Round lead ceramic chip carriers were developed in response to the need for a family of low cost leaded chip carriers, capable of meeting the requirements of MIL-M-38510 and MIL-STD-883, while providing the compliance between the ceramic chip carrier and the PWB. The round lead was chosen for its ability to locate itself into the castellation of the leadless chip carrier and be attached by the thermocompression welding of gold plated finished LCC's or tin-lead soldering of pretinned LCC's. Since the attachment processes are achieved with heat and pressure in milliseconds, the leads can be attached after the complete assembly of the electronic device. Thus, the semiconductor manufacturer can utilize one process to provide LCC’s or leaded chip carriers. Previously, each type of package required a specific production line with distinct tooling and processes to provide “J,” Gullwing, and the various other lead forms. Now all chip carriers can be processed through end of line as LCC’s. The final lead form is selected and the leads attached, formed and hot solder dipped in the eutectic solder, just prior to shipment or board mounting. The advantages of the single processing are reflected in higher quality and lower costs. Users of chip carriers can significantly increase the reliability of the PWB assembly by adding leads to readily available LCC’s. Leadforms are available to meet every design and operational requirement.

**CHOICE OF ATTACHMENT PROCESS**

**Thermocompression Weld** for LCC’s with Gold Plated Finish  
**or**  
**Tin-Lead (5/95) Solder** for Pretinned LCC’s

**GENERAL SPECIFICATIONS:** All copper-post attached round lead chip carriers shall be capable of meeting requirements of MIL-STD-883 Group D (package related, all classes) Method 5005 subgroups:

1. Physical Dimensions  
2. Lead Integrity  
3. Thermal Shock  
4. Mechanical Shock  
5. Salt Atmosphere  
6. Internal Water Vapor  
7. Adhesion of Lead Finish

**MATERIAL:** Copper, CDA 102, ASTM B-170 Grade 2 Resistivity, max. 1532 Ω/m² @ 20°C. Thermal conductivity 226 Btu/Ft-Hr•°F

**FINISH:** Hot solder dip IAW MIL-M-38510 (63/37)
JEDEC TYPE MO-110, OPTION A
"J" FORM

JEDEC TYPE MO-110, OPTION B
FLAT "J" FORM

SUPER COMPLIANT
"SPIDER J" FORM

SUPER COMPLIANT
"SPIDER GULLWING" FORM

SURFACE OR THRU - MOUNTABLE
"BUTT" FORM

*OTHER STANDOFF HEIGHTS AVAILABLE.
CALL OR EMAIL FOR DETAIL INFORMATION.