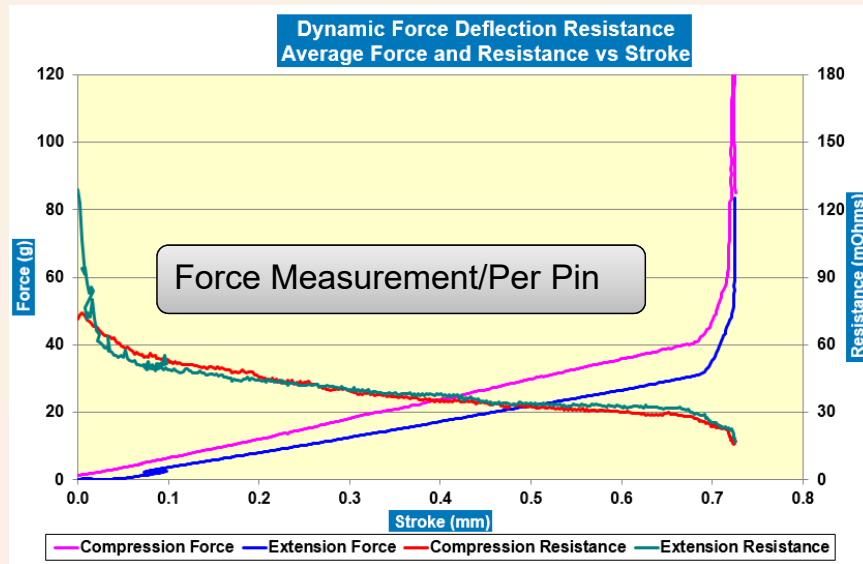
2

Key Parameters/Assumption

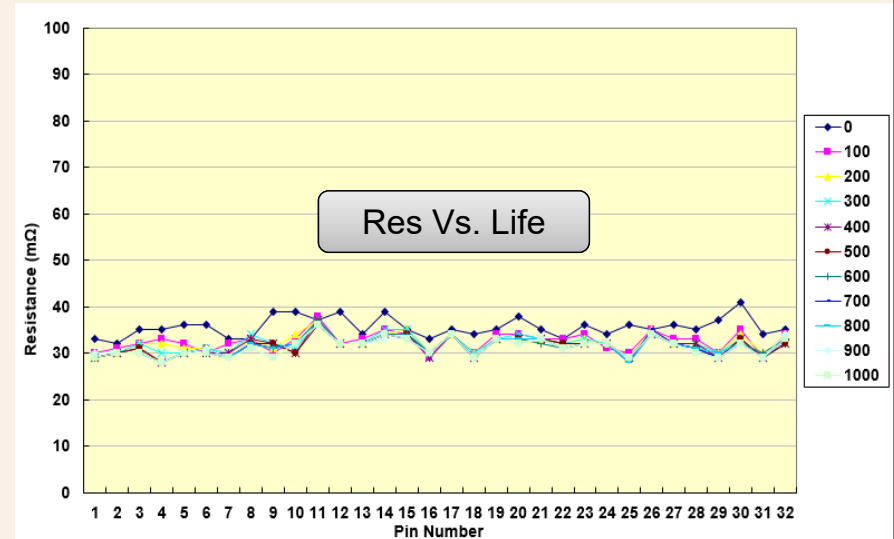
- What defines End of Life in your method?
 - 5% over 200mOhms
 - Average Spec
 - Average + 2Std Spec
- Variables captured
 - Room Temperature
 - Normal Test 30mA/Customer Request maximum 1A.

Example Data Internal vs. External

- FDR data



- Life cycle data



Supplier Standards

- What are the major influences on socket life?
 - If “socket life” refers to spring probe, many factors, such as contaminations, spring force & stress, tip and surface wears, etc. can affect the life.
- How should life cycle be defined across the industry?
 - Really affected by usage environment and package
 - Actually, the life of spring probes from different suppliers is almost no differences if using same materials and plating specifications.