



AEM's HRB-US Product Overview

- Increases effective offering of HRB/DSCC part types to include Hi-Rel equivalents of most commercially available chip beads
- AEM facility uniquely qualified to perform needed processes
- Finished products up-screened to DSCC 03024 specifications
- For use in applications where failure is not an option
- Components provided as AEM warranted and supported products

Processes

- Commercial-grade components procured through OEM-approved distribution channels to ensure counterfeit prevention is maintained and pre-screened to AEM 387070 standard
- Component leads converted from RoHS to Sn/Pb utilizing AEM's proprietary plating process
- Components are completely screened per DSCC 03024 – Group A, B and C
- Up-screened flight components are tape & reel packaged with lot screening data (engineering model versions available upon request)

AEM, Inc. offers a unique service to up-screen high-quality, commercially available ferrite chip to meet high-reliability DSCC 03024 qualifications. This process provides a cost-effective means of producing an expanded inventory of DSCC part types for applications where failure is simply not an option.

AEM combines its unique testing and processing expertise to achieve this result. First, AEM's proprietary, aerospace-qualified plating and fusion process is used to convert the pre-screened commercial-grade parts, manufactured to be RoHS-compliant, to tin-lead (Sn/Pb) terminations and homogenizes the Sn/Pb terminal finish. The converted parts are then subjected to full DSCC 03024 Group A, B and C screening and repackaged in full reel with lot screening data.

HRB-US Series High-Reliability Ferrite Chip Beads

AEM is the first and only manufacturer of ferrite chip beads approved to the DSCC 03024 specification. In order to meet this demanding specification, AEM's ferrite beads are subjected to rigorous testing to assure compliance. While 03024 chip beads have been specifically design from the

ground up, AEM has determined that AEM sourced and tin/lead converted commercial components can approach 03024 series reliability through rigorous up-screening, utilizing the same lot acceptance testing performed on AEM's 03024 ferrite beads.

1

AEM procures OEM components through OEM-approved distribution channels. Only full reel quantities are obtained to maintain OEM Lot Number Date Code and Traceability.

2

AEM's proprietary, aerospace-qualified Sn/Pb plating and fusion process has been used to prevent tin-whiskers on surface-mount component terminations. Parts are screened prior to the Sn/Pb conversion (QA1), as well as following (QA2). Sampled parts are then subjected to destructive physical analysis (DPA) to verify internal microstructure integrity prior to DSCC screening.

3

Comprehensive DSCC screening involves three Groups as shown in the table below. AEM also conducts additional destructive physical analysis (DPA) sample evaluations on all HRB-US components.

4

HRB-US chip beads are then packaged in tape & reel with AEM lot number / AEM lot date code assigned to compliment OEM traceability information.

Group A Testing

Thermal Shock
DC Resistance
Impedance
Visual and Mechanical Examination
Material Verification Outgassing
Material Verification Terminations/Body

Group B Testing

Resistance to solvents
Solderability
Resistance to Soldering Heat
Termination Strength
Current Carrying Capacity

Group C Testing

Low Temperature Operation
Life (1000 Hours)
Thermal Vacuum
Bending
Vibration
Shock
Salt Spray
Moisture Resistance
Thermal Shock (100 Cycle)
Current Carrying Capacity (+25°C)
Insulation Resistance



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